Taxation of virtual currency

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1 Introduction

1.1 INTRODUCTORY REMARKS

Today we live in what is commonly called the Information Age. This is the age of computers, mobile phones and networks, where information systems operate on both a real-time and as-needed basis. What distinguishes the Information Age from its predecessors is the dependence upon technology. Our relationship to technology has moved from instrumental to existential.

The Information Age brought a new lifestyle and a new economy. Currently, people heavily rely on the Internet and social networking sites as a connection that binds them to the world. Virtual socializing began in chat rooms and community websites, and later on expanded into more sophisticated environments: virtual worlds. Virtual worlds are persistent computer-generated environments in which participants interact with each other using avatars. These communities have experienced exponential growth in the last few years. Millions of people from all over the world visit them on a daily basis for social and entertainment purposes. Virtual worlds allow their participants to transcend their individual limitations and do things they could never do in real life.

The majority of virtual environments operate under some type of economy with in-world property and currency systems. The heart of the virtual economy is trade: to improve their virtual status, participants must acquire more and more virtual items and currency.[1] Although trade in virtual items began within the online environments, it soon expanded beyond their boundaries. Virtual items started being exchanged on Internet platforms for real money, and the game ceased to be merely a game. Many people quickly noticed that they could make real profits by farming and selling virtual items.

Some people have become famous all over the world for their transactions in virtual items. Julian Dibbel, a US journalist, reported to the Internal Revenue Service (IRS) in 2004 that his primary source of income was the acquisition, sale and exchange of virtual goods and that he earned more from it on a

1 "Virtual items" (or "virtual goods") are intangible objects that form part of virtual worlds and can be traded in a way similar to their real equivalents. The term "virtual currency" is explained in detail in Chapter Three.

monthly basis than he had ever earned as a professional writer.[2] In 2006, the world learned the name of the first virtual millionaire: Ailin Gräf, a Chinese born teacher from Germany, built an online business that engaged in the development and brokerage of virtual items, and achieved a net worth of more than USD 1 million from these activities. Referred to as the "Rockefeller of the Second Life", she made a large part of her profits by developing and selling virtual land in *Second Life*.[3] Two years later, Jon Jacobs was included in the 2008 Guinness Book of Records for owning the most expensive virtual item, the Asteroid Space Resort called Club Neverdie, in the virtual world *Entropia Universe*. The virtual club located on the asteroid earned his owner USD 200,000 per year and was ultimately sold for a total of USD 635,000.[4] The two above-mentioned examples are not unique. There are likely to be more and more people who earn thousands of dollars engaging in trade in virtual items. It is estimated that virtual worlds enable their participants to create and sell products with a total value of approximately USD 3 billion per year.[5] These transactions would be subject to taxes in the non-virtual world, but escape taxation due to their virtual nature. If more economic activity migrates into virtual economies, more tax revenue in real economies might be lost.

Events in virtual worlds may have influence that extends well beyond virtual borders: relationships, incomes and even lives on Earth may be affected. Asia provided a number of dramatic events that drew attention to virtual world issues. A Shanghai game player stabbed to death a fellow player who secretly sold his cyber sword used in the popular online game *Legend of Mir 3*. This unfortunate incident happened after the player went to the police to report the theft, but he was told that the weapon was not real property protected by law. The killer was given a suspended death sentence.[6]

More and more virtual world participants are seeking justice through courts over stolen items or against actions of the game providers. The case *Bragg v. Linden* raised many legal questions which, when answered, could affect the entire virtual world industry. Linden Lab terminated the account of Marc Bragg and confiscated his virtual items (which he valued at around USD 5,000) due to fraud committed by the user, who subsequently filed a lawsuit to recover

2 Julian Dibbell described how he earned money from trade in virtual items and how he wanted to pay taxes on these profits in: *Play Money: Or How I Quit My Day Job and Made Millions Trading Virtual Loot* (Basic Books 2007).

3 Businessweek, *My Virtual Life* (30 Apr. 2006), available at: www.businessweek.com/stories/2006-04-30/my-virtual-life.

4 D. Bates, Internet Estate Agent Sells Virtual Nightclub on an Asteroid in Online Game for £400,000 (18 Nov. 2010), available at: www.dailymail.co.uk/sciencetech/article-1330552/Jon-Jacobs-sells-virtual-nightclub-Club-Neverdie-online-Entropia-game-400k.html.

5 V. Lehdonvirta & M. Ernkvist, *Knowledge Map of the Virtual Economy*, p. XI (2011), available at: www.infodev.org/en/Publication.1056.html.

6 BBC News, *Chinese Gamer Sentenced to Life* (8 June 2005), available at: http://news.bbc.co.uk/2/hi/technology/4072704.stm.

his "virtual property". The suit was ultimately settled with a confidential agreement before the final decision was made.[7]

Initially, virtual currencies were limited to virtual worlds and used as a medium of exchange between avatars. Nowadays, they exist independently of any virtual environments, competing with real currencies. Their use is on the rise. Bitcoin,[8] a totally decentralized crypto-currency without a central authority, grabbed the public attention as its value skyrocketed at the beginning of 2012.[9] Interestingly, the rise in the bitcoin value coincided with the economic collapse of Cyprus. Banks failed, causing an entire country to realize that the value of their deposits was arbitrary all along. When people lose faith in financial institutions, they are willing to forgo the comfort of banking systems for the weight of mathematics and the Internet behind it. More and more merchants and organizations accept bitcoins as a means of payment. In 2013, the University of Nicosia in Cyprus developed a master degree in "digital currency" and allowed the tuition fees for this degree programme to be paid in bitcoins.[10] In the five months between August and December 2013, bitcoin usage increased by over 75% (from about 1,700 transactions per hour to over 3,000) and the market value of bitcoins in circulation increased more than ten-fold (from about USD 1 billion to USD 12 billion).[11] More types of virtual money beyond the reach and control of any government are likely to appear in the next years. What we observe now may be a sign of what will happen in the future. The emergence of virtual currencies should be considered a totally natural development – the outcome of what happens when software and networks meet the concept of currency. As long as the Internet remains turned on, virtual currencies will operate.

The above-mentioned examples show how virtual currencies interact with real life and significantly influence non-virtual events. Due to their transnational and largely decentralized nature, they raise a number of difficult legal questions. The one especially interesting for tax scholars is whether trade in virtual items and currencies may have real tax implications.

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7 C. Dougherty, *Bragg v. Linden: Virtual Property Rights Litigation*, 9 E-Commerce Law & Policy 7 (2007).

8 This thesis follows the convention established by the official Bitcoin website of capitalizing "Bitcoin" when describing the concept of Bitcoin or the entire network itself, and not capitalizing "bitcoin" when describing the bitcoin as a unit of account (often abbreviated BTC or XBT). *See* http://bitcoin.org/en/ vocabulary.

9 When Bitcoin was launched in 2010, the currency had very little value (a few USD). In June 2014, the value of one "coin" exceeded USD 600. For the Bitcoin exchange rates, *see http://bitcoincharts.com/.*

10 P. Liljas, *University in Cyprus Becomes First to Accept Bitcoin Payments* (21 Nov. 2013), available at: http://world.time.com/2013/11/21/university-in-cyprus-becomes-first-to-accept-bitcoin-payments/.

11 *See* www.bitcoinwatch.com.

1.2 Aim and scope

The purpose of this thesis is to provide an analysis of tax implications that result from trade in virtual currencies and items. The analysis is restricted to taxes directly influenced by virtual trade.[12] These are: personal income taxes on profits derived from virtual trade and indirect consumption taxes on transactions in virtual items and currencies. The former are focused on the person earning the income, whereas the latter – on the transaction. They vary with respect to the point in time when an increase in the potential for private consumption is taxed: upon accrual or upon transformation into actual consumption.[13] This distinction is essential when formulating tax policies.

The thesis investigates the following research questions:

1) *How income from virtual trade and transactions involving virtual currencies and items should be taxed (the model scenario)?*

2) *How income from virtual trade and transactions involving virtual currencies and items are actually taxed under the existing tax legislation (the actual scenario)?*

3) *How the actual scenario can be aligned with the model scenario?*

The answer to the first question is provided in Chapter Four (for personal income taxation) and Chapter Seven (for indirect taxation), where the characteristics of a model system for taxing income from virtual trade and transactions involving virtual currencies are described. The model system is based on the general principles of taxation: equity, neutrality, certainty and administrative feasibility. Administrative concerns are an important criterion since a tax system must be capable of practical operation. The second research question requires an examination of the existing tax systems, which is undertaken in Chapter Five (for personal income taxation) and Chapter Eight (for indirect taxation). Based on the comparison of the existing scenario with the model one, recommendations are made in Chapter Six (for income taxation) and Chapter Nine (for indirect taxation).[14]

The computer and the Internet created a new medium to facilitate commercial transactions – the virtual marketplace. This unique trade platform created new opportunities for value and profit generation. Exploring the reach of tax laws into the virtual marketplace provides an opportunity to review

12 The term „virtual trade" or „virtual transactions" refers to all dealings involving virtual currency and items. Virtual trade may give rise to real or virtual income. The former may be generated through sale of bitcoins for USD or EUR, whereas the latter – through the sale of goods for bitcoins. *See also* section 4.1. *Introductory remarks*.

13 A. Schenk & O. Oldman, *Value Added Tax,* p. 8 (Cambridge University Press 2007).

14 For more information about the thesis structure, *see* section 1.3. *Outline.*

some of the basic doctrines of substantive tax law (for example, the concept of income and the destination principle) and to re-explore the connections of those legal doctrines to practicalities of modern tax administration. As trade in virtual currencies represents an extreme version of electronic commerce, the application of the existing rules to this phenomenon allows the evaluation of the flexibility of those rules and their potential to capture even more sophisticated (yet unknown) technological developments. My perspective is both an interpretation *de lege lata* as well as a discussion of tax policy, an examination *de lege ferenda*.[15] This thesis is about traditional tax definitions that are embedded in the law and their ability (or inability) to encompass income generated by new types of economic activity in a manner that maintains both their theoretical justification and their practical implementation. Modern technology provides opportunities for income generation in ways that were considered mere science fiction back in the days in which the fundamental tax concepts were developed. Virtual trade carried out in borderless and anonymous settings challenges the current tax law to its extremities.

The thesis is focused on individuals visiting virtual worlds and trading in virtual currency since it is individuals who first started producing virtual currency and exchanging it. Individuals face different tax problems from those that virtual world operators (companies) do. Income generated by the latter from sales of software, licenses and subscription fees is received in real currency and calculated according to the general rules of corporate income tax law. Operators are mainly concerned with issues such as the qualification of equipment as permanent establishment and the corresponding profit attribution, outsourcing, cloud computing business models and the correct use of transfer prices, which have already received extensive coverage in tax literature.[16]

Some scholars claim that cyber world, a unique place that transcends geographical and national boundaries, may not be compatible with the existing taxation framework and try to develop new taxes for transactions taking place

15 "*De lege lata*" is a Latin expression meaning "the law as it stands". "*De lege ferenda*" means "future law" used in the sense of "what the law should be".

16 *See*, for example, H. Tappe, *Steuerliche Betriebsstätten in der "Cloud": neuere technische Entwicklungen im Bereich des E-Commerce als Herausforderung für den ertragsteuerrechtlichen Betriebsstättenbegriff*, 20 Internationales Steuerrecht 22, pp. 870-874 (2011); V. Choudhary, *Electronic Commerce and Principle of Permanent Establishment under the International Taxation Law*, 37 International Tax Journal 4, pp. 33-57 (2011); W.M. Abdallah & A. Murtuza, *Transfer Pricing Strategies of Intangible Assets, E-commerce and International Taxation of Multinationals*, 32 International Tax Journal 2, pp. 5-16, 45-46 (2006); A. Bal, *Tax Implications of Cloud Computing – How Real Taxes Fit into Virtual Clouds*, 66 Bull. Intl. Taxn. 6 (2012); D.J. Shakow, *The Taxation of Cloud Computing and Digital Content*, 140 Tax Notes 333 (22 July 2013); R. Farag, U.S. *Tax Considerations for Foreign Software Companies Engaged in Cloud Commerce*, 24 Journal of International Taxation 12 (2013); O. Heinsen & O. Voss, *Cloud Computing under Double Tax Treaties: A German Perspective*; 40 Intertax 11 (2012); A Bal, *The sky's the limit*, 68 Bull. Intl. Taxn. 9 (2014).

in cyberspace.[17] This thesis does not discuss any alternative forms of taxation. To preserve neutrality and prevent distortions of competition, any new tax on electronic commerce or digital economy should be applied globally. Disparities among the existing tax systems, the difficulty concerning the implementation of new taxes (for example, the financial transaction tax in the European Union) and different approaches taken by countries while concluding bilateral tax treaties show that a global consensus is extremely difficult (if not impossible) to reach. Focusing on solutions that are unlikely to be implemented would eliminate any practical value of this thesis. Moreover, the European Union, the OECD and the US Treasury consider that the best way to tackle electronic commerce is through an approach which adopts and adapts the existing principles, instead of imposing new or additional taxes.[18] This view has been recently confirmed by the OECD discussion draft on taxation of the digital economy[19] and the final report presented by the EU Expert Group on Taxation of the Digital Economy.[20]

Civil and criminal law issues regarding virtual trade (legal status of virtual items, validity of contractual arrangements, criminal offences in virtual worlds and data protection law) are briefly mentioned only if it is relevant for the discussion of the main topic. Their detailed analysis is outside the scope of the thesis. Those matters are left for examination by civil and criminal law scholars.

The research into tax aspects of virtual worlds is based on qualitative methods. Apart from the general tax literature and the primary source material, the following range of information sources was consulted: scientific and non-scientific publications concerning virtual worlds and currencies, government and regulatory body publications on virtual worlds and currencies and contractual arrangements of selected virtual world operators. Finally, various Internet sources were used to capture the latest developments.

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17 R. Azam, *Global Taxation of Cross Border E-commerce Income*, 31 Virginia Tax Review, p. 639 (2012) and *The Political Feasibility of a Global E-Commerce Tax*, 43 University of Memphis Law Review, p. 711 (2013), proposes to impose a global e-commerce tax on cross border e-commerce income by a new supranational institution, the Global Tax Fund, to be established by countries through an international treaty.

18 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996) available at: www.treasury.gov/resource-center/tax-policy/Documents/Internet.pdf; OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998); and European Commission, *Communication on Electronic Commerce and Indirect Taxation,* COM(1998)374 final (17 June 1998).

19 OECD, *BEPS Action 1: Address the Tax Challenges of the Digital Economy* (Public Discussion Draft) (2014), available at www.oecd.org/ctp/tax-challenges-digital-economy-discussion-draft-march-2014.pdf. For more information on the BEPS project, *see* 1.4.3. *International organizations*.

20 Expert Group on Taxation of Digital Economy, *Report* (28 May 2014), available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/good_governance_matters/digital/report_digital_economy.pdf.

1.3 OUTLINE

The thesis is divided in three main parts. Part One, which comprises the first three chapters, provides the background necessary to understand tax considerations discussed in Part Two and Part Three. Chapter One gives an introduction to the issues discussed in the thesis. It explains how the idea to investigate virtual worlds and currencies originated, why those phenomena are worth researching and how the research is organized. It also provides an overview of administrative guidance on the tax treatment of virtual currency issued by the tax authorities of various countries. Chapter Two sets the context in which virtual trade and virtual income generation take place. Its aim is to get the reader acquainted with some fundamental concepts that are necessary to understand the functioning of virtual worlds and currencies. Chapter Three describes the essential characteristics of virtual currencies and their growth potential. Its first part introduces the concept of virtual worlds as places that people visit not only for entertainment purposes but also for monetary reasons, and shows that substantial economic value may be derived from online activities, whereas its second part is focused on Bitcoin, given the popularity and enormous media attention received by this currency scheme.

Part Two and Part Three are concerned with income and indirect tax aspects of virtual currencies, respectively. They follow the same structure, which is determined by the research questions presented in section 1.2. The structure includes the following three steps:

1) Description of a model system for taxing income from virtual trade and transactions involving virtual currencies and items.
2) Description of the actual tax treatment of virtual currency under the laws of selected countries.
3) Recommendations for the alignment of the actual scenario with the model scenario.

The thesis structure is illustrated in Table 1, particularly to show the reader the parallelism of the chapters on income and indirect taxation.

Table 1: Thesis structure

	Income tax	*Indirect tax*
Model scenario	Chapter 4 · Answers the question: how income from virtual trade should be taxed · Describes the model income tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility · Is independent of country-specific characteristics	Chapter 7 · Answers the question: how transactions involving virtual currencies and items should be taxed · Describes the model indirect tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility · Is independent of country-specific characteristics
Actual scenario	Chapter 5 · Answers the question: how income from virtual trade is actually taxed under the existing tax legislation · Describes the income tax systems of the United States, United Kingdom, Germany and the Netherlands · Each country-specific chapter is organized according to the income categories (e.g. business income, miscellaneous income, capital gains) · Does not provide recommendations or suggestions for improvement	Chapter 8 · Answers the question: how transactions involving virtual currencies and items are actually taxed under the existing tax legislation · Describes the indirect tax systems of the European Union and the United States · Each country-specific chapter is organized according to the structural elements of the indirect tax system (e.g. personal scope, taxable transactions, exemptions) · Does not provide recommendations or suggestions for improvement
Comparison	Chapter 6 · Answers the question: how the actual scenario can be aligned with the model scenario · Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems	Chapter 9 · Answers the question: how the actual scenario can be aligned with the model scenario · Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems

Part Two (Chapters Four, Five and Six) is about personal income tax. Chapter Four describes a model system for taxing income from virtual trade. First, it investigates how the concept of income has developed over years in an attempt to identify the most comprehensive income definition. This definition is subsequently adjusted, taking into account the general principles of taxation (neutrality, equity, certainty and administrative feasibility), to arrive at an income concept which is capable of practical application.

Chapter Five consists of one general, four country-specific and one international section. The general section gives an overview of the design of modern tax systems and provides the necessary background for the country-specific chapters to follow. The country-specific sections review the basic rules of income taxation in selected countries and try to apply them to income from virtual trade. The selection sample results from the distinct features of the tax systems of the countries under consideration (global or schedular nature and approaches to capital gains taxation). Each jurisdiction has its own characteristics since the implementation of the general principles of taxation can be achieved by way of alternative techniques. Thus, the answer to the question whether income from virtual trade may constitute taxable income is likely to vary from country to country. The examination begins with the United States, where "income from whatever source" is subject to tax. It continues with the United Kingdom, which uses a more restrictive income definition. Finally, the comparative analysis looks at Germany and the Netherlands, which have a conclusive set of receipts that may constitute taxable income. As trade in virtual currencies is a truly international phenomenon, it is important to consider not only tax implications within a given country but also how a given policy might affect transactions and users in cross-border situations.

Chapter Six is based on the findings from the two previous chapters. The actual scenario described in Chapter Five is compared with the model system for taxation of virtual profits presented in Chapter Four. If the actual arrangements deviate from the prescriptions of the model system, it is investigated how to remedy this mismatch.

Part Three (Chapters Seven, Eight and Nine) is about indirect taxation. Chapter Seven describes the characteristics of a model system for taxing transactions involving virtual currencies and items. Those features are identified on the basis of the general principles of taxation (neutrality, equity, certainty and administrative feasibility).

Chapter Eight describes the tax treatment of virtual transactions in the European Union and the Unites States, since those jurisdictions are two of the world's most important consumer markets, with a combined population of more than 800 million people. EU VAT is explained on the basis of the EU VAT legislation, making references to the national rules if necessary. As regards the United States, since there is no federal sales tax, the features common to the majority of states are discussed. Although Chapter Eight deals exclusively with the European Union and the United States, the issues that arise there

and the different approaches taken by these jurisdictions may have implications for a wide range of countries around the world which have modeled their indirect tax systems after the US or the European one and are also trying to find the best way to tax cross-border consumption in the Information Age. Chapter Eight also takes a closer look at issues surrounding cross-border transactions that take place between individuals from the European Union and the United States. It investigates whether the lack of international coordination could cause double taxation or unintentional non-taxation of virtual transactions, which would affect the competition between suppliers and lead to market distortions.

Chapter Nine draws conclusions based on the analysis in the previous chapters. The actual scenario described in Chapter Eight is compared with the model system for taxing virtual transactions presented in Chapter Seven. If the actual arrangements deviate from the prescriptions of the model system, it is investigated how to remedy this mismatch.

1.4 Previous work

1.4.1 Literature

Challenges faced by taxing trade in virtual items and currencies represent in many ways an extreme version of tax policy challenges discussed in the literature with regard to electronic commerce and the digital economy. In the last twenty years, a wealth of scholarship has been devoted to addressing these concerns. As the digital economy and electronic commerce continue to grow, so does the body of literature dealing with their impact on tax policy. There are numerous articles, books and doctoral theses on how to tax electronic commerce both from an indirect and direct tax perspective.[21]

Virtual worlds have aroused significant interest of the academic community in the last few years. Many contributions tried to assess their macroeconomic

21 *See* for example, R.L. Doernberg et al., *Electronic Commerce and Multijurisdictional Taxation* (Kluwer Law International 2001); B. Westberg, *Cross-border Taxation of E-commerce* (IBFD 2002); R.L. Doernberg & L. Hinnekens, *Electronic Commerce and International Taxation* (Kluwer Law International 1999); S. Basu, *Global Perspectives on E-commerce Taxation Law* (Aldershot Ashgate 2007); R.A. Westin, *International Taxation of Electronic Commerce* (Kluwer Law International 2007); D. Pinto, *E-commerce and Source-based Income Taxation* (IBFD 2003); P. Rendahl, *Cross-border Consumption Taxation of Digital Supplies: a Comparative Study of Double Taxation and Unintentional Non-taxation of B2C-commerce* (IBFD 2009); R.S. Avi-Yonah, *International Taxation of Electronic Commerce*, 52 Tax L. Rev., p. 507 (1997); A.J. Cockfield, *The Law and Economics of Digital Taxation: Challenges to Traditional Tax Laws and Principles*, 56 Bull. Intl Fisc. Doc. 12 (2002); C.E. McLure Jr., *Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and the Tax Laws*, 52 Tax L. Rev., p. 269 (1997).

impact[22] or focused on their legal aspects (the legal status of virtual items and relationships between game operators and users).[23] The possibility of applying real taxes to virtual profits was examined in the US tax literature.[24] However, most of these discussions were far from complete and often addressed one potential viewpoint that could be taken. Although all authors applied the same US income tax principles, they took different approaches and arrived at different conclusions. Consensus was reached for the proposal that those who cash out their virtual profits should be subject to tax. However, the issue whether the mere receipt of virtual currency shall be a taxable event raised a vigorous academic debate. In Europe, there has been no academic research on tax issues of virtual worlds.

Virtual currencies are a relatively new research area. In the 1990s, when the Internet was still fairly new, some scholars explored ways in which the

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22 *See*, for example, E. Castronova, *On Virtual Economies* CESifo Working Paper No. 752 (July 2002); and *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*, CESifo Working Paper Series No. 618 (2001).

23 *See*, for example, M. Walpole & J. Gray, *Taxing Virtually Everything: Cyberspace Profits, Property Law And Taxation Liability*, 39 Australian Tax Review 1, p. 39 (2010); J. Fairfield, *Virtual Property*, 85 Boston University Law Review, p. 1047 (2005); K. Hunt, *This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights*, 9 Texas Review of Entertainment and Sports Law, p. 141 (2007); O. Habel, *Eine Welt ist nicht genug – virtuelle Welten im Rechtsleben*, Multimedia und Recht 2, pp. 71–77 (2008); H. Krassmann, *Onlinespielrecht – Spielweise für Juristen*, Multimedia und Recht 6, pp. 351-357 (2006); P. Klickermann, *Virtuelle Welte ohne Rechtsansprüche?* Multimedia und Recht 12, pp. 766-769 (2007); S. Rippert & K. Weimer, *Rechtsbeziehungen in der virtuellen Welt*, Zeitschrift für Urheber- und Medienrecht 4, pp. 272-281 (2007); T. Büchner, *Die rechtlichen Grundlagen der Übertragung virtueller Güter* (Nomos Verlagsgesellschaft 2011); M. Berberich, *Virtuelles Eigentum* (Mohr Siebeck 2010); A. Lober & O. Weber, *Money for nothing? Der Handel mit virtuellen Gegenständen und Charakteren*, Multimedia und Recht 10, pp. 653-660 (2005); A. Cabasso, *Piercing Pennoyer with the Sword of a Thousand Truths: Jurisdictional Issues in the Virtual World*, 22 Fordham Intellectual Property Media & Entertainment Legal Journal, p. 383 (2011); R. Vacca, *Viewing Virtual Property Ownership through the Lens of Innovation*, 76 Tennessee Law Review, p. 33 (2008); F.G. Lastowka & D. Hunter, *The Laws of the Virtual Worlds*, University of Pennsylvania Law School, Public Law and Legal Theory Research Paper Series Research Paper No. 26 (May 2003); S.K. Lowry, *Property Rights in Virtual Reality: All's Fair in Life and Warcraft*? 15 Texas Wesleyan Law Review, p. 109 (2008-2009); T.T. Ochoa, *Who Owns an Avatar? Copyright, Creativity, and Virtual Worlds*, 14 Vanderbilt J. of Ent. &Tech. Law, p. 959 (2011-2012); M.H. Passman, *Transactions of Virtual Items in Virtual Worlds, 18 Albany Law Journal of Science &Technology*, p. 259 (2008); N. Volanis, *Legal and policy issues of virtual property*, 3 International Journal of Web Based Communities 3, p. 332 (2007); T. Westbrook, *Owned: Finding A Place for Virtual World Property Rights*, Michigan State Law Review, p. 779 (2006).

24 *See*, for example, T. Seto, *When a Game is only a Game?: The Taxation of Virtual Worlds*, Loyola-LA Legal Studies Paper No. 2008-24 (2008); L. Lederman, *Stranger than Fiction: Taxing Virtual Worlds*, 82 New York University Law Review, p. 1620 (2007); B. Camp, *The Play's the Thing: A Theory of Taxing Virtual Worlds*, 59 Hastings Law Journal 1 (2007); A. Chodorow, *Ability to Pay and The Taxation of Virtual Income*, 75 Tennessee Law Review, p. 695 (2008); S. Chung, *Real Taxation of Virtual Commerce*, 28 Virginia Tax Review 3 (2008). For taxation of income from virtual worlds in Australia, *see* Walpole & Gray, *supra* n. 23.

Internet would change the way money is used: instead of carrying around paper bills or metal coins, people would use digital currency stored on a computer and transferred via the Internet.[25] As the newness of the Internet began to wear off, so did scholars' interest in its potential to generate new forms of currency. However, the past couple of years have seen more intensive research work in this field, mainly due to the popularity of Bitcoin. There is a wide range of scientific papers on the technical operation of decentralized currencies,[26] their illicit use,[27] as well as their social and behavioral impact.[28] However, only very few contributions have touched upon their legal[29] and tax[30] aspects so far.

25 K.L. Macintosh, *How to Encourage Global Electronic Commerce: The Case for Private Currencies on the Internet*, 11 Harvard Journal of Law and Technology, p. 733 (1998).

26 *See*, for example, S. Barber, X. Boyen, E. Shi & E. Uzun, *Bitter to Better – How to Make Bitcoin a Better Currency*, in *Financial Cryptography and Data Security*, pp. 399-414 (Springer 2012); S. Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2009), available at: http://bitcoin.org/bitcoin.pdf; J.A. Bergstra & K. de Leeuw, *Bitcoin and Beyond: Exclusively Informational Money* (2013), available at: http://arxiv.org/abs/1304.4758; J.A. Bergstra, *Formaleuros, Formalbitcoins, and Virtual Monies* (2013), available at: http://arxiv.org/abs/1008.0616; F. Reid & M. Harrigan, *An Analysis of Anonimity in the Bitcoin System* (2012), available at: http://arxiv.org/abs/1107.4524; C. Sorge & A. Krohn-Grimberghe, *Bitcoin: Eine erste Einordnung*, Danteschutz und Datensicherheit 7 (2012).

27 *See*, for example, Federal Bureau of Investigation (FBI), *Bitcoin Virtual Currency: Unique Features Present Distinct Challenges for Deterring Illicit Activity* (24 Apr. 2012); R. Stokes, *Virtual Money Laundering: the Case of Bitcoin and the Linden Dollar*, 21 Information & Communications Technology Law 3 (2012); D. Birch, *Virtual Money: Money Laundering in Virtual Worlds: Risks and Reality*, 9 E-Finance & Payments Law and Policy 5 (2007).

28 *See*, for example, European Central Bank (ECB), *Virtual Currency Schemes* (Oct. 2012);Y. Wang & S. Mainwaring, *Human–Currency Interaction: Learning from Virtual Currency Use in China*, Proceedings of the 26th International Conference on Human Factors in Computing Systems, Florence, Italy, April 5–10, pp. 25–28 (ACM Press 2008); Y. Guo & S. Barnes, *Why People Buy Virtual Items in Virtual Worlds with Real Money*, 38 ACM SIGMIS Database 4, pp. 69–76 (2007); B. Maurer, T.C. Nelms & L. Schwarz, *"When Perhaps the Real Problem Is Money Itself": The Practical Materiality of Bitcoin*, 23 Social Semiotics 2 (2013).

29 R. Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 Hastings Science & Technology Law Journal, p. 160 (2011); Sorge & Krohn-Grimberghe, *supra* n. 26.

30 D.D. Stewart & S.S. Johnston, *Digital Currency: A New Worry for Tax Administrators?* Tax Notes (29 Oct. 2012); Cryptocurrency Legal Advocacy Group Inc., *Staying between the Lines: A Survey of U.S. Income Taxation and its Ramifications on Cryptocurrencies* (15 Apr. 2012); P. Eckert, *Steuerliche Betrachtung elektronisher Zahlungsmittel am Beispiel sog. Bitcoin-Geschäfte*, Der Betrieb 38 (2013); O. Marian, *Are Cryptocurrencies Super Tax Havens*? 112 Michigan Law Review (First Impressions), p. 38 (2013); T. Mayer, *A Lawyer's Take on Bitcoin and Taxes* (Premier Ark 2012); M. Lowy & M. Abraham, *Taxation of Virtual Currency*, Tax Notes Today 219-10 (13 Nov. 2013), A. Bal, *Stateless Virtual Currency in the Tax System*, 53 European Taxation 7 (2013).

1.4.2 Governments and legislators

1.4.2.1 The United States

The question whether and to what extent income from virtual transactions should be subject to tax has received a lot of attention in the United States. Due to potentially significant revenue losses resulting from non-payment of tax on income from transactions in virtual worlds, the Joint Economic Committee of Congress launched an investigation into the public policy considerations raised by virtual economies in 2006. The majority of the Committee expressed the opinion that the government should not tax receipts and profits in virtual currency. Jim Saxton, a Republican from New Jersey and the Ranking Member of the Joint Economic Committee, recognized the complexity of the issue by stating that "clearly, virtual economies represent an area where technology has outpaced the law."[31]

In its 2008 Annual Report to Congress, the US Taxpayer Advocate concluded that transactions involving virtual worlds should be subject to tax because "where there are economic profits, there is likely to be tax due from someone".[32] This report suggested a further more in-depth investigation of virtual worlds and promulgation of administrative rules on that problem even if it is clarified that in-world transaction are not taxable.[33] In response, the Internal Revenue Service (IRS) posted the following guidelines on its website:[34]

> 'The IRS has provided guidance on the tax treatment of bartering, gambling, business and hobby income – issues that are similar to activities in online gaming worlds.
>
> In general, you can receive income in the form of money, property, or services. If you receive more income from the virtual world than you spend, you may be required to report the gain as taxable income. IRS guidance also applies when you spend more in a virtual world than you receive, you generally cannot claim a loss on an income tax return.'

These guidelines are supplemented by links to more detailed explanations on the tax treatment of barter transactions, hobby income, gambling winnings, business income and online auctions.

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31 Joint Economic Committee, *Virtual Economies Need Clarification, Not More Taxes*, Press Release of 17 Oct. 2006, available at www.jec.senate.gov/republicans/public/?a=Files.Serve&File_id=08e6fa84-ee4f-4267-9f47-ad0ad33a072d.

32 National Taxpayer Advocate, *2008 Annual Report to Congress*, p. 217, available at: www.irs.gov/pub/irs-utl/08_tas_arc_intro_toc_msp.pdf.

33 Id., at p. 225.

34 IRS, *Tax consequences of virtual world transactions*, available at: www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Tax-Consequences-of-Virtual-World-Transactions.

In its 2013 Annual Report to Congress, the US Taxpayer Advocate considered need to issue guidance addressing the tax treatment of virtual currencies to be one of the most serious problems facing the IRS.[35] This report noted that the use of virtual currencies is growing and that it is the government's responsibility to inform the public about the rules they are required to follow. The National Taxpayer Advocate recommended that the IRS answer, inter alia, the following questions: when receiving or using virtual currency will trigger gains or losses, whether these gains will be taxed as ordinary income or as capital gains and what information reporting, withholding and recordkeeping requirements apply to digital currency transactions.

In March 2013, another department of the US Treasury, the Financial Crimes Enforcement Network (FinCEN),[36] issued interpretive guidance clarifying some obligations of persons creating, obtaining, distributing, exchanging, accepting or transmitting virtual currencies.[37] Such persons are required to be registered as "money transmitters" with the FinCEN under the regulations relating to money-services businesses. The FinCEN guidance does not discuss the tax treatment of virtual currency transactions.

In May 2013, the Government Accountability Office (GAO) published a report exploring potential tax compliance risks associated with virtual currencies.[38] The GAO recommended that IRS find relatively low-cost ways to provide information to taxpayers on various matters regarding virtual currencies. In commenting on a draft of this report, the IRS agreed to implement this recommendation.[39]

Finally, on 25 March 2014, the IRS issued a notice containing 16 questions and answers on various aspects of convertible virtual currencies.[40] According to this notice, virtual currency is treated as property (and not as a currency) for US federal tax purposes. General tax principles that apply to property transactions apply to transactions using virtual currency. A taxpayer who mines or receives virtual currency as payment for goods or services must include the fair market value of the virtual currency in computing gross income. A person who settles payments made in virtual currency on behalf

35 National Taxpayer Advocate, *2013 Annual Report to Congress,* p. 249, available at: *http://www.taxpayeradvocate.irs.gov/userfiles/file/2013FullReport/DIGITAL-CURRENCY-The-IRS-Should-Issue-Guidance-to-Assist-Users-of-Digital-Currency.pdf.*

36 FinCEN is a bureau within the Treasury Department. It serves as the Financial Intelligence Unit of the United States and is responsible for combating money laundering and other financial crimes.

37 FinCEN, *Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies* (18 March 2013), FIN-2013-G001.

38 GAO, *Report to the Committee on Finance, U.S. Senate. Virtual Economies and Currencies. Additional IRS Guidance Could Reduce Tax Compliance Risks* (May 2013).

39 Letter from Steven T. Miller, Deputy Comm'r for Servs. and Enforcement, IRS, to James R. White, US GAO (3 May 2013), reprinted in the GAO report, *supra* n. 38.

40 IRS, *Virtual Currency Guidance*, Notice 2014-21 (25 Mar. 2014), available at: http://www.irs.gov/uac/Newsroom/IRS-Virtual-Currency-Guidance.

of merchants that accept virtual currency from their customers may be subject to the reporting requirements for third party settlement organizations. This notice clearly demonstrates that tax authorities are able to respond to innovations in the digital marketplace.

1.4.2.2 European countries

The Dutch Finance Ministry (*Ministerie van Financiën)* presented its opinion on Bitcoin in a letter of 10 April 2013.[41] According to its view, Bitcoin cannot be regarded as legal tender since it lacks central supervision and stability. Neither can it be treated as electronic money or financial product. The letter also mentioned that taxpayers earning their profits in bitcoins are subject to the general income tax rules and bitcoin transactions are governed by the general VAT rules.

On 19 December 2013, the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, BaFin) issued a statement explaining the status of Bitcoin for the purposes of the German Banking Act (*Gesetz über das Kreditwesen*) and the risks of using this virtual currency.[42] The BaFin recognizes bitcoins as financial instruments that fall into the category "units of account" and are comparable to foreign exchange accounting units. Although Bitcoin does not have legal tender status, it is similar to private or regional money (i.e. it can be used in transactions on the basis of legal agreements of private law). The BaFin statement does not say anything about tax consequences of transactions involving virtual currencies.

In November 2013, the Norwegian Directorate of Taxation (*Skatteetaten*) published a statement explaining that Bitcoin is an asset (not a currency) and income tax can be charged on gains from the sale of bitcoins. For VAT purposes, supplies of bitcoins constitute taxable supplies of electronic services. Since Bitcoin does not have the status of a legal tender, the exemption for financial services cannot apply.[43]

The UK tax authorities (HM Revenue and Customs, HMRC) set out their position on the tax treatment of income received from activities involving

41 Dutch Finance Ministry (*Ministerie van Financiën)*, *Antwoord van de Minister van Financiën op vragen van het lid Nijboer (PvdA) aan de minister van Financiën over de opkomst van de Bitcoin als digitale betaaleenheid (ingezonden 10 april 2013).*

42 BaFin, *Bitcoins: Aufsichtliche Bewertung und Risiken für Nutzer* (19 Dec. 2013), available at: http://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2014/fa_bj_1401_bitcoins.html.

43 Norwegian Tax Administration (*Skatteetaten*), *Bruk av bitcoins – skatte- og avgiftsmessige konsekvenser* (11 Nov. 2013), available at: http://www.skatteetaten.no/no/Radgiver/Rettskilder/Uttalelser/Prinsipputtalelser/Bruk-av-bitcoins--skatte--og-avgiftsmessige-konsekvenser/.

bitcoins and other similar crypto-currencies in Brief 09/14 of 3 March 2014.[44] The Brief states that such income is subject to the general rules of income tax and capital gains tax. The question whether any profit from bitcoin transactions is taxable must be answered on the basis of the individual facts of each case, taking into account the relevant legislation and case law. For VAT purposes, the HMRC is of the opinion that mining is outside the VAT scope, exchanges of bitcoins into traditional currencies are exempt and supplies of goods and services for bitcoins are subject to VAT under the general rules. The HMRC observed that, given the evolutionary nature of crypto-currencies, the position outlined in Brief 09/14 is provisional and pending further developments, especially in respect of EU VAT.

On 25 March 2014, the Danish tax authorities (SKAT)[45] published a ruling on the tax treatment of Bitcoin. The ruling was issued in response to a taxpayer's request on whether he could use the exchange rates posted on the then-operating website Mt. Gox for the purposes of calculating his income tax and whether changes in the value of accumulated bitcoins due to exchange rate fluctuations had any tax consequences. The SKAT observed that Bitcoin cannot be regarded as a currency (legal tender) since it is not subject to regulation by a central bank and cannot be withdrawn from circulation. Consequently, neither the Danish tax return nor invoices can use values expressed in Bitcoin. The SKAT ruled that profits from casual bitcoin trading are not subject to tax and the corresponding losses cannot be deducted. Taxpayers who trade in bitcoins in the ordinary course of business are subject to the general rules (profits are taxable and losses are deductible). However, changes in the value of accumulated bitcoins due to exchange rate fluctuations should not have any tax consequences.

In March 2014, the Estonian Tax and Customs Board (*Maksu- ja Tolliamet*) presented its views on the taxation of bitcoins.[46] In its opinion, Bitcoin is neither electronic currency nor a security but property, the alienation and exchange of which may give rise to capital gains. Income from trading in bitcoins is taxed as business income that, in addition to individual income tax, is also subject to social security contributions. Bitcoin transactions are subject to the standard VAT rate. They cannot benefit from the exemption for financial services since such exemption does not apply to the provision of services of alternative means of payment.

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44 HMRC, *Brief 09/14: Tax Treatment of Activities Involving Bitcoin and Other Similar Crypto-currencies* (3 Mar. 2014). Previously, UK tax authorities classified Bitcoin as a taxable voucher.

45 Danish Tax Administration (*SKAT*), *Bitcoins, ikke erhvervsmæssig begrundet, anset for særskilt virksomhed* (25 Mar. 2014), available at: www.skat.dk/skat.aspx?oId=2156173&vId=0.

46 Estonian Tax and Customs Board (*Maksu- ja Tolliamet*), *Maksustamine Bitcoin'idega kauplemisel* (Mar. 2014), available at: http://www.emta.ee/index.php?id=35227&highlight=bitcoin.

The Finnish Tax Authority (*Vero Skatt*)[47] clarified the treatment of Bitcoin for income tax purposes in its notice issued on 28 August 2013. This Notice is quite comprehensive and provides several numerical examples showing how to calculate taxable income in bitcoin transactions. In the view of the *Vero Skatt*, profits from sales of bitcoins for traditional currency may be taxed as capital gains. The value of bitcoins generated through mining is also subject to income tax. The *Vero Skatt* considers Bitcoin neither a traditional currency (legal tender) nor a security.

On 23 December 2013, the Slovenian Ministry of Finance (*Davèna uprava Republike Slovenije*) issued a formal opinion about the status of Bitcoin and other virtual currencies.[48] The opinion states that Bitcoin is neither a currency nor a financial instrument under Slovenian law. Profits from both sales of bitcoins and bitcoin mining are subject to tax. According to the Ministry of Finance, the existing legislative framework does not contain provisions applicable to businesses involved in bitcoin trading.

On 11 July 2014, the French tax administration (*La Direction générale des Finances publiques*) issued a statement on the tax treatment of bitcoins.[49] According to this statement, gains from the sale of virtual currency are subject to individual income tax as professional income (if the activity is carried out on a sporadic basis) or business income (if the activity is carried out on a regular basis). In addition, virtual currency stored electronically is subject to net wealth tax and must be included in the annual net wealth tax declaration. The statement does not touch upon VAT aspects of bitcoin transactions.

Given the differing opinions of the VAT treatment of bitcoin transactions, it is not surprising that on 2 June 2014 the Court of Justice of the European Union (ECJ) was asked to clarify the matter.[50] The ECJ was called upon to decide whether transactions between virtual and traditional currencies can be classified as services for EU VAT purposes, and if so, whether they are exempt. The referral results from a dispute between David Hedqvist, who wanted to start selling bitcoins on his website, and the Swedish tax authorities, which had not provided guidance on the VAT treatment of bitcoins by that time. The ECJ decision is expected to remove uncertainties surrounding the

47 Finnish Tax Administration (*Vero Skatt*), *Inkomstbeskattning av virtuella valuator* (28 Aug. 2013), available at: https://www.vero.fi/sv-FI/Detaljerade_skatteanvisningar/Inkomstbeskattning_av_personkunder/Inkomstbeskattning_av_virtuella_valutor(28454).

48 Slovenian Ministry of Finance (*Davèna uprava Republike Slovenije*), *Davèna obravnava poslovanja z virtualno valuto po zdoh-2 in zddpo-2* (23 Dec. 2012), available at: www.durs.gov.si/si/davki_predpisi_in_pojasnila/dohodnina_pojasnila/dohodek_iz_kapitala/dobicek_iz_kapitala/vrednostni_papirji_in_delezi_v_gospodarskih_druzbah_zadrugah_in_drugih_oblikah_organiziranja_ter_investicijski_kuponi/davcna_obravnava_poslovanja_z_virtualno_valuto_po_zdoh_2_in_zddpo_2/.

49 French Tax Administration (*La Direction générale des Finances publiques*), *Régime fiscal applicable aux bitcoins* (11 July 2014), available at: http://bofip.impots.gouv.fr/bofip/9515-PGP?branch=2.

50 Case C-264/14, *Skatteverket v. David Hedqvist*.

status of Bitcoin for VAT purposes and to ensure uniform VAT treatment of this currency scheme in the European Union.

1.4.2.3 Other countries

Asian countries were the first ones to issue legal rules on trade in virtual currency.[51] In Japan, the Payment Service Act (PSA) 2009, which regulates payment and fund transfer services, also applies to services where values exist only on the server. It prohibits cash-out and refunds of prepaid money (except where the operator abolishes the service or the amount to be refunded is very small) and obliges all virtual currency issuers to register. Non-registered operators are prohibited from soliciting Japanese residents to use their service.

The Chinese government has issued several regulations on virtual currency transactions.[52] In September 2008, a 20% tax on income generated from trade in virtual currencies was imposed. However, it was difficult to enforce since the trade usually occurs between avatars and is difficult to trace. In June 2009, a circular tightening the administration of virtual currency was issued. It prohibits one entity from providing both a virtual currency issuing service and an exchange market platform for virtual currency transactions among users, and limits the use of virtual currency to trade in virtual goods and services only for the original issuer. The purpose of this restriction is to reduce the possible impact of the rapidly growing online gaming market on China's real financial system. Moreover, game operators may provide virtual currency to users only in exchange for real money and at a reported price. This means that a game operator cannot give virtual currency as a prize for in-game contests or as a benefit. When a game operator wants to change the exchange rate, including promotional discounts, it must file an application with the competent authority. The circular also obliges operators of platforms that exchange virtual currency to register the identity of users and their bank account numbers.[53]

On 3 December 2013, the Central Bank of China and four other central government ministries and commissions jointly issued the Notice on Pre-

51 The information on Asian countries is based on: T. Nakazaki, *Real World Excessive Regulations Might Kill Economic Transactions in Virtual Worlds*, Journal of Internet Law, pp. 3-5 (June 2011).

52 The example of China shows that governments are afraid of the impact of virtual money on their countries' financial systems. A virtual currency Q-coin, introduced by a telecom company for the purchase of its goods and services, started being used on a larger scale. As the amount of traded Q-coins reached several billion yuan in one year, the Chinese authorities decided to ban the use of this currency in trade in real goods in order to limit its possible impact on the financial system. See ECB, *supra* n. 28, at sec. 4.1.

53 Nakazaki, *supra* n. 51, at p. 5.

cautions against the Risks of Bitcoins.[54] Defining Bitcoin as a special "virtual commodity", the notice said that Bitcoin is not a currency and should not be circulated and used in the market as a currency. Banks and payment institutions in China are prohibited from dealing in bitcoins and from using Bitcoin to price goods and services. The Notice also required strengthening the oversight of websites providing bitcoin registration, trading and other services, and warned about the risks of using the Bitcoin system for money laundering purposes.

In South Korea, selling virtual goods obtained through cybercrime or through exploitation of security holes (for example, by automated bot characters) is prohibited by the Game Industry Promotion Act 2006 and subject to fines and imprisonment. Selling virtual objects obtained in the ordinary course of the game is not illegal, but may be contractually prohibited by the game operator.[55]

The Inland Revenue Authority of Singapore (IRAS) explained its position on the treatment of bitcoin transactions for goods and services tax (GST) purposes. In its view, virtual currencies do not constitute money, currency or goods but services and do not qualify for GST exemption. GST-registered businesses selling bitcoins need to charge GST on those sales, except for sales to a customer outside Singapore. If virtual currencies are used to pay for goods or services, the transaction will be regarded as barter trade. As a concession, if taxpayers use virtual currencies to buy virtual goods or services within the gaming world, they need not charge GST until those virtual goods and services are exchanged for real monies, goods or services.[56]

In April 2013, the Canada Revenue Agency (CRA) reportedly announced that bitcoin users have to pay tax on transactions in this digital currency. According to the CRA, different rules apply depending on whether bitcoins are used as money to purchase goods and services or whether they are bought and sold for speculative purposes. Rules on barter transaction apply in the former case, while the latter is governed by provisions on trade in securities.[57]

The Brazilian tax authority (*Receita Federal*) reportedly does not consider Bitcoin a currency.[58] According to various news sources, the *Receita Federal* has announced that taxpayers who sell bitcoins in a value of over BRL 35,000 will have to pay a 15% capital gains tax and those who possess more than

54 An unofficial translation of the Notice is available at: https://vip.btcchina.com/page/bocnotice2013.

55 Nakazaki, *supra* n. 51, at p. 6.

56 IRAS, *GST treatment for e-Commerce transactions* (2014), available at: http://www.iras.gov.sg/irashome/page04.aspx?id=2276#sale_of_virtual_currency.

57 CBC News, *Revenue Canada Says BitCoins Aren't Tax Exempt* (26 Apr. 2013), available at: http://www.cbc.ca/news/business/story/2013/04/26/business-bitcoin-tax.html.

58 *See* K. Rapoza, *Brazil Follows IRS, Declares Bitcoin Gains Taxable* (7 Apr. 2014), available at: www.forbes.com/sites/kenrapoza/2014/04/07/brazil-follows-irs-declares-bitcoin-gains-taxable/.

BRL 1,000 in digital currency holdings must file annual account declarations. Neither the Brazilian government nor the Brazilian Central Bank is planning to issue special regulations on virtual currencies unless those currencies become frequently used in transactions.

On 20 August 2014, the Australian Taxation Office (ATO) issued guidance on the tax treatment of Bitcoin and other crypto-currencies.[59] The ATO's view is that Bitcoin is neither money nor a foreign currency.

Under the guidance paper, bitcoin transactions are treated like barter transactions. Generally, there will be no income tax or goods and services tax (GST) implications for individuals if they are not in business or carrying on an enterprise and they pay for goods or services in bitcoins. Where an individual uses bitcoin to purchase goods or services for personal use or consumption, any capital gain or loss from disposal of the bitcoins will be disregarded as a personal use asset provided the cost of the bitcoins is AUD 10,000 or less. Individuals who use bitcoins as an investment may be subject to capital gains tax rules when they dispose of it.

Businesses will need to record the value of bitcoin transactions as a part of their ordinary income. Their bitcoins are trading stock that must be recorded at the end of each income year. For taxpayers that are in the business of mining bitcoins, any income that they derive from the transfer of the mined bitcoins to a third party must be included in their assessable income. Any expenses incurred in respect to the mining activity are allowed as a deduction.

Businesses must charge GST when they supply bitcoins and may be subject to GST when receiving bitcoins in return for goods and services. The supply of bitcoins is not a financial supply for goods and services tax purposes. Bitcoin is, however, an asset for capital gains tax purposes.

Record-keeping requirements for bitcoin transactions are similar to those for other transactions. Where there may be a taxation consequence, people should keep records of: the date of the transaction, the amount in AUD, the purpose of the transaction and the identity of the other party (even if it is just the bitcoin address).

The events described above are only examples of governmental responses to Bitcoin. As the virtual currency climbs in popularity and value, there will be more and more need to clarify its legal status and tax treatment.

59 Australian Taxation Office (ATO), *Tax treatment of crypto-currencies in Australia – specifically bitcoin* (20 Aug. 2014), available at: https://www.ato.gov.au/General/Gen/Tax-treatment-of-crypto-currencies-in-Australia---specifically-bitcoin/.

1.4.3 International organizations

1.4.3.1 OECD

The international debate on tax issues arising from electronic commerce was largely driven by the OECD's Committee on Fiscal Affairs (CFA). The OECD work can be traced back to November 1997, when a major international conference *Dismantling the Barriers to Global Electronic Commerce* was organized in Turku, Finland. Following the Turku Conference, the OECD prepared a framework for the taxation of electronic commerce that was presented at the Ottawa conference in October 1998.[60] The Ottawa report concluded that the same principles that governments apply to the taxation of conventional commerce should apply to electronic commerce. These principles include the well-known tax policy concepts of neutrality, efficiency, certainty, simplicity, effectiveness, fairness and flexibility. New legislative measures were not precluded, provided that they were intended to assist in the application of the existing taxation principles and not to impose a discriminatory tax treatment of electronic commerce transactions.[61]

After the Ottawa conference, the OECD established a work programme to cover the following areas: direct tax issues (the characterization of payments from different electronic commerce transactions, the concept of permanent establishment and the attribution of profits to permanent establishments), consumption taxes and tax administration (improving taxpayer service and compliance, methods of audit and tax collection).[62] It was recognized that business participants had a key role to play, bringing to the debate valuable business and technological expertise, and, given the global nature of e-commerce, participation of non-member economies in the process was vital. Thus, five Technical Advisory Groups (TAG), consisting of government representatives from both OECD member and non-member countries and business participants, were established to investigate policy solutions to the challenges raised by electronic commerce. The TAG on Treaty Characterization of Electronic Commerce Payments considered the application of the definition of royalties in the context of electronic commerce. The Business Profits TAG examined how the current tax treaty rules for the taxation of business profits apply in the context of electronic commerce and elaborated proposals for alternative rules. The Consumption Tax TAG advised on the practical application of the destination principle. The Technology TAG provided technological input into the work of the other TAGs. The Professional Data Assessment TAG focused on the examination of the feasibility and practicality of developing internationally

60 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998).
61 Id., at sec. 2.
62 OECD, *Taxation and Electronic Commerce: Implementing the Ottawa Taxation Framework Conditions*, p. 13 (2001).

compatible information and record-keeping requirements and tax collection arrangements.[63] The TAGs produced several discussion documents and reports, on the basis of which changes were incorporated in the Commentary to the OECD Model Convention.

Taxation of electronic commerce is currently being discussed within the OECD Base Erosion and Profit Shifting (BEPS) project. The BEPS Report[64] stated that rules of international tax law failed to keep pace with the changing business environment, and the BEPS Action Plan[65] set out 15 action items to remedy this mismatch. The first action item is to address the tax challenges of the digital economy. On 24 March 2014, the OECD published a discussion draft on that action item and requested comments by 14 April 2014.[66] The draft discusses both income[67] and indirect[68] tax issues. It received responses from over 60 stakeholders.[69] The commentators generally agreed that it is not possible to ring-fence the digital economy and that the OECD should not make any specific recommendations until work is completed on the other action items.

The BEPS initiative seems to provide an opportunity to rethink the fundamental concepts of international tax law since addressing a large number of intertwined issues makes sense only as part of a large comprehensive project. However, different agendas of various countries and stakeholders will make it impossible to achieve global consensus. Even if some general recommendations will be made at the international level, those recommendations would need to be implemented into national legislation. The implementation would require amendments to laws and renegotiations of bilateral tax treaties. Countries with sectors build up around tax planning will have less incentive to modify the law, since such amendments could make them less attractive for multinationals. Companies that will be required to make significant investments in new information technology to gather and process information in accordance with new more comprehensive reporting obligations are likely lobby against BEPS-implementing measures. Finally, the success of the BEPS project will depend on the extent to which non-OECD members will cooperate.

63 Id., at p. 13.

64 OECD, *Addressing Base Erosion and Profit Shifting* (2013), available at www.oecd.org/tax/beps.htm.

65 OECD, *Action Plan on Base Erosion and Profit Shifting* (2013), available at www.oecd.org/ctp/BEPSActionPlan.pdf.

66 *Supra* n. 19.

67 Among corporate income tax aspects discussed in the draft are: withholding tax on digital transactions, a new nexus standard based on significant digital presence, the concept of virtual permanent establishment and modifications to exemptions from the PE status.

68 Among consumption tax aspects discussed in the draft are: multiple-location enterprises, exempt supplies and collection of VAT in the digital economy (remote supplies of electronic services to consumers and exemption for importation of low-value goods).

69 *See* www.oecd.org/ctp/comments-action-1-tax-challenges-digital-economy.pdf.

1.4.3.2 European Union

The European Union has actively participated in the debate on taxation of electronic commerce and the digital economy from the very beginning. However, its input has been limited to indirect tax issues.[70] In June 1998, the European Commission issued a *Communication on Electronic Commerce and Indirect Taxation*,[71] which intended to be the EU contribution to the Ottawa Conference. Four years later, the Electronic Services Directive (2002/38)[72] was enacted. It introduced new place-of-supply rules and a special regime for third-country suppliers of electronic services. However, those amendments did not provide for equal treatment of EU and non-EU suppliers that provide electronic services to EU private individuals. This disparity will be removed as from 1 January 2015. As from that date, all entrepreneurs supplying electronic services will charge VAT at the rate of the customer's country.

In October 2012, European Central Bank (ECB) published a study on the relevance of virtual currency schemes for central banks.[73] The assessment covers the impact of virtual money on stability of prices, financial and payment systems, as well as reputational risk concerns and regulatory issues. The report concludes that virtual currency schemes fall within central banks' responsibility as a result of their characteristics shared with other payment systems. They do not pose a risk to price stability, provided that virtual money creation continues to stay at a low level. The fact that virtual currencies are not regulated exposes users to credit, liquidity, operational and legal risks. As virtual money can be used by criminals, fraudsters and money launderers to perform their illegal activities, a close monitoring of virtual currency systems by public authorities is necessary.

On 22 October 2013, the European Commission adopted a decision establishing an Expert Group on Taxation of the Digital Economy.[74] The aim of

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70 Article 113 of the Treaty on the Functioning of the EU (TFEU) authorizes the Council to adopt provisions for the harmonisation of Member States' rules in the area of indirect taxation because indirect taxes may create an immediate obstacle to the free movement of goods and the provision of services within the internal market. However, Member States have broad sovereignty in the area of direct taxation. Under Article 115 of the TFEU, the Council may issue directives for the approximation of laws on direct taxation, provided that they are necessary for the functioning of the internal market.

71 European Commission, *Communication on Electronic Commerce and Indirect Taxation*, COM (1998)374 final (17 June 1998).

72 *Council Directive 2002/38/EC of 7 May 2002 Amending and Amending Temporarily Directive 77/388/EEC as regards the Value Added Tax Arrangements Applicable to Radio and Television Broadcasting Services and Certain Electronically Supplied Services*, OJ L 128 of 15 May 2002 (hereinafter: "Electronic Services Directive (2002/38)"). Originally, the Directive was intended to apply for a period of three years, starting from 1 July 2003. This period was extended many times and, finally, in 2008, the arrangements became permanent.

73 ECB, *supra* n. 28.

74 *See* http://ec.europa.eu/taxation_customs/taxation/gen_info/good_governance_matters/digital_economy/index_en.htm.

this Expert Group was to examine the best ways of taxing the digital economy, to identify key problems and to present a range of possible solutions from an EU perspective. On 28 May 2014, the Expert Group presented its final report with some general conclusions (tax rules applicable to the digital economy should be stable, simple and neutral).[75] The Group is of the view that the Member States should commit to apply the destination principle to all supplies of goods and services and welcomes the expansion of the One Stop Shop arrangement as from 1 January 2015. In general, the views of the Expert Group are consistent with those expressed in the OECD BEPS reports.

75 Expert Group on Taxation of the Digital Economy, *supra* n. 20.

2 Digital environment

2.1 INTRODUCTORY REMARKS

Virtual items and currencies could not exist and be exchanged without to the support of global computer networks. As the development of rational tax policy can be accomplished only if the nature of the industry is properly understood, this chapter seeks to provide the background, i.e. to explain how the digital industry operates and what services it offers. It begins by describing the underlying technology (Internet and World Wide Web), which the virtual economy and communities are built upon. Next, it explains the functioning of peer-to-peer networks, the technology after which the Bitcoin system in modeled. As trade in virtual currencies and items is a form of electronic commerce, it is also necessary to explain how e-commerce transactions are carried out and how electronic payment systems function. Finally, the definition of virtual communities and virtual economy is provided to set the scene for the phenomena described in Chapter Three (virtual worlds and virtual currency).

2.2 INTERNET

Although it is beyond the scope of this thesis to examine the history and operation of the Internet in detail, a brief explanation of how it works is necessary to understand the nature of virtual trade.[76]

The Internet is an international network of computer networks that is not, as a whole, owned or operated by any single entity. Its origins date back to the Cold War, when the US Department of Defense wanted to establish a loose and decentralized communication system that would be resilient in a nuclear exchange. The Internet began in 1969 as an experimental project of the Advanced Research Project Agency (ARPA) and was called ARPANET. It linked computer networks owned by military services, defense contractors and university laboratories that were conducting military-related research. In 1986, the National Science Foundation (NSF) developed a high-speed network to

76 The explanation is based on: US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (1996), *supra* n. 18; and Interactive Services Association Task Force, *White Paper on Cyberspace Tax Policy*, 8 Intl. VAT Mon. 3 (1997).

allow researchers to access its sites and to provide a faster medium for data transmission. The NSF's network (NSFNET) developed into the technical backbone of the Internet since the ARPANET was no longer in use. Starting as a system that connected governmental and academic institutions, the Internet soon expanded beyond its initial participants to a worldwide network with user numbers growing rapidly.

From its inception, the Internet has been designed to be a decentralized and self-maintaining series of links between computer networks, capable of rapidly transmitting packets of data without direct human involvement or control, and having the ability to re-route communications automatically if one or more individual links became unavailable. The Internet has no central technical control point. It is more like a spider web, with many ways of getting from point A to point B. What links the Internet together and allows its many disparate parts to communicate is the transmission control protocol and Internet protocol (TCP/IP), which are simply a means of specifying how data is broken up in packets and transferred. The protocols allow computers to communicate regardless of differences in hardware, software or communications technology. Instead of a central computer, the Internet uses millions of computers called routers. Routers act as postal stations; they make decisions on how to route packets of data, just like a postal station decides how to route envelopes. Packets of data are sent in the right direction using the best route available until they finally arrive at their destination.

The Internet has always been rich in content but not always user friendly. Because of this constraint, it had limited commercial applications until the development of Web technologies, beginning in the 1990s. The World Wide Web (WWW or the "Web") was designed at the European Particle Physics Laboratory (CERN) in Switzerland. What distinguishes it from other Internet components is a system of linked hypertext multimedia documents. Users can retrieve these documents without knowing where they are located. A coding language HTML (Hyper Text Markup Language) is used to create links to different locations on the Internet. Every website has a unique Internet address, called a URL (Uniform Resource Locator). As websites are linked via hypertext markers and share a common appearance, they seem to be joined together seamlessly, even though, in reality, they are scattered all over the world. The Web blends text, images, video and audio which can be accessed through a browser program. The browser reads information from the web and presents it in a user-friendly format. Search engines (for example, Google or Yahoo) allow users to locate websites containing the desired information. That information is stored on computers called servers. For user, the location of a server is irrelevant since its contents can be accessed from any place in the world.

In order to get connected to the Internet, a specific IP-address is required. Each device on the Internet, such as a computer or a mobile telephone, must be assigned an IP address in order to communicate with other devices. The Internet Corporation for Assigned Names and Numbers (ICANN), based in

California, defines policies on how those addresses operate.[77] ICANN delegates authority for the management and creation of IP addresses to a body called the Internet Assigned Numbers Authority (IANA). IANA allocates blocks of addresses to one of five Regional Internet Registries (RIRs). These regional bodies allocate smaller blocks of addresses to Internet service providers and other network operators.

Two versions of IP addresses are currently in use: IP Version 4 (IPv4) and IP Version 6 (IPv6).[78] An IPv4 address consists of 32 bits, which limits the address space to 4,294,967,296 (2^{32}) possible unique addresses. The rapid exhaustion of IPv4 address space prompted the development of IPv6. Mathematically, the new address space provides the potential for a maximum of 2^{128} unique addresses. In the IPv4 system, dynamic addresses are frequently used as this allows many devices to share limited address space on a network if only some of the devices are online at a particular time.[79] IPv6 supports globally unique static IP addresses that can be used to track a single device's Internet activity. However, users have the option to enable privacy extensions, in which case the operating system generates ephemeral IP addresses instead of traceable static ones. The use of ephemeral addresses makes it difficult to track a user's Internet activity. Internet providers record which customer was allocated which dynamic IP address (to remove technical malfunction or for invoicing purposes). However, such records are not allowed to be stored for a long period of time for data protection reasons.

IP addresses have no direct connection to an individual. They might refer to several members of a family and even to completely independent persons using the same Internet connection. Users may circumvent the identification of their location based on the IP address by using proxy servers. They can also install special (legal) software on their computers to remain untraceable. One of them is the open source, free-of-charge Tor application.[80] Its aim is to prevent others watching a user's Internet connection from learning what websites that user visits and to prevent the operators of the websites visited by a person from learning his physical location.

2.3 PEER-TO-PEER NETWORKS

Originally, the predominant model for the use of Internet applications was the client server model, in which the client computer initiates a request for

77 *See* www.icann.org/en/about/welcome.

78 ICANN, *Beginner's Guide to Internet Protocol (IP) Addresses* (2011), available at: www.icann.org/en/about/learning/beginners-guides.

79 Users can find out what IP address is currently being used by visiting: www.myipaddress.com/show-my-ip-address/.

80 *See* www.torproject.org.

data and the server responds to that request. The main disadvantages of this model are the client's inability to access data and applications in the case of server failure and the fact that the server has a limited amount of resources (storage capacity and processor time).

In peer-to-peer (P2P) networks, each participating computer, referred to as peer, may act both as a client and as a server within the context of a given application. A peer can initiate requests, and it can respond to requests from other peers in the network. The ability to make direct exchanges with other users liberates P2P users from the traditional dependence on central servers. Users have a higher degree of autonomy and control over the services they utilize. One of the main benefits of P2P computing is community. P2P makes it possible for users to organize themselves into ad hoc groups that can efficiently and securely fulfil requests, share resources, collaborate and communicate.[81]

Peer-to-peer networks have become an important medium for the exchange of digital information in both legitimate and illegitimate scenarios. In the latter context, they are perceived as a threat to the music and content industry as a whole. The music industry has a long history of taking legal action against companies using the file-sharing model. But those new ways of information delivery do not have to be associated with illegal file sharing and copyright infringement. As a form of technology, they are neutral: what can be done with them depends on the users. Skype is an example showing that successful business models can be based on P2P technology.

Peer-to-peer file sharing became popular in the 1990s with the introduction of Napster, a file sharing application with a set of central servers that linked people who had files with those who requested files. When someone searched for a file, the server searched all available copies of that file and presented them to the user. The files were transferred directly between the two private computers. As the first P2P file-sharing systems relied on central servers, they were susceptible to centralized shutdown. Currently, torrent networking is the most popular form of P2P file sharing. Torrents work by downloading small bits of files from many different sources at the same time. Users are remotely connected with each other and share files without any central servers. As this format compensates for bottleneck points, it is faster than downloading a large file from a single source.

2.4 ELECTRONIC COMMERCE

The Internet has evolved from a communication tool to a global trading platform. It has increased the ease with which businesses can be formed and

81 D. Barkai, *An Introduction to Peer-to-Peer Computing,* Intel Developer Update Magazine (Feb. 2000).

trade conducted. Anyone can now sell goods or provide services for consumers all over the world.

The term "electronic commerce" refers to trade in goods and services conducted over a network that uses computers and telecommunication.[82] It covers business-to-business transactions (B2B), business–to-consumers trade (B2C), as well as dealings between consumers (C2C). The objects of e-commerce transactions may be both tangible goods (mail-order delivery system) and intangible products.

All types of electronic commerce are global, in the sense that trade takes place without real meaning being attached to territorial borders between countries. Another feature of e-commerce is its anonymity, in the sense that the transaction details or parties involved may remain anonymous or require intensive investigation to be determined.

E-commerce transactions usually require an intermediary to be processed. Most online purchases are paid for by a credit card. To use this system, customers simply enter their credit card number, the date of expiry and the security code in the appropriate area on a webpage. When the purchase is made, the customer borrows money from the credit card issuer to pay the seller. The credit card issuer transfers the payment to the seller and gets the money back from the credit card holder at the end of the billing period. A new more secure form of credit cards is a smart card, which store information on a microprocessor chip instead of magnetic strips. A smart card can be password-protected to guarantee that it is only used by the owner, whereas magnetic strip cards can be read by any magnetic reader. Both types of cards cannot be used to send money between private individuals.

The transfer of funds between private individuals became possible with the establishment of PayPal.[83] PayPal uses encryption software to allow people to make financial transfers between computers. It owes much of its initial growth to eBay users who promoted it as a way to exchange money for their online auctions: in 2002, eBay bought PayPal and integrated it into its services. PayPal can be used to buy items online or send money to others. All the user needs to know is the recipient's email address or mobile phone number. Although a PayPal account is associated with a bank account or credit card, when a payment is made, the recipient does not see the payer's details, such as his credit card or bank account numbers and address. That information stays within PayPal, which acts as an extra layer of security. In contrast, in a credit card transaction, information is transmitted to all the parties involved in the transaction (the merchant and the credit card processor). There are generally no transaction fees for sending and receiving money between PayPal accounts. Recipients can withdraw money from their PayPal accounts by

82 Westberg, *supra* n. 21.
83 *See* www.paypal.com.

transferring it to their bank accounts or by making purchases with a PayPal debit card.

2.5 VIRTUAL COMMUNITY

A virtual community is a technology-supported cyberspace, centred on communication and interaction among participants, resulting in relationships that are built for certain purposes.[84] It is a place within cyberspace where individuals interact and follow mutual interests or goals by changing and observing the state of a common database.[85] Chat rooms, blogs and networking sites, such as Facebook and Twitter, are examples of virtual spaces. All information is stored in a common database, although not everyone can see all of it. The most sophisticated virtual communities are virtual worlds, which are persistent computer-generated online environments that can be accessed remotely and simultaneously by a large number of people who interact with each other for social, entertainment or commercial purposes.

2.6 VIRTUAL ECONOMY

The widespread adoption of information technology in everyday life has given rise to a massive new market for digital goods and services. Castronova (2001) first used the term "virtual economy" to refer to artificial economies inside online games, especially when the artificially scarce goods and currencies of those economies where traded for real money.[86] However, according to the *Knowledge Map of Virtual Economy* (2011), a report prepared by Lehdonvirta and Ernkvist for the World Bank, this term has a broader meaning and includes both exchanges of virtual goods and digital labour.[87] The report mentions three main characteristics of virtual economy:

- it is focused on commodities that are digitally scarce yet;
- demand arises from the increasing use of digital services in business and leisure;
- supply is created through the expenditure of human effort, and doing so requires relatively few specialized skills or resources.

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84 J. Guo, A. Chow & R.T. Wigand, *Virtual Wealth Protection through Virtual Money Exchange*, Electronic Commerce Research and Applications 10, p. 313 (2010).

85 R.J. Bloomfield, *Worlds for Study: Invitation – Virtual Worlds for Studying Real-World Business (and Law, and Politics, and Sociology, and....)*, p. 17 (May 2007), available at: http://ssrn.com/abstract=988984.

86 Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*, *supra* n. 22.

87 Lehdonvirta & Ernkvist, *supra* n. 5.

Virtual economy builds on IT infrastructure (wireless networks, broadband connectivity, software and hardware) and on the digital economy. The latter includes traditional industries that produce content that can be represented in digital form (music, video and images).[88] Digital items are referred to as information goods because they differ from most ordinary goods in two ways. The first difference is that, from a producer's point of view, information goods involve high fixed costs of production with (almost) zero costs of reproduction and distribution. Creating the first copy of an information good may require substantial effort and investment, but once that is done, the cost of creating additional copies by duplicating the original is negligible. The second difference is that, from a consumer's point of view, information goods are "experience goods", i.e. their value is derived from experiencing them and absorbing their content. In contrast, the commodities of the virtual economy (virtual goods) are similar to ordinary goods as their production can involve significant marginal costs: although game items could be duplicated at no cost, they are made unique by requiring that significant effort be expended in order to obtain them in the game. The value chains and markets of the virtual economy are also different from those of the traditional digital content industries. Traditional content industry employs a small number of highly skilled producers, whereas suppliers in the virtual economy use a large number of less skilled workers.[89]

Commercially significant activities in the virtual economy can be broken down into four segments: third-party online gaming services, microwork, cherry blossoming and creation of virtual goods. The third-party online gaming services segment consists of activities known as "gold farming" and "power leveling". The former involves the sale of virtual goods to players by third parties (not affiliated with the game publishers). The latter is a "player-for-hire" service, where a professional player takes control over another player's avatar for an agreed period of time to build up the skills of that avatar. Power levelers also sell "ready-made" characters. Third-party gaming services are used to obtain the virtual rewards of the play without having to spend much time and effort.[90]

Microwork[91] segment consists of services catering to business clients. It involves breaking insurmountable computational problems into simple human

88 The definition of digital economy used here is narrower than the one used in the current BEPS debate. For BEPS purposes, the digital economy is defined as economy based on the convergence of information and communication technologies that impacts a wide variety of sectors (retail, media and entertainment, manufacturing, financial services and advertising).

89 Id., at ch. 2.

90 Id., at ch. 3.

91 One of the companies offering microwork services is CrowdFlower (http://crowdflower.com). According to the company's self-introduction: "CrowdFlower is the world's leading crowdsourcing service, with over one billion tasks completed by five million contributors. We specialize in microtasking: distributing small, discrete tasks to many online contributors in assembly line fashion."

tasks that can be distributed to and addressed by human workers (for example, testing a search system to improve the accuracy of search algorithms, data verification or product labeling).[92] "Cherry blossoming" involves users recommending brands or products for money. It refers to small marketing-related digital tasks, such as "liking" a brand's Facebook page against a small payment. In the digital world, consumer endorsements have direct economic value since comments, blog posts and forum entries by individual consumers greatly influence the buying decisions of their peers. On social networking systems, such as Facebook or Twitter, the number of followers that a brand has works as an indicator of its popularity and helps it appear more often in search results. "Cherry blossoming" resembles microwork in that it involves recruiting large numbers of workers to complete small tasks for a client. However, unlike microwork, the tasks involve overcoming artificial scarcities created by the designers of the platforms.[93]

The segment of user-created virtual goods consists of producing and selling user-generated virtual items, textures and other artificially scarce virtual objects.[94] Virtual worlds, such as *Second Life* and *Project Entropia*, created easily accessible entrepreneurship opportunities by enabling ventures, such as the creation of virtual goods for sale, the development of virtual real estate and the provision of virtual services. Both worlds operate a virtual currency that is exchangeable into real money. This sector of the virtual economy is of particular relevance for this thesis and is discussed further in Chapter Three.

92 Lehdonvirta & Ernkvist, *supra* n. 5, at ch. 4.
93 Id., at ch. 5.1.
94 Id., at ch. 5.2.

3 The concept of virtual currency

3.1 INTRODUCTORY REMARKS

Money is a social institution that has exhibited a great capacity to evolve and adapt to the character of the era. In early times, people used commodities as means of payment. Later on, those commodities were gradually replaced by coins and paper money.[95] For a long time, private monies were commonplace – no government even thought to claim a formal monopoly over the issue and use of money within its political territory. The notion of absolute monetary sovereignty began to emerge in the nineteenth century with the formal consolidation of the powers of the nation-state in Europe and later elsewhere in the world. Monetary instruments were standardized and the legal tender status was reserved to the national currency. The era of territorial money reached its zenith in the middle of the twentieth century with the invention of exchange and capital controls. However, this trend has clearly reversed in the recent years. Financial and monetary systems have become increasingly integrated, capital controls tend to disappear, and we see greater competition among currencies.

Money has undergone another evolution due to the development of electronic payment systems. Those systems have taken the concept of money beyond its physical and notational forms to intangible data that exists only online. Valuable physical coins and nicely printed banknotes have started playing a marginal role: money is no longer a physical object, but a large system consisting of computer networks.

The emergence of stateless virtual currencies can be seen as the next step in the process of the dematerialization of money. Virtual money can be defined as a type of unregulated digital currency which is issued and often also controlled by its developers.[96] There are many virtual currency schemes and it is not easy to classify them. This thesis distinguishes two main categories: community-related currencies (for example, Linden Dollar, Facebook Credit, virtual gold) and universal currencies (for example, Bitcoin, Ripple, Litecoin).

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95 ECB, *supra* n. 28, at sec. 1.2.

96 Id., at sec. 2.1.

The former is designed to be used by members of a specific virtual community, whereas the latter may be used by anyone to purchase goods and services.[97]

Virtual currencies have raised a series of legal questions regarding, for example, their potential use for illicit purposes and the protection of consumers using them as means of payment. Also in the area of taxation, many questions still remain unanswered. Can virtual currency be treated just like any other traditional currency for tax purposes? Is income tax due on profits realized in virtual money? How to report such profits correctly? For the tax administration, the challenge is how to approach a system that is outside the traditional streams of commerce and finance; for users – to understand the tax consequences of their transactions in virtual currencies.

3.2 COMMUNITY-RELATED VIRTUAL CURRENCIES

3.2.1 Initial remarks

Community-related currency is virtual currency used by members of a particular community, for example, a virtual world. Virtual worlds are persistent computer-generated online environments that can be accessed remotely and simultaneously by a large number of people who interact with each other for social, entertainment, educational or commercial purposes.[98] They originated from traditional computer games: *Maze War*, the first networked 3D game developed in the 1970s and played on ARPANET, can be considered as a precursor to virtual reality. In that game, players, represented as eyeballs, chased each other around in a maze, seeing the playing field as if they themselves were walking around in it. As the Internet progressed, more advanced environments called multi-user dungeons (MUDs) appeared. A MUD was a text-based virtual world with many players interacting in real time by typing commands and viewing descriptions of other players' actions. Traditional MUDs had a fantasy-oriented setting populated by fictional races and monsters. The aim of the game was to slay monsters, complete quests and advance the created character. There were also MUDs designed for educational purposes or used

97 A different classification is suggested in ECB, *supra* n. 28, at sec. 2.1. The ECB report differentiates between: closed virtual currency schemes, virtual currency schemes with unidirectional flow and virtual currency schemes with bidirectional flow. The ECB report is focused on the possibility to exchange virtual money into real money, which is a correct approach when discussing the impact of virtual money on a country's financial system and monetary policy. This thesis takes a different approach. The classification it has adopted is based on the scope of application of virtual currency, i.e. whether it can be used by anyone for any purpose or only to purchase a limited number of goods and services within a particular community. The same distinction is made by Macintosh, *supra* n. 25.

98 Chung, *supra* n. 24, at p. 104; A. Jankowich, *EULAw: The Complex Web of Corporate Rule-Making in Virtual Worlds*, 8 Tulane Journal of Technology & Intellectual Property 1, p. 3 (2006).

mainly as chat rooms. MUDs eventually led to the creation of more advanced virtual worlds.

Virtual worlds are a departure from what is traditionally considered an online game.[99] A game is a type of play activity conducted in the context of a pretended reality in which participants try to achieve at least one arbitrary, nontrivial goal by acting in accordance with agreed rules.[100] Although virtual worlds may be described as pretended reality governed by a set of rules, not all of them set goals for their participants to achieve. While there are many worlds which follow the game structure and encourage their users to move to next levels (structured worlds), there are also some that do not have fixed objectives and allow users to participate in any activities they like (unstructured worlds).

Virtual worlds are far more complex than traditional online games. In traditional games, the game world exists as long as the player is playing. Virtual worlds are persistent and exist independently of any individual's presence. They operate continuously and retain the location of an avatar and his items even if the person logged off from the program. Returning players may discover that things have changed since they last visited the world. Traditional games are designed for instant gratification and do not allow players to generate and accumulate in-game resources. Virtual worlds, in contrast, have no endings. In order to maintain the subscriber base, the developers periodically issue expansion packs or sequels to expand the world's boundaries and to introduce new features that allow players to become more powerful and skilled.

The line between the real and virtual may not be easily discernible in the virtual worlds of the 21st century. Developers of virtual worlds use three-dimensional graphics and voice technologies to create environments that mimic real life. Some people believe that virtual worlds are a parallel universe (or jurisdiction) and "real" laws (property law, criminal law) should apply there just as they function in traditional societies. They point out that virtual worlds have their own economies that are very similar to the real ones and that their currency is easily exchangeable (more easily that than the currency of some developing countries). Others claim that imitating real life cannot bring about the same consequences as real actions have. Castronova (2002) observed that

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99 Some authors use the term "game" to describe all categories of virtual worlds (for example, Castronova, *On Virtual Economies*, *supra* n. 22; C. Bradley & A.M. Froomkin, *Virtual Worlds, Real Rules*, 49 New York Law School Law Review 121 (2008)).

100 E. Adams & A. Rollings, *Fundamentals of Game Design*, ch. 1 (Pearson Prentice Hall 2007). There are many other definitions of the term "game". For example, according to the economists' definition, a game is a setting in which one or more actors choose actions that affect outcomes that they care about, given their information and beliefs about the environment and the likely actions of other actors (Bloomfield, *Worlds For Study: Invitation*, *supra* n. 85, at sec. 4). However, this definition will not be used here as it makes the meaning of a "game" identical to that of "interaction".

economic life in virtual worlds is different in many ways from life on Earth. Castronova offers the example of price controls. In real life, price controls are difficult to enforce and tend to have perverse effects. This is not the case with virtual worlds. Furthermore, quantities of virtual items on the market are easy to manipulate because game operators can create or destroy any number of virtual goods at near-zero cost by entering the right commands into the game engine.[101]

Participants can access virtual worlds by creating accounts and acting through digital two- or three-dimensional representations of themselves known as avatars. An avatar can take any form which the virtual world administrators permit. Usually participants are offered a basic character model or template that can be customized by adding physical features as the player sees fit. The term avatar was first used for the on-screen representation of players in the online role-playing game *Habitat* in 1985. It was later made popular by the series of games *Ultima* and science fiction literature. The most famous futuristic novel describing a "virtual reality" populated by avatars is *Snow Crash* by Neal Stephenson.

People visit virtual worlds for a number of different reasons. The most appealing characteristic of online environments is that they allow participants to do things they normally would not be able to do. Many people enjoy the opportunity to take over new roles and try out activities that would not be possible in real life. As most games feature elements of competition, the motivation to prove to others who has the best skills is an important reason for spending long hours in front of the computer screen. Games are often played to reduce stress or to distract oneself from daily hassle. Online communities can also be a source of social interaction and a place to find new friends.

Although many people spend time in virtual worlds for fun or as an escape from reality, some do interact in virtual spaces for real economic benefits. Many businesses and politicians established their presence in *Second Life*. IBM used this virtual world to conduct corporate meetings with the objective of reducing travel costs. Numerous universities had their own in-world campuses for teaching purposes. The American Cancer Society has used *Second Life* to raise tens of thousands of USD in charitable contributions.[102] There are also reports about students forgoing summer jobs to earn their money online.[103]

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101 Castronova, *On Virtual Economies*, *supra* n. 22, at p. 4.

102 These and more examples can be found in: W.D. Terando et al., *Taxation Policy in Virtual Worlds: Issues Raised by Second Life and Other Unstructured Games*, 6 Journal of Legal Tax Research 94 (2008).

103 A. Chodorow, *Tracing Basis through Virtual Spaces*, 95 Cornell Law Review 290 (2010).

In China and other countries with low wages, an industry of gold farmers and power-levelers has emerged.[104]

3.2.2 Legal framework

Original and exclusive rights to all aspects of virtual worlds rightfully belong to the world operators and are protected by patent and copyright laws. Users gain access rights to virtual worlds through contracts with the world operators. The names of the contracts vary: they may be called "End User License Agreement" (EULA), "Terms of Use" (ToU) or "Terms of Service" (ToS).[105] The rules that users must adhere to can usually be found in more than one document. For example, on the website of *EVE Online*,[106] ten sets of rules can be found. This complexity may discourage an average user from reading the rules and make him unaware of the contractual obligations.

EULAs have the click-wrap format. A click-wrap agreement is a common contractual format in the software industry, meaning that the rules appear on screen and the participant must either agree or disagree to the terms before advancing to the next screen. When participants find these rules unsatisfying, their only option is to quit. The law in most jurisdictions supports the position that clicking the "I agree" button is sufficient to evidence the user's agreement and that the contract is enforceable even if the user did not read it.[107]

An important issue covered by the contractual arrangements is the ownership of virtual items and currency. Most of the contracts state that the whole world content belongs to the world operator. What the user receives is typically described as a ''non-exclusive, limited, fully revocable license'' to use the software and services as long as the user complies with the rules and pays the required fees. Players have to accept that they have no ownership or any other property interest in the account and all rights to the account shall be owned by the operator who may terminate it at any time. For example, *World of Warcraft's* terms of use say:[108]

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104 „Gold farming" is playing a MMORPG to acquire in-game currency and selling it in exchange for real money. It is especially popular in developing countries. A detailed analysis of this phenomenon was provided by R. Heeks in *Current Analysis and Future Research Agenda on "Gold Farming": Real-World Production in Developing Countries for the Virtual Economies of Online Games, Working Paper No. 32 (2008),* available at: www.sed.manchester.ac.uk/idpm/research/publications/wp/di/di_wp32.htm.

105 For the purposes of simplification, the legal framework laid down by the game providers is referred to here as the EULA.

106 *EVE Online* policies can be found at: http://community.eveonline.com/pnp/.

107 W.V. Vetter, *A Preliminary Investigation of Taxation of Virtual Worlds*, Tax Analysts Special Report, p. 848 (17 Mar. 2008).

108 *World of Warcraft*, Terms of Use, no. 9, available at: http://us.blizzard.com/en-us/company/about/termsofuse.html.

> 'Notwithstanding anything to the contrary herein, you acknowledge an agree that you shall have no ownership or other property interest in the account, and you further acknowledge and agree that all rights in and to the account are and shall forever be owned by and inure to the benefit of Blizzard. Blizzard does not recognize the transfer of accounts. You may not purchase, sell, gift or trade any account, or offer to purchase, sell, gift or trade any account, and any such attempt shall be null and void and may result in the forfeiture of your account.
>
> Blizzard owns, has licensed, or otherwise has rights to all the content that appear in the Service or the Games. You agree that, except as set forth in a Game EULA, you have no right or title in or to any such content, including without limitation the virtual goods or currency appearing or originating in any game, or any other attributes associated with the account stored on the Service. Blizzard does not recognize any purported transfers of virtual property executed outside a Game, or the purported sale, gift or trade in the "real world" of anything that appears or originates in a Game, unless such transfer is made using a marketplace explicitly authorized or administered by Blizzard.'

The violation of the EULA may result in various consequences: removal of virtual property, temporary ban from entering the world or permanent erasure of the virtual avatar (account termination). Broadly written terms give the providers an incredible amount of discretion that enables them to get rid of participants who they may find objectionable in any way, and it is only the provider who has the sole discretion to determine whether a violation of the EULA has occurred. The game provider usually also has the right to terminate or modify a player's account without any reason and notice, irrespective of any possible violation of the contractual arrangements. The Terms of Use of *Second Life* state as follows:

> 'Linden Lab has the right to change, limit access to, and/or eliminate any aspect(s), feature(s) or functionality of the Service (including your User Content) as it sees fit at any time without notice, and Linden Lab makes no commitment, express or implied, to maintain or continue, or to permit open access to, any aspect of the Service. You acknowledge that your use of the Service is subject to this risk and that you knowingly assume it and make your decisions to participate in the Service, contribute Content and spend your money accordingly.'[109]

The contractual rules of *World of Warcraft* are very similar:

> Blizzard may suspend, terminate, modify, or delete accounts at any time for any reason or for no reason, with or without notice to you. Accounts terminated by Blizzard for any type of abuse, including without limitation a violation of these

109 Second Life, Terms of Use, no. 1.2, available at: http://lindenlab.com/tos#tos9 .

> TOU, a Game-specific Terms of Use, or a Game EULA will not be reactivated for any reason.[110]

Some scholars have advocated the idea that participants should have some level of property rights[111] in the virtual items they acquire and create, regardless of the EULA provisions.[112] They argue that clauses limiting property rights are unconscionable for the following reasons. First, although virtual items exist only on screen, the current technology allows them to mimic real objects. They are persistent and do not cease to exist if the player goes offline. Second, users put a lot of time and efforts in developing high-level avatars and finding precious virtual objects. Computer code that is designed to act like real property should be regulated and protected like real property.[113] The recognition of virtual property rights of users should not threaten the intellectual property interest held by the creator of the property, but provide protection for someone whose virtual assets are misappropriated or destroyed by a hacker.[114]

Another argument for disregarding the EULA and giving users some property rights rests on the claim that the EULAs are sufficiently close to contracts of adhesion which courts frequently disregard on public policy grounds. However, unlike in the case of contracts of adhesion, virtual world users have realistic alternatives. Even assuming that the contract is offered on a take-it-or-leave-it basis and inflicts substantial unfairness on the player (in requiring the player to waive all copyright), the player is not the weaker party, but has plenty of alternative choices. He can play other games or participate in other virtual environments.[115]

Thus, despite users' potential influence on virtual worlds' operation, there is little legal basis for any user's claim to property rights in avatars or virtual items. Participants have contractual rights to use the game and no more. Although virtual items have the same roles and functions as things and

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110 World of Warcraft, Terms of Use, no. 7, available at: http://us.blizzard.com/en-us/company/about/termsofuse.html.

111 It is important to note that the concept of property means different things in different countries. In common law countries, "property" comprises rights with respect to the asset but not the asset itself. Thus, the ownership of a piece of land is actually the ownership of a bundle of rights in relation to the land but not ownership of the earth itself. A person who owns the entire bundle of rights related to an asset is said to have a "fee simple" interest in the asset but the bundle can be separated into an infinite number of separate rights and those, in turn, can be transferred to an infinite number of separate owners. *See* R. Krever, *Interpreting income tax laws in the common law world* in: *Steuerrecht, Verfassungsrecht, Europarecht. Festschrift für Hans Georg Ruppe,* p. 361 (Facultas Verlags- und Buchhandels AG 2007).

112 Fairfield, *Virtual Property, supra* n. 23; Westbrook, *supra* n. 23; Vacca, *supra* n. 23.

113 Fairfield, *Virtual Property*, *supra* n. 23, at p. 1048.

114 Id., at p. 1096.

115 Camp, *supra* n. 24, at p. 51.

services have in the real world, they are only consensual constructs of limited scope. The mere belief by game players that they have – or should have – property rights does not necessarily mean that they do, and the mere fact that they act like property owners, for example, by selling certain items, does not necessarily mean that they are. If a museum displaying, but not owning, a painting tried to exploit the perception that it is the painting owner by attempting to sell it, the sale would not make the museum the rightful owner, nor would it make the transaction legitimate.[116]

Assigning virtual property rights to players should not be considered a mandatory legal obligation but rather a policy decision made by the game developer.[117] So far, virtual world administrators have argued against granting property rights, both because it interferes with their ability to regulate activities in their virtual environments and because it burdens them with unwanted responsibilities and may subject them to liability for events that are beyond their control. An online environment is an immense undertaking that requires constant attention and takes substantial time to develop. If its operators were not able to make adjustments or control its contents, the virtual world could implode or freeze.[118]

On the other hand, players have legitimate expectations regarding the virtual products of their labour. The most important feature of a virtual world is the complexity of social interactions among its members – a feature not offered by the developers but created solely by the players whose social and emotional input fuels the persistence and expansion of the virtual community.[119] The law and jurisprudence must reflect on this contribution when evaluating the legality of a given EULA. By acknowledging the players' contribution to the online environment, the developers should provide solid justifications of their decisions to cut off a player from the game (for example, due to a violation of the contractual obligations or termination of the service). The players' virtual presence in the game should be guaranteed and protected by the courts as long as the users respect the EULA. The protection of the player's rights vis-à-vis other participants should be ensured, first and foremost, by the game operator itself. The enforcement of the EULA is relatively simple within a virtual world. Users can report other individuals who disrupt the game or violate the code of conduct. Such reports should be investigated by the system administrator and proper action should be taken. Only if the operators fail to provide an appropriate remedy, the courts should step in to adjudicate the matter.

Finally, it is important to note that although tax law frequently uses private law concepts (for example, property) to define tax liability, it must be inter-

116 Lederman, *supra* n. 24, at p. 1639.
117 Volanis, *supra* n. 23, at p. 332.
118 Vetter, *supra* n. 107, at p. 849.
119 Volanis, *supra* n. 23, at p. 339.

preted according to its own policies. Tax law is independent from private law.[120] In Germany, the Constitutional Court (*Bundesverfassungsgericht*) rejected any notion that civil law terms used in tax law should be interpreted according to their civil law meaning.[121] In the United States, private law differs from state to state, so a reference to private law could lead to lack of uniformity in federal tax law. For example, the Supreme Court held that where income tax used the term sale, this term was to have a meaning peculiar to income tax law rather than referring to whether a transaction constituted a sale under state private law.[122]

Transactions in virtual items are referred to here as "sales" although they may not constitute "sales" from private and commercial law perspective. However, they are considered as such by the parties involved: the intention of the "seller" is to transfer the actual power to dispose of a virtual item to the "buyer". After the transaction is complete, the "seller" can no longer use the item.

3.2.3 Types of virtual worlds

3.2.3.1 Initial comments

Although there is much diversity among virtual worlds and each one is unique, two main categories of virtual worlds can be distinguished: structured worlds[123] and unstructured environments.[124] Structured worlds resemble traditional computer games as they have defined objectives and a significant amount of operator-developed content. Unstructured worlds lack pre-set challenges and utilize more user-generated content. The both environments are designed to encourage transactions between participants. The next sections look at both types of virtual worlds in more detail.

3.2.3.2 Structured worlds

Game-like worlds put players into strongly pre-defined roles within the context of an overall storyline. Each role has its pre-programmed strengths and weaknesses. Subscribers choose to play one of several characters (troll, dwarf and druid) and give their avatars some primary professions (alchemy, mining and blacksmithing). In a fantasy-oriented world, avatars engage in quests, raids

120 V. Thuronyi, *Comparative Tax Law*, p. 125 (Kluwer Law International 2003).
121 BVerfG, 27 Dec. 1991, 2 BvR 72/90, BStBl. II 1992, 212.
122 *Burnet v. Harmel*, 287 US 103 (1932).
123 Also known as massive multiplayer online role-playing games (MMORPGs), scripted worlds, game-like worlds or leveling worlds.
124 Also called unscripted worlds or social worlds.

and fights against opposing forces. For each mission accomplished, they are rewarded with better skills, weapons and virtual currency. An important factor is cooperation among players. To facilitate quests avatars band together to form guilds – groups consisting of about forty members – and engage in cooperative exchanges.

As avatars gain experience from completing certain tasks, they get promoted to higher levels where quests are more difficult but, at the same time, more powerful weapons and armor may be obtained. This is called "leveling" – players start at level one and through their activities they level up their avatars to more intricate and harder game play. As the structure of many virtual worlds makes it difficult, time-consuming and even boring to level up avatars to the point where they have substantial skills and resources, some people reach for shortcuts. Valuing time over money, these players go outside the game to purchase game-based resources or high-level avatars.[125]

For a better understanding of the functioning of game-like worlds, a description of two of them (*World of Warcraft* and *EverQuest*) can be found below.

World of Warcraft

World of Warcraft (WoW)[126] is undoubtedly one of the most popular MMORPG with over 10 million subscribers in 2012.[127] Since its release by Blizzard Entertainment in November 2004, the game has experienced phenomenal growth and dominated the online game market. *World of Warcraft* requires the player to pay a subscription fee, either by buying prepaid game cards for a selected amount of playing time or by using a credit or debit card to pay on a regular basis.[128]

The game takes place within the world of Azeroth, a virtual environment full of magic and mystery, where players assume roles of heroic fantasy characters. To create a new avatar, players must choose between the opposing factions of the Alliance or the Horde, and subsequently select the new character's race, such as orcs or trolls (for the Horde), humans or dwarves (for the Alliance). Players are not limited to one character but can keep a roster of up to 50 avatars. The game involves the completion of quests, which means that players encounter computer–controlled characters which give them different tasks. Quests usually reward the player with experience points, items, and in-game money. They also allow characters to gain access to new skills and abilities, and explore new areas. Some of the rewards received are bound to

125 Purchasing virtual items for real money is called real-money trade (RMT). A detailed description of this phenomenon can be found in section 3.2.4.3. *Real Money Trade (RMT)*.

126 *See* http://eu.battle.net/wow/en/ and http://us.battle.net/wow/en/.

127 A. Holisky, *World of Warcraft subscriber numbers dip 100,000 to 10.2 million* (9 Feb. 2012), available at: http://wow.joystiq.com/2012/02/09/world-of-warcraft-subscriber-numbers/.

128 *See* http://eu.battle.net/wow/en/shop/game-purchase/.

the avatar and cannot be traded, generating a market for the trade of accounts with well-equipped characters (the price may even reach a few thousand USD). Within the game, participants can store their virtual objects in virtual banks. If they have objects that they do not need any more or they are searching for a particular valuable item, an in-game auction house is the right place to visit. Such a house enables players to put virtual objects up for auction and to obtain virtual currency from their sale.[129] In-world transactions are permitted and fully supported by the operator of *World of Warcraft*. In contrast, the practice of buying and selling virtual gold for real money is strictly prohibited by the game operator.

EverQuest

EverQuest,[130] originally launched in 1999 by Sony Online Entertainment, was one of the first MMORPGs to achieve great success and notoriety in the genre. Its environment is similar to that of *World of Warcraft*. Players use pre-programmed avatars to explore the fantasy world of Norrath, complete quests, fight monsters for treasure and experience points, and master their trade skills. As they reach new levels, they gain power, prestige and new abilities. The game has spawned a large number of successful expansion packs, continually adding to the world of Norrath new elements. In 2004, a game sequel, *EverQuest II*, was released.[131] The game can be played for free; however, more advanced elements are available only to players with premium membership (the fee ranges from USD 5 to USD 15).[132]

EverQuest was the first virtual world to draw attention of the scientific community. A study conducted by Professor Edward Castronova from California State University examined the virtual economy of Norrath (the virtual world of the game *EverQuest*) as if it was a normal economy with statistics covering such activities as production, labor supply, income, inflation, foreign trade, and currency exchange. The study asserted that Norrath's gross national product, as it related to the value of virtual goods in the real world, exceeded USD 135 million, which ranked Norrath as the 77th largest economy in the world, slightly larger than Bulgaria.[133] Norrath's economy supported an hourly wage of USD 3.42 and the value of one Norrathian platinum piece was greater than that of the Japanese yen.[134]

Sony Online Entertainment was the first world developer to explicitly permit sales of virtual MMORPG assets for real money. In 2005, it introduced

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129 *World of Warcraft*, Beginner's guide, available at: http://eu.battle.net/wow/en/game/guide/.
130 *See* http://everquest.station.sony.com/.
131 *See* http://www.everquest2.com/.
132 *EverQuest*, Free to play, available at: http://www.everquest.com/free.
133 Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*, *supra* n. 22, at p. 33.
134 Id., at pp. 31-33.

an auction system called Station Exchange, where game players could pay cash for virtual weapons and other goods.[135] During the first 30 days of operation, the system supported transactions in value exceeding USD 180,000 with valuable items sold for a few thousand USD. It was estimated that an average Station Exchange participant spent more than USD 70 during that time.[136] Although real money trade is permitted on the Station Exchange, the Terms of Service state that Sony Online Entertainment exclusively owns all copyrights and all other intellectual property rights to all game content.[137] Users must acknowledge that they do not acquire any of those ownership rights by downloading copyrighted materials from the Station Exchange.[138] Real money trade on other auction websites still remains prohibited.

3.2.3.3 Unstructured worlds

Unstructured virtual environments lack a set storyline. They have no pre-defined characters, skills and levels. The world owner provides the basic environment, but it is the users who decide on the vast majority of the world's content. This type of virtual worlds is dedicated almost exclusively to social interaction – as there are no pre-defined objectives, players just spend their time engaging in various online activities. Unscripted worlds provide a platform for all sorts of real-world activity: avatars might set up a business, go to concerts, marry a partner or travel to exotic locations with other avatars.[139] However, unstructured worlds are not just about avatars interacting with each other for entertainment; they also include virtual currencies that allow participants to buy and sell goods and services.

Sometimes the term "MMORPG" or "MMOSG" (Massively Multiplayer Online Social Games) is used to refer to unstructured worlds.[140] However, those worlds lack the usual game characteristics. They contain neither a storyline nor levels. Virtual participants themselves determine what they want to do

135 E. Reuveni, *On Virtual Worlds: Copyright and Contract at the Dawn of the Virtual Age*, 82 Indiana Law Journal 261, p. 267 (2007).

136 D. Terdiman, *Sony scores with Station Exchange*, CNET News (25 Aug. 2005), available at: http://news.cnet.com/Sony-scores-with-Station-Exchange/2100-1043_3-5842791.html.

137 *EverQuest*, Terms of Service, no. IV.C, available at: http://help.station.sony.com/app/answers/detail/a_id/15630/session/L2F2LzEvdGltZS8xMzQwNjUyNjIyL3NpZC9TU3prWnpfaw%3D%3D.

138 *EverQuest*, Terms of Service, no. VII.A, available at: <http://help.station.sony.com/app/answers/detail/a_id/15630/session/L2F2LzEvdGltZS8xMzQwNjUyNjIyL3NpZC9TU3prWnpfaw%3D%3D.

139 Reuveni, *supra* n. 135, at p. 265; T. Miano, *Virtual World Taxation: Theories of Income Taxation Applied to the Second Life Virtual Economy* (2007), available at: http://works.bepress.com/timothy_miano/1; Camp, *supra* n. 24, at pp. 7-8.

140 Camp, *supra* n. 24, at p. 3, IRS Report 2008, *supra* n. 32, at p. 214; Chung, *supra* n. 24, at p. 104.

and how they each want to shape their environment. Therefore, unstructured environments cannot be described as games.

For a better understanding of the functioning of unstructured worlds, a description of two of them (*Entropia Universe* and *Second Life*) can be found below.[141]

Entropia Universe

Entropia Universe[142] is a virtual environment with a real cash economy launched by the Swedish software company MindArk in 2003. It can be downloaded and played for free. The real cash economy means that the internal virtual economy is linked to the real economy by a currency called the Project Entropia Dollar (PED), which has a fixed exchange rate linked to the USD (10 PED equals 1 USD). This means that virtual items acquired within *Entropia Universe* have a real cash value, and participants may transfer their accumulated PED back into real currency, which enables them to earn real money from the game with the approval of the game operator. MindArk acknowledges the responsibility to maintain records on all transactions in virtual items which occur via their approved systems.[143] To deposit or withdraw funds from *Entropia Universe*, participants must provide MindArk with their accurate personal information and bank account data.[144]

Entropia Universe does not have levels, but allows its users to choose the course of action they wish to pursue. Participants play the role of colonists exploring and developing virtual planets (Calypso, Rocktropia, Next Island, Arkadia and Cyrene). Calypso is the oldest planet in *Entropia Universe* with over one million registered accounts and over USD 400 million in user-to-user transactions in 2011.[145] As Calypso is a recently discovered planet, the colonists need to establish their own economy and build up their society. This involves a lot of cooperation and specialization. Despite its science fiction setting, *Entropia Universe* is equipped with many features of an ordinary society. To integrate real banking systems into *Entropia Universe*, MindArk granted exclusive licenses to operate virtual banks within the online environment. Those banks function similarly to real ones: they lend money to par-

141 *Entropia Universe* is sometimes referred to as a structured world based on its fantasy setting (Chung, *supra* n. 24, at p. 114, Chodorow, *Ability to Pay and The Taxation of Virtual Income*, *supra* n. 24, at p. 700). This approach is incorrect as *Entropia* lacks levels, which are the essential feature of game worlds.

142 *See* http://www.entropiauniverse.com/.

143 *Entropia Universe*, Terms of Use, no. 6.1, available at: http://legal.entropiauniverse.com/legal/terms-of-use.xml.

144 *Entropia Universe*, Terms of Use, no. 3.1, available at: http://legal.entropiauniverse.com/legal/terms-of-use.xml.

145 Entropia Universe Bulletin, *Entropia Universe introduces citizenship and revenue sharing system* (16 Nov. 2011), available at: www.entropiauniverse.com/bulletin/buzz/2011/11/16/Calypso-Land-Lot-Deeds.xml.

ticipants, collect interest, design their own virtual buildings and make their own personnel available through avatars.

Entropia Universe featured many high-value transactions and even entered the Guinness World Records Book for the most expensive virtual world objects ever sold. In 2004, a virtual "treasure island" was purchased for USD 26,500, which was the highest price ever paid for a virtual item at that time. The 22-year old purchaser made money from his investment by selling land plots to people who wished to build virtual homes there and by taxing other gamers who came to his virtual land to hunt or mine for gold.[146] A year later, a virtual Asteroid Space Resort was bought by Jon Jacobs for USD 100,000, greatly surpassing the sale of the treasure island.[147] In order to purchase the virtual resort, Jacobs took the huge gamble of mortgaging his own house. The asteroid was named Club Neverdie after Jacobs's avatar and turned out to be a profitable investment. In 2010, it was sold to various other *Entropia Universe* participants for a total of USD 635,000.[148] Another story which hit the headlines featured Mike Everest, a high school senior from Colorado, who earned USD 35,000 by constructing and selling *Entropia* virtual weapons. Some of this money was used to fund college education for his siblings. Everest achieved his income by playing the game for an average of three hours per day.[149]

According to the EULA, MindArk retains all rights, titles and interests in accounts and virtual items. Participants merely obtain a licensed right to use a certain feature of the virtual world. No ownership is obtained for "purchased" or "constructed" objects.[150] MindArk reserves the right to terminate or lock a user's account at its sole discretion.[151]

Second Life

This most sophisticated of all the virtual environments is *Second Life*[152] – an unstructured world developed in 1999 by the Californian company Linden Lab. There is no charge for creating a *Second Life* account or for making use of the world for any period of time. A subscription fee must only be paid for premium membership.

146 BBC News, *Gamer buys $26,500 virtual land* (17 Dec. 2004), available at: http://news.bbc.co.uk/2/hi/technology/4104731.stm.

147 BBC News, *Gamer buys virtual space station* (25 Oct. 2005), available at: http://news.bbc.co.uk/2/hi/technology/4374610.stm.

148 D. Bates, Internet estate agent sells virtual nightclub on an asteroid in online game for £400,000 (18 Nov. 2011), available at: http://www.dailymail.co.uk/sciencetech/article-1330552/Jon-Jacobs-sells-virtual-nightclub-Club-Neverdie-online-Entropia-game-400k.html.

149 N. Tiwari, *Teen pays siblings' college fees by selling virtual weapons*, CNET News (10 Oct. 2006), available at: http://news.cnet.com/8301-10784_3-6124572-7.html.

150 *Entropia Universe*, End User License Agreement, no. 4.1, available at: http://legal.entropiauniverse.com/legal/eula.xml.

151 *Entropia Universe*, Terms of Use, no. 3.1, available at: http://legal.entropiauniverse.com/legal/terms-of-use.xml.

152 *See* http://secondlife.com/.

Second Life world mirrors life on Earth, as it has no fixed objectives and its inhabitants decide on the world's composition. *Second Life* does not have content that is not created by the users. This means that if a player wants a house for his character, he needs to build one; if a person wants to play a game, someone needs to design the game and insert it into the online world; and if a person wants to change the clothes of his character, he needs to make or buy them. *Second Life* provides an object editing tool that allows users to design objects by shaping and coloring small building blocks known as "primitives". Each block has parameters, like a Global Positioning System (GPS) coordinates, and when a Linden Lab server reads those parameters, the block is converted into whatever it describes.[153]

Residents can explore the world, meet other residents, socialize, participate in various activities, create and exchange virtual items with one another. Virtual life takes place on islands (parcels of virtual land). Users purchase new virtual land directly from Linden Lab or acquire existing land from other members. A fee for the right to use the virtual land must be paid to Linden Lab.

Participants start with a standard avatar model which they can customize either by using the *Second Life* client program or by purchasing items produced by other residents with the in-game currency Linden Dollars. According to the Terms of Service, each Linden Dollar is a virtual token representing contractual permission from Linden Lab to access features of the virtual environment. Linden Dollars are available for purchase or distribution at Linden Lab's discretion and are not redeemable for monetary value from the game operator.[154] The digital currency forms the backbone of *Second Life's* virtual economy. Residents may convert Linden Dollars into USD at the LindeX Currency Exchange. This is a two-way transaction: for every participant who wishes to convert Linden Dollars, there needs to be an individual with real currency who is seeking to buy them. However, the world operator reserves the right to deny, reverse or suspend any LindeX exchange transaction.[155] As the Linden Dollar has an exchangeable real currency value, users can effectively turn each profitable virtual transaction into a potential real gain, leading some participants to turn to *Second Life* as their entire source of income. With a little start-up capital and the right investments or an industrious business sense, it is quick and easy to earn a sizable amount of in-game currency.

Linden Lab allows users to retain intellectual property rights in virtual items that they create. By doing that, Linden Lab guarantees that they will

153 Second life Wiki, Primitive, available at: http://wiki.secondlife.com/wiki/Primitive.

154 *Second Life*, Terms of Service, no. 4.5, available at: http://secondlife.com/corporate/tos.php?lang=en-US#tos7.

155 *Second Life*, Terms of Service, no. 4.6, available at: http://secondlife.com/corporate/tos.php?lang=en-US#tos7.

not challenge a user who tries to sell his virtual items. The operator actually promotes exchanges of virtual goods among users by maintaining a *Second Life* Marketplace, where users can trade using real or virtual currency. The marketplace functions just like eBay by charging the seller a five-percent commission.[156] As participants are the owners of the intellectual property rights in the objects they create, the sale of *Second Life* items is also permitted by eBay and other websites. *Second Life* users can not only design ad sell their own goods, but they can also arbitrage the exchange rate. Virtual arbitrage works when the user purchases Lindens at a lower exchange rate, then purchases virtual goods with Lindens, and finally sells the good for cash at a higher exchange rate than that of the Lindens. The successful *Second Life* salesman is free to cash out his earnings at any time by using the LindeX.[157]

All participants must grant Linden Lab a non-exclusive, worldwide, royalty-free, sublicenseable, and transferable license to use, reproduce and distribute items they upload or create in the virtual environment. Section 2.3 of the Terms of Service reads:[158]

> '(…) you hereby grant to Linden Lab, and you agree to grant to Linden Lab, the non-exclusive, unrestricted, unconditional, unlimited, worldwide, irrevocable, perpetual, and cost-free right and license to use, copy, record, distribute, reproduce, disclose, sell, re-sell, sublicense (through multiple levels), modify, display, publicly perform, transmit, publish, broadcast, translate, make derivative works of, and otherwise exploit in any manner whatsoever, all or any portion of your User Content (and derivative works thereof), for any purpose whatsoever in all formats, on or through any media, software, formula, or medium now known or hereafter developed, and with any technology or devices now known or hereafter developed, and to advertise, market, and promote the same. You agree that the license includes the right to copy, analyze and use any of your Content as Linden Lab may deem necessary or desirable for purposes of debugging, testing, or providing support or development services in connection with the Service and future improvements to the Service.'

The ToS agreement also stipulates that members lease rather than own their virtual accounts. Linden Lab has the right to suspend or terminate an account (due to agreement violation or when it is necessary or advisable to protect the interests of the operator or any third party).[159] Moreover, Linden Lab has the right to change and eliminate any aspects of the online environment

156 Second Life Marketplace, *SL Marketplace Fees and Commissions*, available at: https://marketplace.secondlife.com/listing guidelines.

157 E. Roscoe, *Taxing Virtual Worlds: Can the IRS PWN You?* 12 Pittsburgh Journal of Technology Law and Policy, p. 6. (2011).

158 *Second Life*, Terms of Service, no. 2.3, available at: http://secondlife.com/corporate/tos.php?lang=en-US#tos7.

159 *Second Life*, Terms of Service, no. 5, available at: http://secondlife.com/corporate/tos.php?lang=en-US#tos7.

as it sees fit at any time without notice, and participants must acknowledge that their virtual activities are subject to this risk.[160] Linden Lab has exercised its right to terminate accounts in the past for what it considered to be unethical or unlawful behavior. In 2006, a *Second Life* member named Marc Bragg found a way to purchase virtual land for amounts below the market rates. After he purchased virtual real estate for thousands of USD in this way, Linden Lab terminated his account. Bragg sued Linden Lab over the termination. The suit was ultimately settled with a confidential agreement before the final decision was reached.[161]

If there is real money being exchanged, real enterprises are close behind. Several businesses, such as Dell, Reuter and Adidas, established a virtual presence in *Second Life*. A few prominent universities (INSEAD, Harvard Law School) offered classes on virtual islands.[162] Even politicians have begun to establish a virtual presence.[163] In October 2005, the US Department of Homeland Security purchased a virtual island in Second Life and started monitoring in-world transactions for aberrant activities.[164] The first country to open an embassy in *Second Life* was the Maldives. In the virtual embassy, visitors were able to talk with a computer-generated ambassador about visas, trade and other issues. In 2007, Sweden became the second country to open an embassy in *Second Life*. The embassy served to promote Sweden's image and culture, rather than providing any real or virtual services.[165]

Second Life reached its top popularity in the mid and late 2000s. In 2006, its economy had an annual gross domestic product of about 64 million USD.[166] Later on the popularity of Second Life declined as other competitors appeared on the market.

3.2.4 Trade in virtual worlds

3.2.4.1 Initial comments

In both game-like and unstructured worlds, an essential activity is the acquisition and creation of virtual items. In all structured worlds, avatars must

160 *Second Life*, Terms of Service, no. 1.2, available at: http://secondlife.com/corporate/tos.php?lang=en-US#tos7.

161 Dougherty, *supra* n. 7.

162 D.A. Bray & B.R. Konsynski, *Virtual worlds, Virtual economies, Virtual institutions*, p. 2 (2006), available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=962501.

163 C. Lagorio, *Running for President in a Virtual World*, CBS News (11 Feb. 2009), available at: www.cbsnews.com/stories/2007/04/02/politics/main2639476_page2.shtml?tag=contentMain;contentBody.

164 Bray & Konsynski, *supra* n. 162, at p. 7.

165 *See* http://www.sweden.se/secondlife.

166 A. Newitz, *Your Second Life is ready*, Popular Science (9 Jan. 2006), available at: www.popsci.com/scitech/article/2006-09/your-second-life-ready?page=2.

participate in the online economy to advance the storyline and to increase their strength and notoriety. Although unstructured worlds do not require participation in the virtual economy, community residents wishing to increase their social status must get involved in virtual item trade.

Avatars obtain virtual items in three different ways. First, they obtain them from the world operator: low-value items can often be found while exploring the environment, but high value loot is typically earned by killing a computer-generated character or completing a quest (this type of acquisition is known as a drop).[167] Second, participants are able to create virtual objects by themselves. In structured worlds, they gather the necessary ingredients and click on all of them in the proper order to produce a new item. This is commonly referred to as crafting.[168] In unstructured environments, like *Second Life*, they can make use of a simple programming tool. Third, users get virtual items and currency from other users in exchange for either real or virtual currency. Those transactions are referred to here as real money trade (RMT) and in-world transactions (IWT), respectively, and are described in more detail in the following sections.

3.2.4.2 In-World Transactions (IWT)

The most common way to obtain new items is to purchase them within the game environment. In-world transactions (IWT)[169] might take the form of swapping virtual items for other virtual items or swapping virtual items for in-world currency. In some environments, avatars also provide virtual services for in-world currency.

Both structured and unstructured worlds facilitate trade activities through the use of an in-world medium of exchange. In *World of Warcraft*, the top unit of in-world currency is called Gold and is broken down into subunits called Silver and Copper. In *Second Life*, the sole unit of currency is the Linden Dollar, which can be purchased using USD and other currencies on the LindeX Exchange.

Community-related virtual currency is frequently compared to casino chips or "money" used in board games. *Second Life* is sometimes referred to as a high-tech version of *Monopoly*, a board game where players use fake money to buy and develop imaginary land. Although the economic activity in both games is similar, there are significant differences between *Monopoly* and *Second Life* currency: the latter has a USD exchange rate. It has an actual monetary value and enabled some of its users to become real millionaires – a result not

167 Lederman, *supra* n. 24, at p. 1628.

168 Camp, *supra* n. 24, at p. 10.

169 They are also called virtual-to-virtual transactions (*see* D. Mack, *iTax: an Analysis of the Laws and Policies behind the Taxation of Property Transactions in a Virtual World*, 60 Administrative Law Review, p. 751 (2008)).

possible in *Monopoly*. No one would buy an imaginary building in *Monopoly* by paying real money. Furthermore, *Second Life* is not limited to a particular geographical location, as it can be accessed from any computer in the world. It is not restricted to a particular number of players and anyone can join its online community. The amount of its virtual money is infinite.

Another analogy to *Second Life* may be the game of poker played in casinos. Poker players use chips to represent the wealth accrued during game and exchange them for currency when they cash out. If a casino worker confiscated a player's chips, there would be no doubt that the worker had taken property from the player. Chips have value but only during the poker game. If you use them outside the game context, their value is insignificant (they are merely treated as plastic tokens). That is also the case with virtual objects and currency – although they may be sold on various auction sites outside their virtual environment, they are transferred within the particular world to which they belong. Just as poker chips can be used only in the casino in which they were earned or bought, community-related virtual currency and objects can be used only within one particular world; for example, a *World of Warcraft* player could neither use Linder Dollars to buy in-world resources he needs nor exchange Linden Dollars for virtual gold within his game environment.

3.2.4.3 Real Money Trade (RMT)

Trade in virtual items began within the boundaries of virtual worlds but later on gradually expanded outside their limits: avatars and other virtual objects started being exchanged on eBay and other auction sites for real currency. Real money trade can be described as transactions that take place at least in part in the real world. It can occur in two ways. First, a virtual item can be transferred within a virtual world with a consideration passing in the real world. This is usually a two-step process: on an Internet platform the buyer and the seller agree to meet in the virtual world and to transfer the purchased item. The deal is closed within the game environment. From the game perspective, the item is transferred for no charge.[170] Second, a real item can be transferred in the real world, with consideration passing in a virtual world. There have been rumors about drug dealers who accepted payments only in Linden Dollars; such payments were both convertible into USD and impossible to trace.[171]

Initially game-like worlds had little connection with money. They intended to promote game play and not economic activity. However, many players who wanted to engage in high-level quests had little time for entertainment. Instead of earning weapons and protective armor needed to level up their avatars, they started purchasing the necessary items from other players who had more

170 Chung, *supra* n. 24, at p. 108.
171 Seto, *supra* n. 24, at p. 5; Camp, *supra* n. 24, at pp. 12-14.

free time on their hands. Other players quickly noticed that they might make money out of their hobby and this is how real money trade began.[172] In the early days of virtual structured games, RMT was completely forbidden. Companies feared that if some players found shortcuts to higher achievement, other players might become dissatisfied with the game, especially with the fact that others level up their avatars due to available cash and not due to their skills. If an external factor, such as financial status, mattered within the game, the barriers between real and in-game live would break down and in-world efforts of many players would be devalued.[173] Moreover, the opportunity to earn real money from computer games encouraged hacking. Blizzard reported that a large proportion of all gold bought on third-party auction sites originated from hacked accounts.[174] Thus, before entering the virtual world, players must agree that they will neither gather in-game currency and items for sale outside the virtual world nor perform in-game services in exchange for real money (power-leveling).[175] They must also acknowledge that the whole online environment (including any titles, computer code, themes, objects, characters, stories, dialogue, artwork, animations, sounds, musical compositions, and audio-visual effects) are copyrighted works owned by the game operator.[176]

Forbidding RMT has led to a strong underground black market in virtual property. Many companies began to specialize in leveling services and made millions of dollars capitalizing on this underground market. There are several websites exclusively devoted to brokerage activities for virtual environments. For example, IGE describes itself as: "a diversified service provider operating the world's largest secure network of buying and selling sites for massively multiplayer online game virtual currency and assets on the Internet".[177]

RMT supporters argue that this activity benefits the online gaming experience and expands the user base. Many people participate in MMORPGs in order to socialize with friends. The fact that some participants cannot devote much time to the game or enter the virtual world later than others presents difficulties when friends try to participate in group adventures. RMT helps remove this difference by reducing the weaknesses of newcomers and allowing them to make a greater contribution to the quests.[178]

Some game providers realized that RMT could be taken out of "pirate" hands and used as an additional revenue source. In June 2005, Sony Online

172 Lederman, *supra* n. 24, at pp. 1628-1629.
173 Chung, *supra* n. 24, at p. 109.
174 *World of Warcraft*, The consequences of buying gold, available at: http://eu.battle.net/wow/en/services/anti-gold/.
175 *See*, for example, *World of Warcraft*, Terms of Use, no. 2, available at: http://us.blizzard.com/en-us/company/about/termsofuse.html.
176 *See*, for example, *World of Warcraft*, Terms of Use, no. 9, available at: http://us.blizzard.com/en-us/company/about/termsofuse.html.
177 IGE, Our business, available at: www.ige.com/about.html.
178 Chung, *supra* n. 24, at p. 110.

Entertainment was the first game-world developer to explicitly permit real world sales of virtual assets in *EverQuest II*.[179] However, many companies are still reluctant to allow RMT. In the *World of Warcraft's* Terms of Use, it reads that players may neither sell in-game items or currency for real money nor trade the accounts. It is also forbidden both to gather in-game resources for sale outside the virtual world and to perform in-game services (power-leveling) in exchange for real payment.[180]

Cracking down on illegal real money trade is difficult. It appears that RMT operations will continue to flourish because of the increasing demand for virtual items and relatively low risk. A common method of combating RMT operations is to limit the trade of several rare or unique items by "binding" them to the avatars who initially acquired them. These "bound" items cannot be transferred to other avatars. The virtual world *Kaneva* has a two-tiered currency system in which one currency can be transferred to other avatars while the other cannot.[181] Blizzard has been trying to crack down on the illegal market by both punishing dishonest players and closing distribution channels. In January, 2007, eBay began removing all virtual WoW item listings. The sale of such items is now prohibited and anyone violating this policy can find his account limited or suspended. EBay's policy is that anyone selling an item must be the owner of the underlying intellectual property. Since it is unclear who exactly owns a virtual item, like a WoW weapon or gold, eBay decided that it would no longer allow the sale of any of those items.[182]

Assessing the scope of RMT is difficult. Edward Castronova was the first economist to study real money trade of game assets. He estimated the size of the market to be USD 5 million in 2001 by measuring the daily volume of *EverQuest*-related RMT transactions.[183] In 2007, Lehtiniemi and Lehdonvirta estimated that the size of the global primary and secondary RMT market[184] had reached USD 2.1 billion, based on an aggregation of different sources. A Korean government agency estimated in 2008 that the value of secondary market trading might have exceeded one trillion KRW (USD 900 million) in Korea alone.[185]

Real money trade has never been a problem for the unstructured worlds, which were designed to allow commerce from the very beginning. *Second Life*

179 Reuveni, *supra* n. 135, p. 267.

180 *Word of Warcraft*, Terms of Use, no. 2, available at: http://us.blizzard.com/en-us/company/about/termsofuse.html.

181 Chung, *supra* n. 135, p. 111.

182 A guide to virtual items on eBay, available at: http://reviews.ebay.com/Buying-and-Selling-Virtual-Items-on-eBay?ugid=10000000004609906.

183 Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*, *supra* n. 22, at p. 31.

184 Primary market activity refers to sales of virtual goods directly from game publishers to players. Secondary market activity refers to sales by third parties.

185 For more estimates on RMT market, *see* Lehdonvirta & Ernkvist, *supra* n. 5, at p. 10 et seq.

has never banned sales of virtual items or currency for real money. To facilitate the exchange of Lindens into USD, the world operator established a currency trading website, the LindeX Exchange. The money traded on LindeX is used by Linden Lab to create economic statistics and to judge if the value of the Linden Dollar is inflated or deflated. When buying and selling Linden Dollars through LindeX, residents are not trading directly with Linden Lab but with other residents and, therefore, they can set currency prices and limits at their own discretion.

3.2.4.4 Examples of high-profile trade activity

As the popularity of trade in virtual items is growing, virtual worlds are more and more likely to attract not only players interested in killing dragons but also those seeking new economic opportunities seemingly less onerous than real labor. Virtual worlds have already become an income producing venue. Many people play online games and earn virtual items solely for economic reasons. Gold farmers and power levelers actually make a living by "farming" uncommon virtual objects and leveling other players' avatars from zero to the top possible level. In 2008, at least 400,000 people worldwide were employed as gold farmers, with the global trade worth at least USD 1 billion dollars.[186] The gross revenues of third-party gaming services industry were approximately USD 3 billion in 2009. As a comparison, coffee growers in the developing world earned (just) USD 5.5 billion for their labour.[187]

Some people have gained notoriety for generating substantial amounts of real income through the sale of virtual items and provision of virtual services. Anshe Chung and Julian Dibbel are the most prominent examples of people who turned their virtual activities into a full-time job. Julian Dibbel reported to the Internal Revenue Service (IRS) that his primary source of income was the acquisition, sale and exchange of imaginary goods and that he earned more from it, on a monthly basis, than he had ever earned as a professional writer. The IRS employees were very confused by this statement and could not give him a clear answer as to the tax treatment of these virtual earnings. They advised him to submit a private letter ruling request to obtain further information.[188] Dibbel, who finally managed to pay taxes on his virtual income, described his experiences with the tax authorities in a book *Play money or how I quit my job and made millions trading virtual loot*.

Anshe Chung, a virtual resident of *Second Life*, became the first "virtual millionaire", i.e. a person whose virtual items legally convertible into US currency were worth more than USD 1 million. She achieved her fortune by beginning with small-scale purchases of virtual real estate which she developed

186 Heeks, *supra* n. 104, at p. 64.
187 Lehdonvirta & Ernkvist , *supra* n. 5, at p. XI.
188 Dibbel, *supra* n. 2, at pp. 303-311.

with landscaping and architecturally themed buildings for rental and resale to other users. Her virtual operations led to a real spin-off company called Anshe Chung Studios, which develops virtual applications.[189] Anshe Chung is not the only one "virtual millionaire". In March 2009, it became known that there existed a few other *Second Life* entrepreneurs, whose profits exceed USD 1 million per year. Surprising was the fact that some of the top ten did not engage in real estate transactions but made their profits in virtual fashion- and event management business.[190]

The virtual world *Entropia Universe* is famous for its high-profile virtual transactions. British-born actor Jon Jacobs was included in the *2008 Guinness Book of Records* as well as the *2010 Guinness World Records Gamer's Edition* for owning the most expensive virtual item, the Asteroid Space Resort called Club Neverdie. Jacobs bought the asteroid, being the most valuable virtual item ever sold at that time, for USD 100,000 after taking out a mortgage on his real house. The virtual club located on the asteroid became the focal point of *Entropia's* virtual life and earned his owner USD 200,000 per year from people buying its services. In 2010, Jon Jacobs sold the Asteroid Space Resort to various other *Entropia Universe* participants for a total of USD 635,000. The purchase of the largest of share in the club for USD 335,000 has been the largest virtual transaction so far and beat the previous record set by an *Entropia* resident who bought the Crystal Palace Space Station for USD 330,000 in 2009.[191]

3.3 UNIVERSAL VIRTUAL CURRENCIES

The idea of a stateless decentralized currency has a long history. In 1976, the Nobel laureate Friedrich Hayek proposed a system of denationalized money shaped exclusively by market forces.[192] In his opinion, macroeconomic performance would be improved if state control of money could be wholly erased, leaving currencies to be created solely by private financial institutions. Hayek argued that traditional government-backed currencies are prone to a number of weaknesses, such as susceptibility to inflation and political corruption. Private currencies are more stable than traditional currencies because they do not share these weaknesses.

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189 Volanis, *supra* n. 23, at p. 340.

190 New World Notes, Top Second Life Entrepreneur Cashing Out USD 1.7 Million Yearly; Furnishing, Events Management Among Top Earners (24 Mar. 2009), available at: http://nwn.blogs.com/nwn/2009/03/million.html.

191 D. Bates, Internet estate agent sells virtual nightclub on an asteroid in online game for £400,000, (18 Nov. 2011), available at: www.dailymail.co.uk/sciencetech/article-1330552/Jon-Jacobs-sells-virtual-nightclub-Club-Neverdie-online-Entropia-game-400k.html.

192 F.A. Hayek, *Denationalization of Money: The Argument Refined*, 3rd ed. (IEA 1990).

Anonymous online payments between users are not a novelty either. In 1983, David Chaum described the concept of secure digital cash which could be spent in a manner that is untraceable by the bank or any other party.[193] He developed DigiCash – a digital currency that ultimately failed due to poor management and missed deals.[194] In 1998, Wei Dai wrote an article seeking to create a medium of exchange that avoided government involvement and the need for intermediaries in electronic transactions.[195]

In 2009, a person (or persons) operating under the pseudonym Satoshi Nakamoto created Bitcoin – a digital currency traded online via a peer-to-peer network, allowing its users to interact with one another anonymously and without a third-party intervention.[196] Nakamoto's decentralized currency was a response to the financial crisis, governments' reactions to it and to the role of banks and other payment intermediaries in mediating financial transactions. Bitcoin is not the first example of decentralized digital money but undoubtedly the most prominent so far.[197] The first bitcoins were transacted in January 2009 and by June 2011 there were 6.5 million bitcoins in circulation among an estimated 10,000 users.[198] In December 2013, bitcoins were traded at around USD 600 and their number exceeded 12 million.[199]

As the technical aspects of the Bitcoin system are complex and not easy to understand without a sound technical background, a comprehensive explanation of the technical mechanism of Bitcoin lies outside the scope of this thesis.[200] The following paragraphs contain a much simplified description of the Bitcoin operation. Since bitcoins are computer files, "spending" them simply means sending them from one user to another, just like sending an email via the Internet. Bitcoins are transferred from computer to computer via a system of cryptographic hashes and kept secure through public-private key cryptography. Each payment transaction is broadcast to the network. At certain intervals, all of the transactions during the preceding period are bundled together into a block, and these blocks are then linked to form a chain, creating a database of all approved transactions to date (which can be thought of as a giant shared accounting ledger). This public ledger records which

193 D. Chaum, *Blind signatures for untraceable payments* (1983), available at: www.hit.bme.hu/~buttyan/courses/BMEVIHIM219/2009/Chaum.BlindSigForPayment.1982.PDF

194 I. Grigg, *How DigiCash Blew Everything* (10 Feb. 1999), available at: http://cryptome.org/jya/digicrash.htm.

195 Wei Dai, *B-Money* (1998), available at: http://weidai.com/bmoney.txt.

196 Nakamoto, *supra* n. 26.

197 For an overview of academic papers on other decentralized virtual currency schemes, *see* Barber et al., *supra* n. 26. A similar peer-to-peer currency, also based on the Bitcoin protocol, is Litecoin, *see* https://litecoin.org/. Universal currencies can also be created be a private organization (for example, Ripple, *see* https://ripple.com/).

198 Reid & Harrigan, *supra* n. 26.

199 Bitcoin market statistics are available at: http://bitcoincharts.com.

200 For detailed explanations, *see* Nakamoto, *supra* n. 26 and https://en.bitcoin.it/wiki/FAQ#How_are_new_bitcoins_created.3F.

bitcoins have been spent or accepted, but it does not record any information on the parties' identity. Bitcoin has solved the double spending problem without resorting to a third-party intermediary: the database of transactions across the peer-to-peer network keeps a record of all transfers, so that the same bitcoin cannot be spent twice.

Within each block, there is a cryptographic puzzle which, when solved, validates the chain as a whole. Solving the puzzle is a computationally demanding process, and it requires large amounts of computing power. The computer that decodes a block receives the ability to create a fixed quantity of new bitcoins for itself as a reward (the process of solving the algorithms to generate new bitcoins is called "mining").[201] Mining is an arduous and time-consuming process. The typical office computer would have to run continuously for five to ten years to produce any bitcoins, and the cost of electricity would outweigh the value of the bitcoins generated.[202] New bitcoins are generated at a predictable rate. The mathematics of the Bitcoin system was so set up that it becomes progressively more difficult to "mine". The upper limit of bitcoins cannot exceed 21 million. Bitcoins are divisible to eight decimal places.

Users can store their currency in a "wallet" that takes the form of either software installed on their computer or a web-based account. There are three ways to obtain bitcoins. First, taxpayers can exchange traditional money for bitcoins. To accommodate growing demand, several Internet platforms offer exchanges between bitcoins and traditional currencies.[203] The price of bitcoins floats against the price of other currencies and is dependent on the supply and demand. Second, users can obtain bitcoins in exchange for (virtual or real) goods or services. Third, users can mine bitcoins by volunteering their computer's processing power to solve complicated computer algorithms.

The value of bitcoin shows great volatility. In October 2011, one bitcoin was worth approximately USD 2. In April 2013, the value of bitcoin exceeded USD 238. Later on, it slumped back to its pre-boom value of around USD 140, placing the value of bitcoins in circulation at almost USD 1.5 billion. To put that into perspective, the value of bitcoins circulating in April exceeded the value of the entire currency stock of over 30 countries, including Niger, Belize, and Malawi.[204] In March 2014, the bitcoin value was around USD 630.[205]

Bitcoin is distinct from community-related currencies as the popularity of the latter is linked to the use of the online environment and limited by their

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201 For the software and hardware requirements of Bitcoin mining, *see* https://en.bitcoin.it/wiki/Mining.

202 N.A. Plassars, *Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF*, 14 Chicago Journal of International Law 377, p. 386 (2013).

203 Until its collapse in February 2014, Mt. Gox was the most popular exchange platform. In 2013, it handled 70% of all bitcoin transactions.

204 N.A. Plassars, *supra* n. 202, at p. 392.

205 *See* http://bitcoincharts.com.

utility to other players. In contrast, bitcoins can be used to make payments to anyone anywhere in the world. Currently, a large number of online sellers accept payments in Bitcoin.[206] In November 2013, the University of Nicosia in Cyprus decided to accept Bitcoin for payment of tuition fees for certain master programmes.[207]

Virtual decentralized money offers some substantial advantages over traditional paper-based currencies. A remarkable property of Bitcoin is that it provides no support for identity management and authentication of parties who act as payers, payees and miners.[208] All parties preserve their anonymity in transactions (some think of Bitcoin as "personal offshore bank"). For this reason, Bitcoin has also attracted those hoping to buy illegal goods and services online. Bitcoin became associated with the website Silk Road, a "digital black market" accessible only through the anonymized browsing service.[209] However, the unfortunate fact that Bitcoin has been used for illegal transactions should not create a general pattern of discrimination against those who want to use Bitcoin for legitimate trade: there is hardly any financial system that would not have been used for illegal purposes.

Another advantage of the Bitcoin system is the lack of transaction fees associated with a fund transfer since transactions take place over a peer-to-peer network. Bitcoin keeps middlemen away not only from profiting from transaction fees but also from "invading" transaction privacy. Payment intermediaries can be extremely powerful and effectively shut down an organization by refusing to transfer funds to it. When accounts of those accepting donations for *WikiLeaks* were frozen by PayPal and other payment systems, Bitcoin soon became *WikiLeaks*' preferred donation mechanism.[210] Due to its low transaction costs, bitcoins could also be successfully used in the micropayment sector.

Another potential field of application for could be virtual world related commerce. World developers could integrate Bitcoin into the online environments instead of creating new forms of virtual currency. The fact that the world operator would not be the currency issuer would mean that individuals would

206 A list of places that accept bitcoins as means of payment is provided in: https://en.bitcoin.it/wiki/Trade.

207 P. Liljas, *University in Cyprus Becomes First to Accept Bitcoin Payments* (21 Nov. 2013), available at: http://world.time.com/2013/11/21/university-in-cyprus-becomes-first-to-accept-bitcoin-payments/.

208 The Bitcoin system is partially anonymous as anyone can see the trail of all transactions from all accounts. However, those accounts are not linked to individuals in any way.

209 Silk Road, an international anonymous online marketplace that operates as a Tor hidden service, uses Bitcoin as its exchange currency. In 2012, the total revenue made by all sellers from Silk Road's public listings was evaluated at USD 1.2 million per month. *See* N. Christin, *Travelling the Silk Road: A Measurement Analysis of a Large Anonymous Online Marketplace* (30 Nov. 2012), available at: http://arxiv.org/abs/1207.7139.

210 Maurer, Nelms, & Swartz, *supra* n. 28.

not have to worry about centralized and discretionary control by a central game authority.[211]

Despite the potential advantages of decentralized currencies, their widespread adoption faces a number of obstacles. The main one is uncertainty surrounding their operation and growth. People can easily download the Bitcoin application and start using virtual money although they do not fully understand how the system works and which risks they take. The lack of an underlying legal framework, unclear legal status and the possibility of a government crackdown pose additional problems. As digital currencies lack regulation or public oversight, they are subject to credit, liquidity and operational risks. Bitcoin transactions are irreversible and the system has no built-in anti-fraud capabilities, whereas credit card companies have invested millions of USD in protecting customers against fraud.

Cybersecurity is also a constant concern. A large-scale theft of bitcoins from many users could create a confidence crisis. Such theft could occur by a virus or trojan that installs itself on users' computers and sends the wallet file to the criminal who wrote the software. In June 2011, Mt. Gox was hacked: 25,000 coins worth somewhere between USD 375,000 and USD 500,000 were stolen. The hacker tried to sell them at once, causing the bitcoin price to drop from USD 17.50 to USD 0.01. Mt. Gox responded by freezing trading and rolling back all accounts and trades to a pre-hack state.[212] In February 2014, Mt. Gox closed its website and filed for bankruptcy protection in Japan after 850,000 bitcoins (approximately USD 450 million) belonging to customers and the company were stolen due to hacking into its computer system.[213]

Technology failures could also prevent individuals from transacting in bitcoins. Keeping bitcoins on one's computer can be as dangerous as keeping large sums of cash in one's physical wallet. Malware, system failures or human errors may cause an accidental loss of the wallet file which stores the private keys needed to spend the coins. If this happens, the person cannot use his bitcoins anymore and the coins turn into zombies.[214]

Confidence in Bitcoin might also collapse if the anonymity of the system is compromised. All bitcoin transactions are public, but are considered anonymous because nothing ties individuals to the transactions. It might be possible,

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211 However, the use of bitcoins would be inappropriate for certain categories of virtual worlds. For example, in *World of Warcraft*, players can earn virtual gold by accomplishing various in-game tasks: the in-game wealth should represent skill and time invested in the game rather than out-of-game wealth.

212 J. Mick, *Inside the Mega-Hack of Bitcoin: the Full Story* (19 June 2011), available at: www.dailytech.com/Inside+the+MegaHack+of+Bitcoin+the+Full+Story/article21942.htm.

213 BBC News, *Mt. Gox bitcoin exchange files for bankruptcy* (28 Feb. 2014), available at: http://www.bbc.com/news/technology-25233230.

214 Zombie coins are coins whose private key has been forgotten or destroyed. Such coins cannot be used any more, resulting in shrinkage of the money base. *See* Barber et al., *supra* n. 26, at p. 5.

using statistical techniques and some identified accounts, to undo the anonymity of the system. An attacker wishing to de-anonymize Bitcoin users will attempt to construct a one-to-many mapping between users and public-keys and associate information external to the system with the users.[215] Such unexpected and sudden exposure would obviously be detrimental to bitcoin's value.

Some put confidence in Bitcoin because they believe that Bitcoin has no central institution with discretionary authority. Although Bitcoin is decentralized and has no single point of failure, it is nevertheless susceptible to denial of service. Individuals with a majority of the computational power in the bitcoin mining network can effectively preclude any transaction from being processed.

Some scholars claim that decentralized currencies possess the traditional characteristics of tax havens: earnings are not subject to taxation and taxpayers' anonymity is maintained. It is possible that tax evaders who use bank accounts in tax-haven jurisdictions opt out of traditional tax havens in favour of cryptocurrencies.[216] Traditional anti-tax-evasion mechanisms cannot successfully address Bitcoin-based tax evasion since Bitcoin's operation is not dependent on the existence of a sovereign jurisdiction that could provide information. Given the growing popularity of decentralized currencies, tax evasion associated with them may become more common in the future.[217]

Finally, digital currencies face the problem of network externalities. The benefit of using a digital currency depends on the number of other people using it. As the value of Bitcoin is not pegged to any real currency and its exchange rate is determined solely by supply and demand in the market, the whole system could collapse if people try to get rid of their bitcoins and are not able to do so because of its illiquidity. As Bitcoin is susceptible to irrational bubbles, a loss of confidence may collapse demand relative to supply.

In December 2013, the European Banking Authority (EBA) issued a warning on a series of risks deriving from buying, holding or trading virtual currencies.[218] The EBA said that consumers are not protected through regulation when using virtual currencies as a means of payment and may be at risk of losing their money. It also added that there is no guarantee that currency values remain stable. Also, when using virtual currency for commercial transactions, consumers are not protected by any refund rights under EU law.

215 Reid & Harrigan, *supra* n. 26.
216 Marian, *supra* n. 30, at p. 39.
217 Id., at p. 43.
218 EBA, *EBA warns consumers on virtual currencies* (13 Dec. 2013), available at: www.eba.europa.eu/-/eba-warns-consumers-on-virtual-currencies.

3.4 CHARACTERIZATION AS MONEY IN THE ECONOMIC SENSE

Before investigating tax implications of virtual currency, it is necessary to determine its nature. Can virtual money be regarded as "money"? Can it be treated in the same way as EUR or USD? To answer those questions one must first have an idea of what constitutes money.

Monetary theory has not provided a universal definition of money yet; nor has it explained how money should be created – the concept of money has become quite important without having been properly defined. What may count as money for one observer need not qualify as money for another one. Although many definitions mention a set of common characteristics, they differ in the relative importance they assign to those features.

Economists consider money to be a flow of information.[219] They define money as an information system to value, record and track economic transactions; a system that permits certain quantities to circulate through the hands of a community of users for various purposes. Regardless of the form, money is traditionally associated with three different functions.[220] First, money is a medium of exchange (barter catalyst) used as an intermediary in trade to avoid the inconveniences of a barter system. Second, money provides a unit of account. It acts as a standard numerical unit for the measurement of value of goods and services to make different offerings on the market more comparable. However, to serve as an efficient unit of account, a currency must be more than decimal and readily divisible. It must provide a measure of relative worth that users can understand on a nearly intuitive level. Otherwise, users must expend time and effort to determine what the currency and its associated unit of account really mean. Moreover, a currency can serve as an effective unit of account only if users accept its legitimacy.[221] Third, currency serves as a store of value of current earnings for future spending. Non-circulating money can circulate in the future and that potential for future circulation represents wealth or value that an individual participant can take advantage of.

How do virtual currencies perform the three main monetary functions? Virtual currencies act as a medium of exchange, either among members of a particular virtual community (for example, Linden Dollar) or globally (for example, Bitcoin). Universal virtual currencies impose fewer transaction costs as they allow individuals to transact directly with one another without the need to pay exchange fees. However, given the limited number of venues accepting them, virtual money is still a weak barter catalyst.

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219 J. Philips, *Bytes of Cash: Banking, Computing and Personal Finance*, 1 First Monday Review 5 (1996).

220 ECB, *supra* n. 28, at p. 10; Bergstra & De Leeuw, *supra* n. 26; Macintosh, *supra* n. 25, at p. 756.

221 Macintosh, *supra* n. 25, at p. 758.

To serve as an efficient unit of account, a currency must meet three criteria: it must act as a numerical measurement unit, have legitimacy among its users and provide an almost intuitive measure of relative worth. Virtual currencies can be used to measure the value of goods and services on the market: they are numerical and divisible. Universal currencies derive their legitimacy among their users from the trust that the users place in the computer code (cryptographic algorithm). Users do not need to rely on a government, a bank or a payment intermediary which may follow their own interests. Gavin Andresen, a lead Bitcoin programmer, explains that the decentralization coded by the Bitcoin program is "more comforting than thinking that politicians or central bankers won't screw it up. I actually trust the wisdom of the crowds more".[222] Similar legitimacy cannot be assumed among users of community-related money. This money is produced by a private company and available for a relatively limited number of transactions. Users are aware that once a virtual world ceases to exist, its currency will become worthless. As regards the third element (measure of relative worth), it is questionable whether virtual currencies can be considered intrinsically and intuitively valuable. To determine how much virtual currencies are worth, users usually translate their value into value expressed in a familiar unit of account. By looking at the string of data, hardly anyone can identify its value. It is impossible to determine the value of particular goods in Bitcoin without knowing the bitcoin exchange rate at a particular time.[223]

When assessing a currency as a store of value, the key question is whether the currency is viewed as reliable and stable enough to operate effectively. Community-related currencies cannot serve as a store of value. As virtual constructs of limited scope, they are completely dependent on the private company issuing them. If a virtual world closes down, its virtual currency will become worthless. Traditional currencies are often accepted as stores of value because they are backed by governments, which gives them a sense of legitimacy and stability in the eyes of the users. But government backing is a double-edged sword: maintaining a stable currency is not the only economic goal of governments and central banks. They can freely print large amounts of money to cover deficits or for other purposes, for example, to redistribute income and wealth between creditors and debtors or as a means to reduce unemployment. In contrast, decentralized currencies are resistant to inflation and answer to market forces, rather than policies of governments and various interests they represent. As Bitcoin has no central authority, no one can decide to increase the money supply. The rate of new bitcoins introduced to the system is based on a public algorithm and, therefore, perfectly predictable.

222 Maurer, Nelms & Swartz, *supra* n. 28, at p. 274.

223 However, the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, BaFin) has recognized Bitcoin as a "unit of account". *See* BaFin, *supra* n. 42.

Thus, decentralized currencies' independence from direct political influence makes them a more stable store of value than traditional currencies. On the other hand, the question arises as to whether Bitcoin fulfills the "store of value" function in terms of being reliable and safe. At any moment regulators from various jurisdictions may take action against Bitcoin and its participants. At any moment the Bitcoin market may collapse due to changing sentiments among bitcoin users: a technically stronger decentralized currency may appear and degrade Bitcoin to a mere historic incident. And of course at any moment technical problems may bring Bitcoin down without any advance warnings. Given the enormous volatility of bitcoin, possible technical problems, the lack of oversight and legal uncertainty surrounding Bitcoin, it is questionable whether Bitcoin can be a reliable store of value. After all, storing wealth in any medium that is easily susceptible to collapse or price fluctuations is unwise.

To sum up, community-related currencies cannot be regarded as money in the economic sense since they do not serve as a unit of account and store of value. Due to their dependency on the issuer, their users cannot legitimately expect that the value accumulated in this type of virtual money can be saved and retrieved in the future. The contractual agreements entered into with the world operators confirm this interpretation. Universal currencies, like Bitcoin, have the potential to perform each of the monetary functions more efficiently than traditional currencies. They are more resistant to inflation and independent of direct political influence. However, at present, Bitcoin is still surrounded by significant legal and factual uncertainty, which questions its ability to store value. Due to its limited use and enormous volatility, it cannot serve as a unit of account (its value must be first translated into the value of a traditional currency). Time will tell whether Bitcoin will be reliable and stable enough to be regarded as money in the economic sense.[224]

3.5 Characterization as money in the legal sense

The previous section has established that at present neither Bitcoin nor community-related currencies can be regarded as money in the economic sense. However, Bitcoin has the potential to become economic money in the future. Should this happen, it will be necessary to determine whether Bitcoin could be treated as money in the legal sense. When law refers to the concept of money (for example, when it requires to remit monetary amounts to settle tax liabilities), it does not use the economic definition. For legal purposes, money has three additional features: legal tender status, central management

224 Sometimes the concept of "near-money" is used to refer to a system that satisfies so many characteristics of money that is a candidate for becoming money. Money is always a near-money. *See* Bergstra & De Leeuw, *supra* n. 26.

and a physical carrier (coins, banknotes).[225] This concept is referred to as "legal", "classical" or "traditional" money.

Legal money is debt created by national governments.[226] It has the legal tender status in a state since it is accepted for paying taxes in that state. It is universal in a geographical area and can be used for all investments and exchanges there (with the exception of transactions carried out on purpose with other monies). Legal money is a centrally controlled information system. Central management involves the central bank which controls the amount of money in circulation. Central control may not be a positive phenomenon: it creates a single point of failure, leading to nationwide crises when the decisions are not correct and encouraging extensive political struggle to use the central management to serve powerful interests.[227]

Due to its decentralized nature and lack of physical carrier, Bitcoin does not meet the necessary criteria of money in the legal sense. Although it is designed to act as a traditional currency (and maybe even replace it in the future), it cannot be treated as such.[228]

3.6 Characterization as electronic money

This section compares the concept of virtual currency and electronic money. As there is no universally accepted definition of electronic money, it is

225 *See*, for example, sec. 1-201 (24) of the Uniform Commercial Code, according to which money "means a medium of exchange currently authorized or adopted by a domestic or foreign government. The term includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries". US Financial Crimes Enforcement Network regulations define currency for purposes of the Bank Secrecy Act (31 CFR sec. 1010.100(m)) as "the coin and paper money of the United States or of any other country that is designated as legal tender and that circulates and is customarily used and accepted as a medium of exchange in the country of issuance."

226 For example, article 1, section 8, clause 5 of the US Constitution delegates to Congress the power to coin money and to regulate the value thereof. In a press release about the conviction of the creator of Liberty Dollars, the Department of Justice stated that: "It is a violation of federal law … to create private coin or currency systems to compete with the official coinage and currency of the United States." *See* www.fbi.gov/charlotte/press-releases/2011/defendant-convicted-of-minting-his-own-currency

227 L.V. Orman, *Virtual Money in Electronic Markets and Communities*, sec. 1 (1996), available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1621725.

228 *See also* Eckert, *supra* n. 30; Sorge & A. Krohn-Grimberghe, *supra* n. 26, at sec. 3. The same view is taken by the Dutch Ministry of Finance (*see supra* n. 41). In a letter of 10 April 2013 (answering the questions asked by a member of parliament), the Ministry of Finance explained that Bitcoin is different from traditional money since it lacks a central authority and price stability. The IRS classifies convertible virtual currency as property and not as currency (*see* IRS, Virtual Currency Guidance, *supra* n. 40). The tax authorities of Estonia (*see supra* n. 46), Finland (*see supra* n. 47), Denmark (*see supra* n. 45), Norway (*see supra* n. 43), Slovenia (*see supra* n. 48) and Australia (*see supra* n. 59) confirmed that Bitcoin is not a traditional currency.

necessary to look at various attempts to define this term and to identify their common characteristics.

According to the White Paper published by the US Treasury in 1996,[229] "electronic money" involves tokens of value expressed in digital form, in the same sense that a casino chip is a token of value expressed in a physical form. Electronic money may take a wide variety of forms, including credit cards, smart cards and online payment systems, such as PayPal. In general, electronic money exhibits the following characteristics: it is issued by an identifiable institution, permits its users to move funds electronically, relies upon advanced technology and requires "loading" from funds held within the financial system. The White Paper differentiates between accounted and unaccounted systems. In the former, the e-money issuer maintains a complete or partial audit trail of transitions and can identify the person to whom electronic money is issued as well as people and businesses receiving electronic money as it flows through the economy. In the latter, electronic money may operate much like paper currency, moving through the economy anonymously.

The Internal Revenue Service (IRS) considers electronic money to be a money substitute or an intangible equivalent of cash.[230] It uses this term interchangeably with "digital cash".[231]

The European Central Bank defines "electronic money" as "an electronic store of monetary value on a technical device that may be widely used for making payments to undertakings other than the issuer without necessarily involving bank accounts in the transaction, but acting as a prepaid bearer instrument".[232] It distinguishes electronic money from access products (they involve banks since payments are settled by means of transfers between bank accounts) and single-purpose electronic payment instruments (i.e. payments made for goods and services which the issuer is expected to deliver at a later stage, for example a pre-paid telephone card). Further, the European Central Bank divides electronic money products into hardware-based and software-based products, depending upon the storage device. In the case of hardware-based products, purchasing power resides in a device containing hardware-based security features (for example, a chip). In contrast, software-based products employ specialized software on a personal computer, allowing electronic value to be transferred via telecommunications networks.

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229 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996).

230 *See*http://www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Cash-Intensive-Businesses-Audit-Techniques-Guide-Chapter-7.

231 In my view, although electronic money schemes have characteristics that give their user impression that electronic money is equivalent to cash, this similarity is an illusion. Describing electronic money as digital banknotes is deeply misleading. Unlike cash, electronic money requires the intervention of a third party; for example, when a credit card payment is made, the bank issuing the card and the credit card corporation play an essential role.

232 European Central Bank, *Issues Arising from the Emergence of Electronic Money*, ECB Monthly Bulletin (Nov. 2000).

In the European Union, electronic money is defined in article 2 of the Electronic Money Directive (2009/110) as monetary value as represented by a claim on the issuer, which is issued on receipt of funds for the purpose of making payment transactions and which is accepted by persons other than the issuer.[233] Article 11 of the Electronic Money Directive (2009/110) adds that "Member States shall ensure that, upon request by the electronic money holder, electronic money issuers redeem, at any moment and at par value, the monetary value of the electronic money held".

Although there is no generally accepted definition of electronic money, some general observations can be made. All the definitions rely the concept of an identifiable issuer and a link to the traditional monetary system. In contrast, in virtual currency schemes, the link between the electronic money and the traditional money is not preserved. Virtual funds are not expressed in the same unit of account (for example, USD, EUR), but in a different one (for example, Linden Dollars, Bitcoin).[234] Neither do virtual currency schemes require "loading" since virtual "coins" can also be mined by the users themselves. The link between virtual currency and currency with a legal tender status is not regulated by law, which might be problematic or costly when redeeming funds (if this is permitted). Finally, in decentralized currency schemes is it not possible to identify the issuer. Thus, virtual currencies cannot be regarded as electronic money.[235]

3.7 Characterization as securities or assets

Securities are subject to detailed regulations in many countries. Under section 77b of the US Code, a security is defined as, inter alia, any note, stock or investment contract.[236] A similar definition is used in other countries. Under section 2 of the German Securities Trading Act (*Wertpapierhandelsgesetz*), securities are shares, certificates representing shares, bonds, participation certificates, warrants and any other comparable instruments that can be traded on a market.

Virtual currencies do not confer a claim on any other entity. They lack the characteristics of a stock (an ownership position in a publicly-traded corporation), note (a creditor relationship with governmental body or a corporation) or investment contract (investment in a common enterprise with

233 Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the Taking Up, Pursuit and Prudential Supervision of the Business of Electronic Money Institutions Amending Directives 2005/60/EC And 2006/48/EC and Repealing Directive 2000/46/EC (hereinafter: Electronic Money Directive (2009/110)).

234 ECB, *supra* n. 28, at sec. 2.2.

235 *See also* BaFin, *supra* n. 42; Sorge & Krohn-Grimberghe, *supra* n. 26, at sec. 3; and the Dutch Ministry of Finance (*see supra* n. 41).

236 Investment contracts are defined in: *SEC v. W.J. Howey Co.* 328 U.S. 293, 298–99 (1946).

the expectation of profits). Instead, they represent a fixed amount. Individuals who use Bitcoin are independent of one another, and there is no money-making business that seeks to raise money through investments.

Owning a bitcoin gives one the right to use the bitcoin in any way one sees fit. This is similar to the ownership of assets. The owner of an asset can sell or use his asset at his own discretion. Thus, a reasonable perspective on Bitcoin is to view it as a steadily evolving piece of software or an asset that can be held as a part of an investment portfolio, alongside traditional currencies and other commodities.[237]

3.8 CONCLUSIONS

Money has been affected by the technological developments and the widespread use of the Internet: the result is the emergence of virtual currencies. Originally, such currencies were limited to virtual worlds and used as a medium of exchange between avatars. Nowadays, they exist independently of any virtual environments, competing with real currencies. The culmination in the process of monetary decentralization was the creation of Bitcoin – a decentralized, peer-to-peer currency not controlled by any institution. The emergence of virtual money can be considered as a natural development: the monetary history traces a path from more to less tangible: from barter via precious metals, coins, paper money, checks and credit cards to purely digital value (strings of numbers and letters flashing across a computer screen).

This chapter first distinguished two types of virtual currency (community-related and universal) and provided their detailed description. Second, it examined whether those currency schemes can be regarded as: (1) money in the economic sense, (2) money in the legal sense (traditional money), and (3) electronic money. The conclusions are as follows. Although virtual currencies are designed to perform the same functions as traditional currencies, they cannot be subject to the same rules as EUR or USD due to their different characteristics. Community-related currencies cannot be even regarded as money in the economic sense as they do not fulfill the monetary function of storing value and serving as a unit of account. A decentralized currency scheme, like Bitcoin, could be regarded as money in the economic sense if concerns regarding its safety and reliability are removed and it obtains "intuitive" value.

237 In Germany, Bitcoin is recognized as a unit of account and therefore a financial instrument. *See* BaFin, *supra* n. 42 . In the Netherlands, the Ministry of Finance does not regard Bitcoin as a financial product (*see* Ministry of Finance, Letter of 10 April 2013, s*upra* n. 41). The IRS classifies convertible virtual currency as property (*see* IRS, Virtual Currency Guidance, *supra* n. 40). So does the Norwegian tax administration (*see supra* n. 43). The tax authorities of Estonia (*see supra* n. 46), Finland (*see supra* n. 47) and Slovenia (*see supra* n. 48) do not consider Bitcoin a security.

However, irrespective of that, Bitcoin does not meet the definition of money in the legal sense.

A study from the European Central Bank suggests that the use of virtual currencies is expected to grow in the future. The recent explosion in bitcoin value[238] demonstrates that more and more people are turning to Bitcoin despite the theoretical reasons for avoiding it. People seem to be losing confidence in traditional currencies. The recent financial crisis in Europe caused bitcoin prices to rise as worried citizens exchanged their government-backed EUR for bitcoins.

The popularity and survival of a virtual currency depends on the number of people using it: if only a few entrepreneurs accept virtual money, individuals have little incentive to use it; if few consumers use virtual money, an entrepreneur has little incentive to accept it. Thus, the biggest challenge of virtual currencies lies in convincing people to use them and merchants to accept them.

At this moment it cannot be said with absolute certainty whether Bitcoin has what it takes to become a serious candidate for a long-lived and stable currency or whether it is yet another transient fad. At any moment a technically stronger successor may appear and instantly degrade Bitcoin to a mere historic incident. And of course at any moment technical problems may bring Bitcoin down and without any advance warnings. However, if the future of electronic commerce entails an increasing use of virtual currencies, it is critical that our economic, political, and legal institutions are prepared to deal with them and to incorporate them into the existing legal framework. Recognizing the importance and nature of virtual currencies is the first step in understanding how to best plan for the future.

238 *See* www.bitcoinwatch.com/. The value of Bitcoin exceeded USD 600 in December 2013.

4 Income tax: general considerations

4.1 INTRODUCTORY REMARKS

Chapters Four to Six are concerned with income tax aspects of virtual currency. Chapter Four describes a model system for taxing income from virtual trade. Chapter Five examines how income from virtual trade in actually taxed in some selected countries. Based on the comparison of the existing scenario with the model one, recommendations are made in Chapter Six. The structure of the income tax chapters, as well as their parallelism to the indirect tax chapters, is shown in Table 2 (which reproduces Table 1 from section 1.3.).

Table 2: Thesis structure

	Income tax	Indirect tax
Model scenario	Chapter 4 - Answers the question: how income from virtual trade should be taxed - Describes the model income tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility - Is independent of country-specific characteristics	Chapter 7 - Answers the question: how transactions involving virtual currencies and items should be taxed - Describes the model indirect tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility - Is independent of country-specific characteristics

	Income tax	Indirect tax
Actual scenario	Chapter 5 - Answers the question: how income from virtual trade is actually taxed under the existing tax legislation - Describes the income tax systems of the United States, United Kingdom, Germany and the Netherlands - Each country-specific chapter is organized according to the income categories (e.g. business income, miscellaneous income, capital gains) - Does not provide recommendations or suggestions for improvement	Chapter 8 - Answers the question: how transactions involving virtual currencies and items are actually taxed under the existing tax legislation - Describes the indirect tax systems of the European Union and the United States - Each country-specific chapter is organized according to the structural elements of the indirect tax system (e.g. personal scope, taxable transactions, exemptions) - Does not provide recommendations or suggestions for improvement
Comparison	Chapter 6 - Answers the question: how the actual scenario can be aligned with the model scenario - Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems	Chapter 9 - Answers the question: how the actual scenario can be aligned with the model scenario - Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems

Chapter Four describes a model system for taxing income from virtual trade. This description consists of two steps. First, the chapter looks how the concept of income has developed over years in an attempt to identify the most comprehensive income definition – a definition independent from any country specific characteristics and limitations. The concept of income is of critical importance in the debate over how the rules of income taxation should be designed and applied. Although this term is frequently used in society, it means different things to different people. Most people regard gross income as receipts earned from labour or as a return from investments. Some economists claim that true income equates to psychological experiences or to utility. Others take a more pragmatic view by confining income to money. Section 4.2 seeks to find the most comprehensive (not necessarily workable or practical) income definition that can be used as a starting point for further considerations. For this purpose,

it reviews the theories that shaped the development of the income concept: subjective and objective interpretations, the Schanz-Haig-Simons model and the accounting definitions.

The second step is to take the most comprehensive income definition and narrow it down to a workable income concept. Potential limitations may be imposed solely on the basis of solid arguments resulting from the acknowledged taxation principles and the goals of taxation. According to Ronald Dworkin, a principle is a "standard that is to be observed not because it will advance or secure an economic, political or social situation deemed desirable, but because it is a requirement of justice or fairness or some other dimension of morality".[239] Principles are the normative basis for the creation of legal rules and function as the essential criteria of evaluation for lawmaking. They are a way of classifying policy considerations that are taken into account while making decisions about tax law. The Court of Justice of the European Union (ECJ) and many national courts frequently refer to the general principles of law as a support for the interpretations they give. However, it should be noted that, although principles may provide supporting arguments, they do not offer a certain and technically correct solution to a legal problem. Making decisions about taxation involves a trade-off among the relevant criteria and, therefore, political or value judgments.

Although there are considerable variations in the income tax rules from country to country, the underlying taxation principles are common to all jurisdictions. The main four axioms upon which a tax system ought to be based were set out by Adam Smith in *The Wealth of Nations*.[240] They are: equity, certainty, convenience and efficiency. Although these canons were developed in 1776, they still influence tax policy today.[241] As virtual trade takes place in the "borderless world", the general principles of taxation laid down by the OECD in the Ottawa Report (1998) are also used as a benchmark. Those principles are: neutrality, efficiency, certainty, simplicity, effectiveness, fairness and flexibility.[242] Accommodation to practical considerations should not be viewed as a "retreat" from the comprehensive income concept, but rather as a "shift" to its practically applicable version.

In short, the evaluation model moves "from theory to practice": it begins by finding the most comprehensive and universally accepted income concept. However, as such concept may not work well in practice, the general principles of taxation are used to modify it in order to make it capable of practical application.

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239 R. Dworkin, *Taking Rights Seriously*, ch. 2 (Harvard University Press 1978).

240 A. Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Book V, Chapter II (1776).

241 G.K. Morse & D. Williams, *Principles of Tax Law*, p. 5, 6th ed. (Sweet & Maxwell 2008).

242 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998).

There are three main types of activities involving virtual currencies that may be relevant for income tax purposes:
- creation of virtual currency (through mining or completion of quests);
- possession of virtual currency that appreciates in value; and
- exchanges (*see* Table 3)

Exchanges may give rise to two types of income: real income (when virtual currencies and items are sold for money in the legal sense)[243] and virtual income (when goods and services are exchanged for virtual money).[244] The tax treatment of income expressed in virtual currency is more problematic. Although virtual currencies are designed to perform the same functions as traditional currencies, they cannot be regarded as money in the legal sense, but they are properly characterized as assets.[245] Table 1 illustrates different types of exchanges involving virtual currency and items.

Table 3: Exchanges involving virtual currency and items

		Consideration	
		Real money (i.e. money in the legal sense)	*Virtual currency (asset)*
Transaction object	*Real goods or services*	Traditional sales transactions	Barter transactions (for example, a shop accepting payments in bitcoins)
	Virtual items and currencies	Traditional sales transactions (for example, sale of bitcoins for USD)	Barter transactions (for example, a Second Life shop accepting payments in Linden Dollars)

4.2 Definition of income

4.2.1 Subjective interpretations

In the early 20th century, neoclassical economics focused on the concept of utility. According to their assumptions, individuals maximized a utility func-

243 In the context of virtual worlds, the sale of game objects for traditional currency is called "real money trade" and described in section 3.2.4.3. *Real Money Trade (RMT)*.

244 In the context of virtual worlds, the sale of game objects for in-world virtual currency is called "in-world trade" and described in section 3.2.4.2. *In-World Transactions (IWT)*.

245 *See* section 3.7. *Characterization as securities or assets*.

tion, the components of which were commodities (goods and services consumed now and in the future) and leisure. Income was defined as a measure of the economic utility experienced by an individual.[246]

In 1909, Richard Ely observed that income "has reference to the satisfaction which we derive from the use of material things or personal services during a period of time."[247] Frank William Taussing (1947) noted that "all income consists in the utilities or satisfactions created. Economic goods are not ends in themselves but means to the end of satisfying wants. Our food, clothing, furniture, may be said to yield psychic income. They shed utilities, so to speak, as long as they last."[248] Before Haig discarded the subjective concept as one not useful in practice, he wrote that "fundamentally income is a flow of satisfactions, of intangible psychological experiences."[249]

The concept of psychic income was substantially developed by Irving Fisher. His basic proposition was that "the income of an individual is the total flow of services yielded to him from his property."[250] Fisher reached this conclusion by recognizing that monetary income is merely the means by which people acquire goods they need. But these goods are beneficial to consumers only for the services they supply. Fisher regarded the goods as "capital" and the services they provide as an individual's income.

4.2.2 Objective interpretations

During the late 19th and early 20th century, economists and legal scholars developed various tests to determine whether a particular receipt constituted income. Emphasis was put on certain objective features, such as inflow, convertibility into cash, periodicity, origin from business transactions, realization, purpose and intention of the parties to transactions.[251]

The source theory (*Quellentheorie*) was developed by Bernhard Fuisting and implemented as early as in the Prussian Income Tax Act of 1891.[252] According to this concept, a receipt constitutes income if it is periodic and comes from a permanent source.[253] Franz Guth described income as "any

246 For a more detailed description of the subjective income concept, *see* V. Thuronyi, *The Concept of Income*, 46 Tax Law Review, p. 52 (1990).
247 R.T. Ely, *Outlines of Economics,* p. 98 (Macmillan 1909).
248 F.W. Taussing, *Principles of Economics,* p. 119 (Macmillan 1947).
249 R. Haig, *The Concept of Income – Economic and Legal Aspects*, in: R. Haig (ed.), *The Federal Income Tax,* p. 2 (Columbia University Press 1921).
250 I. Fischer, *The Nature of Capital and Income,* p. 101 (Macmillan 1912).
251 For a more detailed description of the objective interpretations of the income concept, *see* K. Holmes, *The Concept of Income,* ch. 3 (IBFD 2001)
252 E. Ratschow, *Blümich: Einkommensteuergesetz: Loseblatt-Kommentar*, sec. 2 mn 26 (C.H. Beck Verlag 2009).
253 A detailed description of the preservation of source doctrine can be found in P.H. Wueller, *Concepts of Taxable Income – The German Contribution*, 53 Political Science Quarterly 1 (1938).

increase in economic ability, which flows with a certain regularity from a given source. The recipient may enjoy income, consume it, or destroy it without impairing his 'stock' ...". For Thomas Malthus, income was "portion of stock of wealth which the possessor may annually consume without injury to his permanent resources". While the expression "source" is by no means perfectly clear, it is usually linked to the traditional categories in the functional distribution theory, i.e. land, capital, labour and entrepreneurship. The source theory derives from the "harvest tradition" in agricultural societies, where land produces its fruit at regular intervals. In this concept, capital gains and increases in asset value should not be subject to income tax: not the value of the capital but its yield, not the appreciation of the tree but the value of the fruit is the proper object of taxation.

A modification of the source doctrine was the clear surplus theory, according to which income arises only when an individual's capital stock is maintained after he has acquired the necessities of life for his customary standard of living.[254] This theory extended the source test by requiring that account should be taken of personal expenditure to maintain the necessities of life associated with an individual's social position.

Another test specified that income must arise from an economic activity undertaken by its recipient. The productivity/market participation criterion was first introduced into the German literature by Heinrich Ludwig Biersack in 1850.[255] Others also applied it to distinguish income from other receipts. According to Wilhelm Roscher, "the term receipts covers all 'comings-in', such as gifts, lottery winnings, windfall gains, and inheritances. Income, however, includes only such receipts as accrue in consequence of the recipient's economic activities".[256]

Some scholars and jurisprudence included a periodicity requirement in their notion of income.[257] Only flows from recurrent events could give rise to income but not gains arising from isolated transactions. The periodicity criterion became one of the significant features of the income identification in early English common law.

Early in the development of the income concept, some courts required that incomings in forms other than cash must be convertible into cash to constitute taxable income. In *Tennant v. Smith* (1892), the court held that the value of accommodation provided by an employer to his employee is not income as the latter was obliged to use it for his own benefit and could not sublet it.[258]

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254 *See* Homles, *supra* n. 251, at ch. 3.

255 H.L. Biersack, *Ueber Besteuerung, ihre Grundsaetze und ihre Ausfuehrung* (1850), translated in Wueller, *supra* n. 253.

256 W. Roscher, *Die Grundalgen der Nationalokonomie* (1869), translated in Wueller, *supra* n. 253.

257 *See* Homles, *supra* n. 251, at ch. 3.

258 *Tennant v. Smith* (1892) AC 150.

If a possibility of subletting existed, income tax could be assessed on a positive rental value.

Another requirement included by courts in the income concept was realization. A gain must be realized before it can be treated as income in the legal sense. A mere increase in the value of property is not income when it is not the business of the taxpayer to deal in such property. Realization is not synonymous with conversion into cash since it does not require the asset be converted to money by way of sale. The receipt of property having an exchangeable value in consideration for the asset is realization.[259]

4.2.3 Schanz-Haig-Simons model

During the late 19th century, a wealth accrual concept of income was developed. Georg von Schanz first described income in terms of wealth accrual in Germany in 1896. In his view:

> 'the concept of income is related to the economic ability of persons. When we wish to determine an individual's income, we must ask what economic power has accrued to a given person over a given period of time. In other words, we wish to know what means came within the disposing power of a given person, who, during the period in question, neither impaired his capital nor incurred personal debts.'[260]

According to Schanz, an influx of wealth could also arise from the consumption of owner-occupied house and the use of a benefit in kind donated by another person. However, to constitute income, increases in economic power and benefits from using one's own resources had to be capable of monetary valuation.

Twenty-five years later, in the United States, Robert Haig wrote the second major dissertation on this topic.[261] Haig interpreted income as "the money value of the net accretion to one's economic power between two points of time". The elements that enhance one's economic power included: cash, any goods or services obtained in kind (also those obtained by way of gift), any unrealized increases in the value of assets held during the period and the value of benefits obtained from non-market events. According to Haig's interpretation, an increase in an individual's economic power over a period is an increase in his capacity to command more resources. Therefore, when wealth accrual is adopted as the tax base, taxation is imposed on a person's capacity to do something in the future. Tax is not imposed on the exercise of that ability.

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259 *Peabody v. Eisner* 247 US 347 (1918).

260 G. von Schanz, *Der Einkommensbegriff und die Einkommensgesetze*, Finanz-Archiv (1896) translated in Wueller, *supra* n. 253.

261 Haig, *supra* n. 249.

Haig stressed that a benefit must be susceptible of valuation in terms of money to constitute income.

Henry Simons developed a similar concept of income, also based on increases in a person's economic power derived in monetary or non-monetary form.[262] However, he took a step further by combining wealth accrual and consumption. Haig's definition did not deal explicitly with consumption as consumption arose after the economic power had been obtained: it was sufficient to determine when the power was accrued without examining how it was subsequently applied. Simons measured income at a later stage and broke down Haig's accrual of economic power into two ways it could be applied: consumption expenditure and savings. Under Simons's model, one had to wait to see how Haig's *a priori* economic power was actually applied by an individual before his income could be identified. Simons also considered imputed income to be included in the income concept, provided that it was susceptible of valuation in monetary terms. Property rights formed a central element of Simons's concept. He defined income as the market value of rights exercised in consumption and an increase in the value of a person's store of property rights. Whether a benefit had a market value greater than zero depended on whether the underlying rights were transferable. If not, it had no market value.

The approach described in this section has become the foundation measure of income in the 20th century economics. It is commonly known as the Haig-Simons concept of income. In recognition of Schanz's initial contribution, it is termed here the Schanz-Haig-Simons model.

4.2.4 Accounting definition

This section looks at income definitions provided by two major sets of accounting rules: International Financial Reporting Standards (IFRS) and US Generally Accepted Accounting Principles (GAAP).

The IFRS Framework provides the basic accounting concepts that underlie the preparation and presentation of financial statements. It defines income as "increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants."[263] This definition encompasses both revenue and gains. Revenue is the gross inflow of economic benefits arising in the course of the ordinary activities of an entity and is referred to by a variety of different names including sales, fees, interest, dividends, royalties and rent.[264] Gains represent

262 H. Simons, *Personal Income Taxation – The Definition of Income as a Problem of Fiscal Policy* (University of Chicago Press 1983).
263 IFRS Framework 4.25(a).
264 IFRS Framework 4.29.

other items that meet the definition of income and that may, or may not, arise in the course of the ordinary activities of an entity.[265] The IFRS definition of income also includes unrealized gains; for example, those arising on the revaluation of marketable securities and those resulting from increases in the carrying amount of long term assets. Income is recognized in the income statement when an increase in future economic benefits related to an increase in an asset or a decrease of a liability has arisen that can be measured reliably.[266]

Financial Accounting Standards Board (FASB) Concepts Statement No. 6 also distinguishes between revenue and gains. Revenues are inflows or other enhancements of assets of an entity or settlements of its liabilities (or a combination of both) from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major or central operations.[267] Gains are increases in equity (net assets) from peripheral or incidental transactions of an entity and from all other transactions, other events and circumstances affecting the entity, except those that result from revenues or investments by owners.[268] Both revenues and gains form part of comprehensive income which is "the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. It includes all changes in equity during a period except those resulting from investments by owners and distributions to owners."[269] Revenues and gains are recognized when they are realized or realizable, and earned. Being realized means that products (goods or services) or other assets are exchanged for cash or claims to cash. Revenues and gains are realizable when related assets received or held are readily convertible to known amounts of cash or claims to cash. Revenues are considered to have been earned when the entity has substantially accomplished what it must do to be entitled to the benefits represented by them.[270]

4.2.5 Interim conclusions

This section has reviewed the subjective and objective interpretations of the income concept, the wealth accrual model and the income definition for accounting purposes.

The main flaw of the subjective interpretations is that the concepts of utility and well-being have meaning only in the abstraction of economic theory and

265 IFRS Framework 4.30.
266 IFRS Framework 4.47.
267 FASB CON 6 No. 78
268 FASB CON 6 No. 82.
269 FASB CON 6 No. 70.
270 FASB CON 5 No. 83.

can be applied neither to the determination of tax liability nor to tax collection. It is not possible to measure the levels of individual utility and compare them. Even if it was possible to create a measure for some aspects of well-being, well-being alone does not furnish an additional capacity to pay tax. To quantify the "flow of satisfactions", economists often turned to consumption of goods and services and used their values to determine the subjective income. However, individual utility means not only consumption expenditure but also savings. Due to the difficulty in income determination, the notion of psychic income was rejected by many scholars. Simons asserted that "income must be conceived as something quantitative and objective. It must be measurable. Moreover, the arbitrary distinctions implicit in one's definition must be reduced to a minimum."[271] Similarly, Haig considered that psychic income is an "entirely impractical basis" for an income tax. He argued that goods and services are only of economic significance if they can be subjected to evaluation in monetary terms.[272]

The objective criteria made the definition of income narrower because there were more hurdles that a given benefit had to pass before it could be classified as income. As a result, many benefits which increased an individual ability to pay were not captured. For example, the requirement that income arises only from productive economic activity ignores the fact that individuals who receive the same amount of money from productive activities and other sources are in equal positions as regards their spending power. Similarly, the periodicity test fails to satisfy the tax policy objective of imposing tax equitably in accordance with a person's ability to pay. Another problem arises with regard to the expectation of recurrence. Although a payment may not be expected to recur, what if unforeseen events mean that it in fact does occur again? Should the initial payment be retroactively treated as income in such circumstances?[273]

The definition of income for accounting purposes is a broad concept that also includes enhancements of assets in the form of unrealized revaluations, provided that such increases can be measured reliably and have a sufficient degree of certainty. However, the accounting concepts are designed for companies and not for individuals. Their purpose is to provide an accurate analysis of the profitability of an entity to its stakeholders. Individual income tax, in contrast, is concerned with the measurement of the net economic gain of a taxpayer for the purpose of collecting a portion of the gain as tax. It is related to the person's actual ability to pay at a certain time and not to his ongoing performance. Due to their different purposes, the concepts used in accounting are not considered further.

271 Simons, *supra* n. 262, at p. 42.
272 Haig, *supra* n. 249, at p. 6.
273 Holmes, *supra* n. 251, at ch. 3.

As the Schanz-Haig-Simons concept was developed by economists, its use for tax law purposes might seem questionable. The terms "consumption" and "wealth" are vague and open-ended. No criteria have been provided for resolving the ambiguity and this leaves room for various interpretations and is difficult to reconcile with Simons's statement that "the arbitrary distinctions implicit in one's definition must be reduced to a minimum."[274] Although an income concept is incomplete without specifying the taxable unit and the taxable period, both Haig and Simons believed that the specification of those elements was not of great importance.[275]

On the other hand, the Schanz-Haig-Simons concept is the most comprehensive model to determine a person's income. It postulates that income is represented by an increase in wealth and consumption expenditure over a certain period. As an accrual concept, it does not make income dependent on realization. Income arises once the taxpayer is either entitled to receive value or has consumed goods or services. Such an approach prevents the taxpayer from manipulating the time of income recognition. The Schanz-Haig-Simons model embraces all benefits in kind without requiring them to be convertible into cash. As it is based on gain rather than flow, it makes periodicity irrelevant to the income determination. Equal taxation of all accessions to wealth, regardless of their source, leads to investment neutrality (investment are not distorted beyond the distortion inherent in any income tax) and ensures equal treatment of taxpayers in equal positions (income from certain activities is not privileged). Therefore, a tax system based on the Schanz-Haig-Simons model as closely as possible promotes economic efficiency.[276] In theoretical writings, there is a general consensus that the Schanz-Haig-Simons model provides adequate income tax criteria.[277] However, no country has succeeded, or even dared, to fully implement it so far. The reasons for the wide gap between theory and practice are more technical than conceptual. Increases in asset value could be assessed only if each taxpayer were to keep a balance sheet showing his properties. However, obliging individuals to maintain accounting records seems utterly unenforceable and politically unacceptable.[278]

As the most comprehensive concept, the Schanz-Haig-Simons model is used as a starting point for the examination whether trade in virtual currencies and items may give rise to taxable income. According to this model, receipts from trade in virtual currencies can regarded as income if they have value (*see* section 4.2.5.1) which improves the economic position of a taxpayer (*see* section 4.2.5.2).

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274 Simons, *supra* n. 262, at p. 42.
275 Thuronyi, *The Concept of Income*, *supra* n. 246, at p. 47.
276 Id., at p. 93.
277 Thuronyi, *The Concept of Income*, *supra* n. 246.
278 S. Plasschaert, *The Definition of Gross Taxable Income in Schedular or Global Income Taxes*, 31 Bull. Intl. Fisc. Doc. 12, p. 539 (1977).

4.2.5.1 Value

First, it is necessary to establish whether virtual objects and currency represent value for their "owners". As the concept of value exist in many scientific disciplines (philosophy, social sciences, economy), its meaning depends on the context it is used in. This thesis focuses exclusively on economic value as the concept of income is originally an economic concept. However, even in economics, it is disputed what value is and how it can be created. There is a long-standing debate whether value is a quantitative or a qualitative concept, or a mere rate of exchange between two goods.[279] This thesis does not aim to provide an in-depth analysis of the merits of each approach. Instead, it observes that they are all centred around the concept of exchange. If value is described as quality, it is measured by the test of exchange (for example, speed may be considered as a personal quality of a runner, but the ability to run a certain distance within a certain time is used to measure it, i.e. a relation between kilometers and seconds). If value is described as quantity, this quantitative measure is the result of previous exchanges or of the state of mind of people that has grown out of settled habits of exchange.

Bowman and Ambrosini (2000) differentiate two types of value: use value and exchange value.[280] Use value refers to the specific quality of goods and services as perceived by users in relation to their needs. Such judgments are subjective and individual specific. Exchange value is defined as the monetary amount realized at a certain point of time when the exchange of the product takes place or the product is used. Viewed together, these definitions suggest that value translates into the user's willingness to exchange a monetary amount for the value received. This willingness depends on the user's subjective evaluation of the novelty and appropriateness of the item. The greater the perceived novelty and appropriateness, the greater the potential use and exchange value to the user who understands the meaning of the item in a specific context and knows what alternatives exist at a given time.

Although virtual currencies and items are assets that amount to nothing more than a computer code existing in the computer network, people are willing to pay traditional currency for their purchase. The concept of value does not require the value be easily measurable or remain stable over a particular period. It is sufficient that people who are familiar with virtual trade are willing to spend money on virtual items and currencies. Nevertheless, it should be clear that the value of the community-related currency depends on the popularity of the virtual world it belongs to. Once the virtual world closes down, its currency becomes worthless and does not have any value as no one is willing to offer valuable resources in exchange for it.

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279 J.M. Clark, *The Concept of Value*, The Quarterly Journal of Economics, pp. 663-673 (1915).

280 C. Bowman & V. Ambrosini, *Value Creation versus Value Capture: Towards a Coherent Definition of Value in Strategy*, 11 British Journal of Management, pp. 1-15 (2000).

4.2.5.2 Enhancement of economic position

Second, it is necessary to examine whether the possession of virtual currency improves the economic position of its "owner". Universal virtual currency (bitcoins) enhances the spending power of an individual. He "owns" the coins as he is the only person that can use them (through the possession of the private key). Virtual coins accumulated in his wallet can be spent for a limited number of goods and services or they can be exchanged for traditional money that can be spent for unlimited purposes.

Community-related currency can be spent for purchases within the virtual environment or exchanged for real money. On the one hand, the right to use such currency is subject to many contractual limitations (for example, ban on real money trade or requirement to pay subscription fee) that significantly restrict the user's freedom to dispose of the currency as he deems fit. On the other hand, virtual world participants have horizontal rights versus other participants. The fact that a player "owns" virtual currency means that other users cannot use it without his permission. The "owner" is able to control his virtual resources and to decide about their application within the limits set by the world operator. His legal entitlement in the form of use rights is enforceable against other users. When virtual currency is acquired by a player, his ability to command virtual resources increases and can be subsequently exercised. Enhancement of economic power is an economic concept and should not be determined only on the basis of legal rules. Although contractual provisions can influence the economic position of an individual, the actual possibility to exchange virtual currency for monetary amounts should be equally taken into account.

Therefore, in general, the receipt of virtual currency may enhance the economic position of an individual and be classified as income under the Schanz-Haig-Simons concept, provided that the currency in question can be exchanged for other valuable resources (which are, in the majority of cases, traditional money).

4.3 Principles of income taxation

In the second step, the evaluation model investigates how the application of the general principles of taxation can make the Schanz-Haig-Simons income concept more practicable. Departures from this income concept may be necessary because, based on other policy constraints, it may not be desirable to tax income in its most comprehensive form. This section examines how the application of the principles of equity, certainty, flexibility, administrative feasibility (which includes effectiveness, efficiency and simplicity) and neutrality can make the most comprehensive income concept more practicable.

4.3.1 Equity

Widespread consensus exists that the fundamental principle of personal income tax is the ability-to-pay (equity) principle,[281] which requires the establishment of a fair relationship between the resources available to the taxpayer and the amount of tax paid by him. It dates back to Adam Smith's canon of equality of taxation:

> 'the subjects of every state ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities; that is in proportion to the revenue, which they respectively enjoy under the protection of the state.[282]

There are two dimensions to the notion of equity: vertical and horizontal. Horizontal equity means equal treatment of individuals considered to be in equal positions, which should results in people with similar tax capacity facing similar tax liabilities. Arbitrary deviations from equal treatment create dissatisfaction among taxpayers who are subject to discrimination and result in pressures for the enactment of additional special benefits that legislators find it difficult to resist. Horizontal equity can be achieved by widening the tax base to ensure that all gains and benefits are included in it and by equating the tax treatment of income from different sources. It is breached if a tax system exempts certain categories of income to achieve other social or economic aims. The difficult thing about horizontal equity is to determine which factors are taken into account (and which factors are excluded) in ascertaining the relative positions (or tax bases) of individuals. Deciding which characteristics are caught and which are omitted depends on policymakers' ideas of fairness and on what society considers to be equitable.[283]

Vertical equity means that people in different circumstances should pay an appropriately different amount of tax since it is fair for a heavier tax burden to fall on people who are better able to bear it. It presupposes progressive income tax rates (or at least higher nominal taxes for high-income earners than for individuals with low income) and permits discrimination between taxpayers in order to facilitate wealth redistribution between the rich and the poor.[284]

The main question that arises in the context of equity is to determine when taxpayers can be considered to be in a similar position. Under the Schanz-Haig-

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281 In some countries, the ability-to-pay principle is a constitutional requirement. For example, in the view of the German Constitutional Court (*Bundesverfassungsgericht*), the principle of tax justice (which requires the imposition of tax burdens in proportion to the taxpayers' abilities) can be derived from the equality principle (article 3 of the German Constitution).

282 Smith, supra n. 240, at ch. 2.

283 R.A. Musgrave, *In Defense of an Income Concept*, 81 Harvard Law Rev., p. 45, (1967).

284 J. Kirkbridge & A.A. Olowofoyeku, *Revenue Law, Principles and Practice,* p. 11 (Tudor Business Publishing 1992).

Simons concept, the value of an individual's consumption and changes in the net value of his assets need to be compared to decide whether taxpayers are similarly situated. Neither the form (cash or benefits in kind) nor the source of income is relevant. Income is also deemed to exist if assets appreciate in value. If a taxpayer has no money inflow but only unrealized increases in non-cash assets (for example, plots of unrented vacant land), he obtains a greater share of economic resources. If these assets are converted to cash at that increased value, greater consumption rights fall upon the owner. Thus, under the Schanz-Haig-Simons concept, unrealized gains should be subject to taxation, whereas the application of the realization doctrine would constitute an unfair deviation from the income concept.

Many scholars agree with the proposition of the Schanz-Haig-Simons concept that realization is an unnecessary and undesirable concept of income tax law.[285] In their view, income should be deemed to be generated when an economic benefit is derived, which is the time when an asset increases in value, and not when realization occurs. The ability to defer tax on asset appreciation confers a benefit on the taxpayer due to the time-value of money. Consequently, taxpayers with income in the form of appreciated assets bear a lower tax burden than taxpayers with an identical amount of income from other sources. The deferral creates an incentive to invest in property generating returns in the form of capital appreciation, thereby distorting investment decisions and affecting economic efficiency. The realization requirement is also said to violate vertical equity since the benefits of the deferral accrue mainly to wealthy taxpayers who tend to own greater amounts of capital. A market-to-market system in which every taxpayer would have to report as income an annual increase in the value of his assets would eliminate the above mentioned problems. In the case of virtual currency, if the realization principle is disregarded, taxes should be levied not only on profits from exchange transactions but also on the creation and possession of virtual currency that appreciates in value. In contrast, the application of the realization principle would only prevent taxing the possession of virtual currency and items that increase in value, but it would not exclude from taxation virtual income from barter transactions.

However, in my view, the decision whether taxpayers are similarly situated has to take into account the form and source of their income. It makes a substantive difference for taxpayers not only whether their gain is realized or not but also whether an increase in wealth is accompanied by a receipt of

285 J. Kwall, *When Should Asset Appreciation Be Taxed?: The Case for a Disposition Standard of Realization*, 86 Indiana Law Journal 77 (2011); D. Elkins, *The Myth of Realization: Market-to-Market Taxation of Publicly-Traded Securities*, 10 Florida Tax Review 5 (2010); Thuronyi, *The Concept of Income*, *supra* n. 246, p. 58.

liquid assets.[286] Taxpayers having cash can easily settle their tax liability, whereas taxpayers without liquid resources have to monetize their assets or borrow the necessary funds, and such transactions are far from costless, either psychologically or financially. Taxpayers selling their assets incur transaction costs. The imposition of tax on unrealized appreciation may dissuade taxpayers from investing in assets which cannot be easily converted into cash. This fear could prevent economic resources from being directed to their most efficient uses.[287] Moreover, taxpayers may develop a sentimental attachment to their assets (for example, to avatars or certain virtual items), so that for the person concerned the asset has added value beyond the objective economic value. A sale of such property could involve significant psychological costs.[288] Forcing taxpayers to mortgage their assets is also problematic. Property that is not easily marketed is not easily borrowed against. When the property is speculative, leveraging the investment increases the level of risk of holding the asset. Taxpayers may not be willing to incur additional risk and they may be reluctant to invest in speculative assets, knowing that the tax system may force them to increase the level of risk in the future.[289]

At the first sight, the liquidity problem resulting from the possession of virtual currency seems to be easy to solve. Virtual currency can be sold on various websites offering exchange services. Liquidation of bitcoins requires no more than a click on a computer screen. The costs involved are minimal. A sentimental attachment of a person to his bitcoins is hardly possible and, if it exists, it does not reach a level that warrants consideration by the tax system.

However, the possibility to sell virtual currency depends on whether other people want to buy it: if no one wanted to buy virtual currency (for example, due to negative publicity or a market crash), taxpayers could not obtain traditional currency to meet their tax liabilities. Given the extreme price fluctuations of Bitcoin, taxpayers who sell their "coins" due to temporary cash-flow problems could not be sure that they can repurchase bitcoins when the cash-flow problem is resolved. Selling certain community-related currencies (for example, *World of Warcraft* virtual gold) is a risky venture. The seller breaks the rules of the game and this could lead to the termination of his virtual account and loss of his virtual identity.

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286 S. Pareja, *Taxation without Liquidation: Rethinking "Ability to Pay"*, Wisconsin Law Review, p. 841 (2008). Pareja observes that although the common view is that the ability to pay does not consider liquidity, liquidity is a significant issue in the tax context. He suggests dividing assets transferred by gift or bequest into two classes: liquid assets and illiquid assets. With respect to the latter, the recipient should be able to avoid immediate income inclusion.

287 Elkins, *supra* n. 285, at p. 381.

288 Id., at p. 380.

289 Id., at p. 379.

The need to take into account liquidity concerns could also be deduced from Adam Smith's canon of convenience:[290]

> 'every tax ought to be levied at the time, or in the manner, in which it is most likely to be convenient for the contributor to pay it. A tax upon the rent of land or of houses, payable at the same term at which such rents are usually paid, is levied at the time when it is most likely to be convenient for the contributor to pay; or, when he is most likely to have wherewithal to pay. Taxes upon such consumable goods as are articles of luxury are all finally paid by the consumer, and generally in a manner that is very convenient for him. He pays them by little and little, as he has occasion to buy the goods. As he is at liberty, too, either to buy, or not to buy, as he pleases, it must be his own fault if he ever suffers any considerable inconveniency from such taxes.'

The most convenient moment to settle a tax liability is when the taxpayer has liquid resources.

Since changes in the value of virtual currency are unpredictable, virtual income is a weak indicator of a person's ability to pay. Consider the following example: a person who sells goods (value: EUR 100) for 2 bitcoins (EUR 200) and makes a profit of 1 bitcoin (EUR 100) has to pay tax on EUR 100. The profit of EUR 100 exists only in a virtual form (i.e. the person has not exchanged any bitcoins into traditional currency). Assuming a tax rate of 30%, the tax liability amounts to EUR 30. At the time of the tax payment, the value of bitcoin drops to EUR 10. If the taxpayer exchanges his 2 bitcoins to have the necessary liquidity to settle his tax liability, he will obtain only EUR 20. The transaction results in an overall loss of EUR 80 (i.e. the value of goods minus the sales revenue expressed in the traditional currency),[291] but the taxpayer is required to pay tax of EUR 30. This outcome contradict the ability-to-pay principle.[292]

Since taxes cannot be paid in the form of any intangible units, differentiating between activities that produce money and those that do not appropriately reflects the limitations inherent in the tax system. Taxpayers who have cash are not faced with problems similar to those that taxpayers having virtual income are confronted with (lack of liquidity), so those two groups of taxpayers cannot be regarded to be in a comparable situation. As the principle of equity

290 Smith, *supra* n. 240, at ch. 2.

291 Given the (still) limited acceptance of Bitcoin among traders, the receipt of this digital currency cannot be considered a "final" stage of transactions. Entrepreneurs accepting bitcoins do so in order to exchange them into traditional currency. In the view of the Danish Tax Administration (*see* supra n. 45) , there is no business reason to use the Bitcoin system and its application is a superfluous and unnecessary step in the execution of monetary transactions since all invoices must be issued in the traditional currency.

292 One possible solution would be to pay the tax due and carry forward of the loss from the exchange transaction. However, if the value of Bitcoin subsequently rises, the loss carry forward would have to be adjusted. Frequent adjustments would unnecessarily complicate the calculation of taxable income.

requires that only similarity situated taxpayers are treated alike, it does not preclude a different treatment of virtual and real income.

4.3.2 Certainty and flexibility

The source of the principle of certainty is the Latin expression "*nullum tributum sine lege*", which, in the context of taxation, expresses the requirement that in the assessment and enforcement of taxes, governments must act on the basis of enacted laws rather than rulings related to individual cases. In many countries, the principle of certainty is backed up by the constitution. Taxpayers must be able to predict the consequences of their actions. A retroactive application of law is not acceptable, and a legal provision may not have effect until it is published and becomes known to the taxpayers. In the case of non-compliance with the principle of certainty, legal remedies must be provided in order to protect the person concerned.[293]

Adam Smith stated that:[294]

> 'the tax which each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person
> …
> not near so great an evil as a very small degree of uncertainty.'

Certainty requires a tax system be clear, so that the taxpayer can understand and anticipate tax consequences of his actions.[295] The predictability of law protects those who are subject to the law from arbitrary state interference with their lives. Legal certainty enables people to plan their future. The OECD and the European Union have emphasized the need for legal certainty through clear, transparent and predictable tax obligations.[296] Thus, income determination cannot depend on a variety of imprecise legislative terminology subject to various interpretations. Any subjectivity inherent in the income concept must be reduced to a minimum.

Virtual currencies are surrounded by uncertainty. There are still doubts whether the Bitcoin system is a truly peer-to-peer network or whether its creators may be able to control the underlying algorithm. It is not clear either whether some groups of individuals could affect the functioning of the whole system. Virtual worlds are created by companies and exist as long as those companies maintain them. Virtual contents can be modified at any time. The

293 Westberg, *supra* n. 21, at p. 65.
294 Smith, *supra* n. 240, at ch. 2.
295 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce*, p. 4 (1998).
296 Id.; European Commission, *Communication on Electronic Commerce and Indirect Taxation*, COM(1998)374 final (17 June 1998).

most powerful tool of modification that the operators reserve to themselves is the right to end the world.

This existential uncertainty shall not translate into legal uncertainty. Unsophisticated taxpayers engaged in virtual trade must be aware of any possible tax obligations resulting from those activities. They should know whether the receipt of virtual currencies has fiscal consequences. In the absence of official rules, people turn to the Internet for help. However, they may find a lot of misinformation there: blogs, wikis and other websites provide differing opinions on the tax treatment of virtual currencies, including some that could lead taxpayers to believe that transacting in virtual currencies relieves them of their responsibilities to report and pay taxes. For example, after the Danish tax authorities ruled that profits from casual bitcoin trading are not subject to tax, but taxpayers who trade in bitcoins in the ordinary course of business are subject to the general rules, one website posted the following statement:

> 'Trading Bitcoins in Denmark is exempt from taxes in Denmark. "Skatterådet", the Danish commission for taxes, decided that virtual currencies are not "real" money, so they will not charge taxes.'[297]

Even if taxpayers are aware that they may have a tax liability, they may be uncertain about the correct income characterization or the determination of the taxable profit. For these reasons, the tax authorities should provide guidance that is understandable by the general public and not only by people who specialize in tax law. The guidance should state: whether virtual currency may be part of gross income and, if so, how to calculate the tax liability. The tax authorities of some countries issued guidance on virtual currencies, but limited this guidance to the statement that the general rules apply.[298] Such a statement is insufficient as it presupposes that individuals know precisely what those general rules are. An individual who is only familiar with tax on employment income may not know what rules apply to entrepreneurs.

In my view, the principle of certainty requires equal treatment of all virtual worlds. The question whether taxable income is generated cannot depend on the features of a virtual world or the wording of the EULA (for example, whether participants are granted property rights in virtual items or whether real money trade is allowed). Nevertheless, several authors proposed to make the tax treatment of income from virtual worlds dependent on the characteristics of the virtual currency involved.

Professor Seto (2008) divides virtual worlds into three categories, based on the characteristics of the in-world currency, and argues that it is appropriate

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297 *See* the news report "Bitcoin taxfree in Denmark" (25 Mar. 2014) on http://bitcoincharts.com/.

298 For example, the Dutch Ministry of Finance, Letter of 10 April 2013, *supra* n. 41; HMRC, *Brief 09/14, supra* n. 44.

to apply a different tax treatment to each of these types.[299] His first proposed category includes games, such as *Monopoly*, in which non-redeemable, non-convertible currencies or game credits exist to facilitate game play (worlds with non-redeemable, non-convertible currencies). A world built around such currency is an implausible venue for serious income production in the absence of real money trades.[300] Therefore, in-world transactions in such worlds should not generally be treated as generating taxable Haig-Simons-Schanz consumption value or changes in net worth. For taxpayers engaged in this kind of in-world trade, the game is only a game. His second proposed category includes worlds in which in-world currency is routinely redeemed for cash by the game operator, although such currency does not need to be fully convertible, i.e. it may not be readily transferable outside the game or exchangeable for non-virtual value (worlds with redeemable currencies). In such environments, the currency does not merely facilitate play with psychological victory as the reward, but players are encouraged to think of such currency as the equivalent of cash. Chips issued by brick-and-mortar casinos appear to fall into this category. Activities in worlds with redeemable currencies should be taxed under US constructive receipt rules. The third category includes worlds like *Second Life*, which have effectively convertible in-world currencies. A world built around such currency is not just a game and amounts earned there should be treated as income.

In his article *Real Taxation of Virtual Commerce*, Steven Chung (2008) also proposes to make the tax treatment of virtual worlds dependent on the virtual currency characteristics.[301] As currencies of unstructured worlds are versatile and increasingly used in the real world, they represent cash equivalents and should be treated like foreign currency. According to Chung, a virtual world shares some characteristics with a foreign country: each has its own laws, culture and economics. If virtual currencies are treated like foreign currencies, all in-world transactions should be taxable. Any realized exchange gains and losses should be accounted for using the statutory rules of Subchapter J. As those rules apply only to businesses and not to private transactions, the IRS should issue special regulations for the latter (or exempt them). In contrast, in structured worlds with closed economies, administrators want to ensure that virtual currency is used only for its original purpose: enhancing participants' enjoyment of the virtual world. Therefore, closed-economy currencies are not as useful in the real world as their commoditized counterparts are. It is difficult to convert them into real currency since administrators regularly ban the accounts of those who engage in real money trade. For these reasons, the receipt of closed-economy currencies – whether they are found or obtained through transactions – should not be considered gross income. Even though

299 Seto, *supra* n. 24.
300 For the concept of real money trade, *see* section 3.2.4.3. *Real Money Trade* (RMT).
301 Chung, *supra* n. 24.

there may be real economic value in closed-economy currencies, this value is theoretical and is only realized when the currency is sold for real money.

A different approach is taken by professor Chodorow (2008), who focuses on the impact of virtual income on the taxpayer's ability to pay taxes.[302] He argues that taxation of virtual income should be a function of the taxpayer's ability to cash out. Income from worlds that permit participants to cash out should be taxed because the receipt of such income increases the ability to pay taxes. Income from worlds that preclude participants from cashing out should be excluded from the tax base. For this purpose, the IRS should designate worlds as either open or closed based on the ability to cash out and the considerations described above. This classification should be made on a world-by-world basis and published by the IRS as an annual list of open and closed worlds. The IRS should look primarily at the EULA regarding the permissibility of real money trade and at the extent to which developers enforce those rules.

The main concern of the above-mentioned views is that they make the tax treatment of virtual trade dependent on the wording of the EULA on a particular classification of virtual worlds. In my view, this would contradict the principle of legal certainty since the decision about tax consequences would be left to the virtual world operators. Administrators generally do not want to make their worlds taxable, so they are likely to modify the wording of the EULA in order to ensure that any in-world transactions are tax free. Or they may prohibit exchanges outside the context of the world, but do little to enforce the rules. If a court issues a decision adverse to the interests of a game developer or its users, it seems likely that the operator will revise the EULA. Since contractual arrangements can be amended any time, taxpayers could not predict the tax consequences of their actions.

Making the tax treatment of virtual income dependent on the wording of a contract would be contrary to the principle that tax law is independent from private law. Private law terms used in tax law (for example, the concept of property) should not be interpreted according to their private law meaning.[303] Thus, although the wording of the EULA is important for the determination of the tax consequences of virtual trade, those consequences should mainly be based on the economic reality and substance of the transactions.

Furthermore, it is difficult to divide virtual worlds into clear-cut categories (for example, structured or unstructured). Many worlds do not fit neatly into one category or lie somewhere in the middle of the spectrum. As a result of this, they are differently classified by different people.

While legal certainty is an important principle of taxation, it should not be forgotten that virtual currency is an evolving phenomenon. It seems unlikely that tax legislation could provide legal certainty with regard to all aspects of dealings in virtual currency. New (yet unknown) currency schemes may appear

302 Chodorow, *Ability to Pay and the Taxation of Virtual Income*, *supra* n. 24.
303 *See* section 3.2.2. *Legal framework*.

and replace the existing ones. The principle of legal certainty must be balanced against the ability of a tax system to respond to changes in economic circumstances.[304] Tax rules used to regulate trade in virtual currencies should exhibit a certain degree of flexibility and adaptability to the changing circumstances.

4.3.3 Administrative feasibility

Because public law is enforced by the government and potentially applicable to everyone, administrative ease should be a centrally important value. A legal rule is administrable to the extent that it can be applied easily and without excessive controversy by the governmental agency charged with its enforcement.[305] The tax system should exhibit the characteristics of effectiveness, efficiency and simplicity.

A legal solution can be considered to be effective when it is adequate to produce the intended result and as efficient when it performs or functions in the best possible manner with the least waste of time and effort. In other words, being effective is about doing the right things, whereas being efficient is about doing things in the right manner. Tax rules should produce the right amount of tax revenue at the right time. The potential for tax evasion and avoidance should be minimized, while keeping counter-acting measures proportionate to the risks involved.[306] The costs that a tax system imposes on both taxpayers (in complying with the laws) and governments (in collecting taxes) should be kept at a minimum. Adam Smith considered administrative costs to be a major threat to tax efficiency:[307]

> 'tax levying may require a great number of officers, whose salaries may eat up the greater part of the produce of the tax, and whose perquisites may impose another additional tax upon the people … By subjecting the people to the frequent visits and the odious examination of the tax-gatherers, it may expose them to much unnecessary trouble, vexation, and oppression.'

He concluded that taxes are frequently much more burdensome to the people than they are beneficial to the government.

Taxing virtual income would prove effective if it helped reach the main goal of taxation which is to raise revenue. There is no point in taxing a source of income if costs of tax collection exceed the collected revenue or if large amounts of tax remain uncollected despite effects to the contrary. While that

304 OECD, *Electronic Commerce: Taxation Framework Conditions*, p. 4 (1998).
305 A.G. Abreu & R.K. Greenstein, *Defining Income*, 11 Fla. Tax Rev. 295, p. 332 (2011).
306 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce*, p. 4 (1998).
307 Smith, *supra* n. 240, at ch. 2.

consideration is often labeled administrative convenience, it is pure common sense.

Community-related virtual currency is predominantly used for transactions within virtual worlds. Such transactions tend to involve low-value items. In December 2007, *Second Life* residents engaged in 341,791 in-world transactions using Linden Dollars. Almost half of them included gross amounts of less than USD 10.[308] The tax revenue from these transactions (income tax is imposed on the profit and not on the turnover) is not likely to justify costs involved in calculating the virtual income and documenting those calculations.

From an efficiency point of view, an attempt to tax both income in the virtual form and the corresponding profit from the exchange of this virtual income into traditional currency would give rise to valuation issues that might be difficult to understand by an average taxpayer (bitcoin users are mainly individuals and small enterprises). The fact that virtual income has been taxed would have to be taken into account when virtual profits are exchanged into traditional currency, and this means that tax administrations and taxpayers would have to devote considerable resources to valuation and income determination issues. These problems are illustrated by the following example:

In January, an entrepreneur sells goods (value: EUR 300) for 5 bitcoins. At the time of the transaction, 1 bitcoin = 100 EUR, so the profit is EUR 200. In February, the value of bitcoin increased to EUR 200, so the entrepreneur sells the same goods (value: EUR 300) for 3 bitcoins and makes a profit of EUR 300. The entrepreneur pays tax on his total profit of EUR 500, using money from other sources. He has now 8 bitcoins; however, the basis in those bitcoins is not the same since the bitcoin prices were different when the "coins" were acquired. Next year, when the bitcoin value reaches EUR 400, the entrepreneur sells 4 bitcoins and obtains EUR 1600. The question of how to calculate the gain from the exchange transactions is complex. It makes it necessary, first, to determine which bitcoins were sold and, second, to establish the basis is the "coins" that were disposed of.

The difficulty of income determination in the above-mentioned example could be eliminated if taxable income arose only upon conversion of virtual currency into real money. In such a case, virtual currency would be valued only once when it is sold. At that time, the seller would be taxed on the difference between the current value of the currency and the cost of goods sold. In the example mentioned above, the seller would make a taxable profit of EUR 1000 (1600 – 600). The value of 4 bitcoins that have not been sold yet would be disregarded since the prospect of making a profit is remote. Infrequent valuations required by the convertibility standard are less onerous than valuations under a system that taxes both virtual and real gains. Although disregarding virtual income is a serious deviation from the comprehensive

308 Vetter, *supra* n. 107, at p. 857.

Schanz-Haig-Simons concept, it is a means of contending with practical difficulties inherent in taxing the value of assets that are subject to extreme price fluctuations.

Furthermore, whether the revenue-raising goal of taxation can be achieved depends on taxpayers' behavior and enforcement possibilities. Tax compliance is a multi-causal phenomenon and cannot be guaranteed only by a deterrence strategy. Although some taxpayers are deterred from underreporting of income by the threat of penalties, the enforcement of tax laws may also have a negative effect on tax compliance: punishment simply suggests that others do not cooperate and this undermines any cooperation norm.[309] The tax determination process ultimately rests on taxpayers' disclosing their financial affairs and paying what they owe without overt government compulsion. It is each citizen's self-enforcement of the legal duty that keeps the tax system running smoothly. The tax system is based on "voluntary compliance". This term does not mean that taxpayers have any choice in the matter of paying taxes. Rather, it describes the motivation of some taxpayers to fulfil their duties at their own volition.[310]

As regards virtual currencies, reliance on self-reporting is not a workable solution. Taxpayers have little incentive to report something that, in their view, is not likely to be detected. It would be an extremely difficult (or a nearly impossible) task for the tax authorities to find out that someone has earned virtual income. It would require constant monitoring of Internet transactions, virtual worlds and exchange websites. Even if a virtual entrepreneur with a large trade volume was detected by the tax authorities, it would be necessary to identify him. Tax compliance can only be secured if there is a full disclosure of the parties involved in the transactions. As the Internet is a decentralized system visited by people from all over the world and anonymity is a central feature of decentralized currency schemes, online activities cannot easily be linked to a certain person. Taxpayers can exploit this anonymity to conceal their identities and locations.

A core problem for enforcement of tax laws is asymmetric information. The taxpayer knows the facts regarding the relevant transaction but tax authorities have to obtain this information either from the taxpayer himself or from a third party.[311] It is well known that tax compliance can be improved by

309 E. Posner, *Law and Social Norms: The Case of Tax Compliance*, 86 Virginia Law Review 1781, p. 1786 (2000); D. Kahan, *Signaling or Reciprocating? A Response to Erich Posner's Law and Social Norms*, 36 Richmond Law Review 367, p. 369 (2002).

310 R. Seer, *Voluntary Compliance*, 67 Bull. Intl. Taxn. 11 (2013); L. Lederman, *Reducing Information Gaps to Reduce the Tax Gap: When Is Information Reporting Warranted?* 78 Fordham Law Review, p. 1737 (2010).

311 Lederman, *supra* n. 310, at p. 1735.

involving third parties in the procedure of tax assessment.[312] The fact that tax authorities can obtain information from a third party and the taxpayer knows about it fosters taxpayer honesty. Information reporting is efficient if it is imposed on parties who are fewer in number and who have appropriate infrastructure (for example, a bookkeeping system). In an ideal scenario, the information provided by third parties can be matched with the amounts on the taxpayer's return.

4.3.4 Neutrality

The principle of neutrality has many meanings. The first one relates to capital export neutrality (CEN) and capital import neutrality (CIN).[313] The second one is concerned with the influence on taxpayers' behavior. A neutral tax system does not interfere with other economic, environmental or social policy objectives that should be pursued by non-tax measures. The design of a tax system should only be influenced by tax considerations and do not result in an adaptation of the taxpayer's behavior. Taxpayers' decisions should be motivated by economic rather than tax considerations.[314] However, in practice, neutrality is difficult to achieve, and governments often want to interfere with people's choices deliberately to ensure that certain behavior is encouraged or discouraged.

The concept of neutrality implies that the obligation to pay taxes should not force people to undertake any actions to obtain resources necessary to satisfy it (like the sale of virtual currency).[315] Since the function of the state is to protect liberty and property, the government should not use the tax system to reduce the scope of permissible individual choices and to change the pattern of individuals' preferences.[316] It also means that legislators should not introduce extensive monitoring and reporting requirements, since those may eventually harm virtual worlds that are still largely visited for hobby purposes. As the US Supreme Court once noted, "the power to tax involves

312 Id., at p. 1737; L. Lederman, *Statutory Speed Bumps: The Roles Third Parties Play in Tax Compliance*, 60 Stanford Law Review, p. 695 (2007); E. Cheng, *Structural Laws and the Puzzle of Regulating Behaviour*, 100 Northwestern University Law Review, p. 655, p. 675-676 (2006).

313 CEN means that there is no tax incentive to locate an investment within or outside a certain country. To achieve CEN, the principle of taxation in the state of residence should be applied. The investment is taxed in the residence state independent of the country where it is made. CIN refers to the tax neutrality between domestic and foreign investments in a certain country. To achieve CIN, the principle of taxation in the source state should be applied. Foreign as well as domestic investments are taxed in the source state. *See* Westberg, *supra* n. 21, at sec. 4.3.1.

314 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce*, p. 4 (1998).

315 This issue is discussed in more detail in section 4.3.1. *Equity.*

316 R.A. Epstein, *Taxation in a Lockean World*, 4 Social Philosophy and Policy 1, p. 55 (1986).

the power to destroy".[317] The principle of neutrality should prevent the tax system from exercising that power. Accordingly, the decision whether to tax virtual world activities must be made after careful consideration of whether the virtual economy can withstand it.

4.4 Conclusions

This chapter sought to answer the question whether income from transactions in virtual items and currencies should be subject to tax. An evaluation model consisting of two steps was used for this purpose. First, a comprehensive income definition was found and, second, the generally accepted taxation principles set out by Adam Smith in *The Wealth of Nations* and by the OECD in the Ottawa Report (1998) (equity, certainty, flexibility, administrative feasibility and neutrality) were applied to narrow down this definition to a workable income concept. The conclusions are as follows.

According to the comprehensive Schanz-Haig-Simons model, all increases in wealth should be taxable. It should not matter whether profits are generated in virtual or traditional currency. However, this economic view does not translate well into tax law because it ignores the practical requirement that taxable income should be reliably measured, reported and paid. A comprehensive income definition could apply in an imaginary but neither in a virtual nor in the real world. Thus, it must be compromised to achieve a workable income definition for practical taxation purposes. Practical concerns regarding administrative costs, expected revenues, the risk of non-compliance and difficulties in valuation may override the theoretically correct result.

The focus on the income tax principles helps clarify the proper use of the income concept in the context of virtual trade. The principle of equity does not preclude a different treatment of real and virtual income. Taxpayers with real and virtual income cannot be regarded as being in comparable positions since taxes can only be paid in legal currency. Consequently, taxpayers with virtual income would be forced to monetize their assets or to borrow the necessary funds to finance their tax liability. Although Bitcoin and other types of virtual currency may increase the taxpayer's *potential* ability to pay, they cannot *actually* be used to settle a tax liability. Excluding virtual income from the tax base is also consistent with the principle of neutrality (the obligation to pay tax should not force people to undertake any actions to obtain resources necessary to satisfy it) and the principle of convenience (it is convenient for a taxpayer to settle a tax liability when he has liquid resources).

The principle of certainty requires equal treatment of all virtual worlds. For tax consequences of trade in community-related currency, the wording

317 *McCulloch v. Maryland*, 17 US 316, 431 (1819).

of easily modifiable contractual arrangements should not be decisive, but such transactions should be assessed on the basis of their economic substance.

Administrative feasibility is a key concern for tax policy. Since the primary purpose of a tax system is to raise revenue, all rules should be capable of practical operation. Tax legislation should not be too burdensome for tax authorities to enforce and for taxpayers to apply. In view of the fact that online marketplace is an anonymous environment where individuals can easily conceal their identities and locations, it is obvious that tracking virtual income of taxpayers is well beyond the capacity of the tax administration. Voluntary compliance is not a workable solution since taxpayers have little incentive to report something that is not likely to be detected. Moreover, if virtual income was subject to tax, both tax authorities and taxpayers would have to devote substantial resources to annual valuations of virtual currency and to the monitoring of the transaction chain.

The analysis in this chapter shows that there is a strong case against taxing virtual income (both realized and unrealized).[318] The illiquidity, valuation and compliance difficulties, combined with the resentment of taxpayers, would threaten a tax system based on self-assessment. In my view, the general principles of taxation imply that virtual income should remain tax free.

On the other hand, the principles of taxation do not prevent taxing real income (which arises when virtual currencies and items are sold for real money). It seems fair that those who make money from virtual trade, irrespective of whether occasionally or on a regular basis, should face tax consequences of their activities. Moreover, the receipt of cash solves any liquidity problems. It defers taxation until the taxpayer has the means to pay the tax. If real income from virtual trade was excluded from taxation, this would enable people who typically provide their services online to earn their income tax free. For example, if a person creates virtual objects in *Second Life* for a customer, the transaction (exchange of a virtual object for cash) would be similar to that in which a person exchanges virtual currency for cash. The seller could claim that since he just cashed out his virtual earnings, his income should remain tax free.

318 Unrealized income is generated when virtual currency increases in value. Income is realized when virtual currency is mined or obtained from transactions.

5 Income tax: country-specific considerations

5.1 Structure of tax systems

5.1.1 Global and schedular systems

From a structural viewpoint, two basic types of income tax systems can be distinguished: schedular and global.[319] A schedular system distinguishes income categories (salaries, dividends, business profits) and determines gross income and deductible expenses for each one of them. Different tax rates and procedures for tax reporting, assessment and collection apply to each category. In other words, a pure schedular system consists of a coordinated set of separate taxes on various types of income. In a global system, all receipts and expenses are considered together in the calculation of net income. The purpose of this approach is to distribute interpersonal tax burdens, vertically and horizontally, according to the ability-to-pay principle. In practice, most existing income tax systems lie on the spectrum between global and schedular (mixed systems). Many countries have become partially schedularized by the use of withholding taxes on particular income types or distinguish between income categories, but aggregate them and tax at a common rate.

The global system is considered to be superior to the schedular one because the separation of income into many categories makes it difficult to impose progressive taxation and to provide for personal tax relief.[320] Under a schedular system, a progressive marginal rate structure is applied to selected categories of income, leading to inequalities between taxpayers who earn income from different sources. Similarly, personal tax relief must be either applied wholly against one category of income, such as employment income, in which case the relief may not be fully effective, or divided among various categories of income, which increases complexity. The schedular system is also more difficult to administer: administrative resources are wasted on solving classification issues at the borders between the various schedules. For borderline cases, one must closely investigate how tax law and judicial interpretation shape the tax treatment of a particular item. Any differences in the

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319 L. Burns & R. Krever, *Individual Income Tax,* pp. 1-3 in: *Tax law design and drafting* (V. Thuronyi ed. IMF 1998); Plasschaert, *The Definition of Gross Taxable Income in Schedular or Global Income Taxes*, *supra* n. 278, at p. 535.

320 Burns & Krever, *Individual Income Tax, supra* n. 319, at pp. 2-3.

final tax burdens imposed on income in different categories may be exploited by taxpayers engaging in tax planning and restructuring to ensure that their income fits within the most advantageous category. Moreover, the schedular system involves a risk that if an item is not included into any income category, it is not included in the income at all. This risk has been overcome in some countries by including an open-ended residual income category.[321]

On the basis of the historical record, schedular systems appear to be typical for countries at less advanced levels of development. The existence of these systems also owes to cultural factors. As a Latin phenomenon, they are common in Southern Europe and developing countries in which the tax system was profoundly shaped by French and Spanish influences. As from 19th century, many countries moved from a schedular to a mixed or global system.[322] This transition resulted from the widespread recognition of the ability-to-pay principle and the drawbacks of the schedular system mentioned in the previous paragraph. Currently, a pure schedular system exists almost nowhere.[323]

Sections 5.2 to 5.5 examine the application of tax laws of some exemplary countries to income from virtual trade. Each jurisdiction has its own distinctive features. On account of the great variety in tax systems, even among systems following the same model, the answer to the question whether income from trade in virtual currencies is taxable varies from country to country.

In the United States, the income tax system has been of a global nature since its inception in 1913. Under the Internal Revenue Code (IRC), receipts from whatever source derived are subject to tax. The limits of the income concept are determined on a case-by-case basis by courts and administrators.

The United Kingdom is the first country where the modern income tax system was introduced (1799-1783). The British system evolved from an originally schedular model to a more global one that views all types of income aggregately for the purposes of applying the tax rates. Although the law lists items of income that are subject to tax, there is a residual category comprising income not mentioned in other categories. In 1965, a fully-fledged capital gains tax was introduced. Although legally distinct, this tax can, in terms of substance, be viewed as integrated with the income tax system.[324]

The German income tax system is of a mixed nature. Tax is levied on items belonging to particular income categories that are subsequently combined for the purpose of imposing a progressive tax rate and providing a personal tax relief. A logical structure and the global-type paradigm has been a prominent feature of the German system since its introduction in 1891.

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321 Id.

322 Plasschaert, *The Definition of Gross Taxable Income in Schedular or Global Income Taxes*, *supra* n. 278, at p. 543.

323 S. Plasschaert, *First Principles about Schedular and Global Frames of Income Taxation*, 30 Bull. Intl. Fisc. Doc. 3, p. 109 (1976).

324 S. Plasschaert, *The Definition of Gross Taxable Income in Schedular or Global Income Taxes*, *supra* n. 278, at p. 544.

The Netherlands has a mixed system with a distinct preponderance of the scheduler layer. The total taxable income is the sum of net incomes assessed separately in three categories (boxes). Each box has its own rules for the income determination. The distinctive feature of the Dutch system is the fact that the wealth tax has been partially incorporated in the income tax system (although it has officially been abolished as from 2001).

5.1.2 Income categories

The first step to determine a tax liability is to ascertain gross taxable income. The proper definition of gross income was for a long time the subject matter of considerable debate and gave rise to many competing theories.[325] In both schedular and global systems, the following three main income categories can be distinguished: employment, business, and investment income. Under a schedular system, it is common for a different tax regime to be imposed on each of these types. Under a global system, special rules, particularly tax accounting rules, may apply to business income.[326] However, not all amounts derived by a taxpayer fit neatly into one of the categories specified above. There are some areas in which the problem of defining gross income has proven more stubborn (imputed income, benefits in kind and capital gains). This section describes some income categories that deserve closer attention due to their potential relevance for virtual trade.

5.1.2.1 Business income

The starting point in determining whether an item of income is business income is to determine whether the underlying activity is properly characterized as a business. In the absence of a definition in the income tax law, the term "business" has its ordinary meaning. In broad terms, a business is a commercial or industrial activity of an independent nature undertaken for profit.[327] The definitions of business income in common law jurisdictions generally include income from professional activities.[328] In contrast, some civil law countries make a distinction between income from commercial trading activities, on the one hand, and income from professions and vocations, on

325 For a brief overview of these theories, *see* section 4.2. *Definition of income*.

326 L. Burns & R. Krever, *Taxation of Income from Business and Investment*, p. 2 in *Tax Law Design and Drafting* (V. Thuronyi ed. IMF 1998).

327 Id.

328 Section 995-1 of the Australian Income Tax Assessment Act ("business includes any profession, trade, employment, vocation or calling, but does not include occupation as an employee"); section 248 of the Canadian Income tax Act ("business" includes a profession, calling, trade, manufacture or undertaking of any kind whatever").

the other.[329] There are no persuasive tax policy reasons for this distinction, which developed out of historical, non-tax rationale. From a tax administration perspective, it is much simpler to have a single set of rules dealing with all business and professional activities.[330]

Although business activity generally requires a profit motive, a clear distinction between consumption-oriented and profit-seeking activities is difficult. Such distinction depends on the intent of the taxpayer as activities standing alone cannot be classified as consumption or profit-seeking. As making assumptions about the intent requires a case-by-case analysis of a taxpayer's state of mind, it is usually necessary that the profit motive is supported by objective evidence, for example, certain amounts of revenue or profit regularity.

5.1.2.2 Windfall gains

Windfalls constitute unexpected accretions to wealth. They are generally understood to be a transfer of property from one party to another for no (or inadequate) consideration given by the recipient.[331] The Schanz-Haig-Simons concept of income recognizes that gifts and windfall gains enhance the economic power of an individual and should be classified as income.

In most jurisdictions with schedular definitions of income, windfalls simply fall outside the categories included in gross income. Although there are no persuasive tax policy grounds for excluding them from the income tax base, political considerations and administrative difficulties in assessing these gains most often explain why they are not taken into account.[332]

A type of windfall payment is a prize or an award. Generally, tax systems distinguish between prizes and awards that are won by the taxpayer in a purely personal capacity (which are usually not taxable) and prizes and awards given in recognition of a taxpayer's business or employment activities (which are usually taxable).[333] Windfalls may also result from gambling or betting activities. However, if those activities are the primary income source for taxpayers and are carried out in a manner resembling business activity, they generate taxable business income. Such income is hardly ever reported by the taxpayer as the probability that the tax administration will find out about its existence is low.

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329 For example, sections 15 (*Gewerbebetrieb*) and 18 (*Selbstandige Arbeit*) of the German Income Tax Act (*Einkommensteuergesetz*).
330 Burns & Krever, *Taxation of Income from Business and Investment, supra* n. 326, at p. 30.
331 Burns & Krever, *Individual Income Tax, supra* n. 319, at p. 31.
332 Id.
333 Id.

5.1.2.3 Benefits in kind

A benefit in kind is a benefit derived in a form other than cash. The most obvious category of benefit in kind arises in barter transactions. Under the Schanz-Haig-Simons concept, the value of goods exchanged in barter is income, provided that it results in consumption or in a net increase in wealth. One often thinks of barter transactions in the context of primitive societies that have not developed a medium of exchange. However, fringe benefits (for example, free medical treatment, free use of recreational facilities or free meals) given by employers to employees in return for labor services provided by the latter to the former are also a form of barter transactions. Their tax treatment varies from jurisdiction to jurisdiction.

In transactions where the consideration does not involve monetary amounts but benefits in kind, the determination of value becomes a pivotal issue. Market value is the basic valuation standard in many countries. In some of them, an unambiguous definition of the market value is provided in the tax legislation. For example, in Germany, market value (*gemeiner Wert*) is defined as the price which would be obtained on disposal of an asset in the ordinary course of business, whereby all circumstances (except personal and extraordinary ones) are to be taken into account.[334] Under US tax law, the fair market value is the price at which an asset would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of the relevant facts.[335]

All the definitions of fair market value have some common characteristics: they define market value as the amount for which an asset could be exchanged between knowledgeable individuals in an arm's length transition. Market value is based on a hypothetical transaction (ordinary) and hypothetical participants (knowledgeable and willing) and assumes informational symmetry and profit maximization. Under perfect competition, there would be only one market price in a long-term equilibrium. However, as most markets are characterized by informational asymmetry, uncertainty and imperfect competition, an asset can have more than one market value.

5.1.2.4 Imputed income

Imputed income comprises the value of benefits derived from non-market transactions. It is a particular form of benefits in kind which is "imputed" because it is not derived from a transaction or an economic event that involves at least two parties. There are three types of imputed income: value derived from self-benefiting activities (for example, cleaning the house, gardening),

334 Sec. 9 of the German Valuation Act (*Bewertungsgesetz*).
335 Treas. Reg. 1.170A-1(c)(2).

value from using self-owned property and benefits derived from utilization of leisure time.[336]

From the economic point of view, to include imputed income in the income concept is to bring this concept closer to the utility function. Imputed income is included in the Schanz-Haig-Simons model as it constitutes a form of consumption: the consumer derives non-monetary benefits from the use and enjoyment of assets that he owns. In theory, there is no rational basis for excluding a consumption benefit derived by a person from the taxable income definition simply because the form in which it is derived differs from the form of other (taxable) benefits. The principles of equity and neutrality require that all benefits derived from personal consumption of one's own assets, services and time fall within the income tax base. Otherwise, people who purchase the same services from after-tax income are worse off than self-providers.

However, the inclusion of imputed income works only in a theoretical model. In practice, the determination of the value of leisure gives rise to insurmountable difficulty. Although this value could be established on an opportunity cost basis, how to estimate it for a person who has more than one source of income or who is involuntarily unemployed? Moreover, the line between taxable work and non-taxable leisure is to a large extent an arbitrary one and will necessarily lead to some unfairness. The second category of imputed income (self-performed services) is capable of measurement as the services have analogous market values. However, the administrative complexity associated with recording, reporting and auditing those services would make a tax system unworkable. Consequently, imputed income from leisure and self-performed services is not incorporated into the income tax base anywhere in the world.

It might seem appropriate to impute income with respect to the third category (self-owned property, i.e. consumer durables). Consumer durables mean any goods that are not immediately destroyed in consumption. Consider the following example: A and B live in similar houses, each worth EUR 200,000 with a rental value of EUR 20,000 per year (depreciation is disregarded). B moves to an identical house in a new location and rents out his old one for EUR 20,000. This amount is used to pay his new rent which means that B can live rent free in his new residence. It is generally assumed that A has no income, while B should be taxed on the received rent of EUR 20,000. However, both persons are in the same economic position and both should be treated as having the same income: A's income is imputed and does not take the form of observable cash flow, while B receives cash.[337] Imputed income from owner-occupied housing is taken into account in the calculation of taxable income in many countries (for example, Belgium, the Netherlands and Italy). While it is fairly easy to determine and collect imputed income from self-

336 Holmes, *supra* n. 251, at ch. 12.
337 Thuronyi, *The Concept of Income*, *supra* n. 246, at p. 84.

occupied house, it is not practicable to keep track of the values of other durable items that an individual owns and uses. Smaller and short-lived items shall be excluded as their value (after taking account of depreciation) is not worth taxing.

5.1.2.5 Capital gains

A capital gain is gain on disposal of certain fixed assets. What may constitute a fixed asset and, therefore, give rise to a capital gain varies from country to country and is often strongly fact-dependent. In some countries, capital gains are subject to a separate tax or no tax, while in others they may be subject to different tax treatment under the general income tax legislation. Gains may be classified as long-term or short-term according to the length of time the assets are held. They are generally taxed by reference to the difference between disposal proceeds and acquisition cost.[338] Capital assets also include intangibles that are controlled by the taxpayer through legal rights. Expenditures related to patents, copyright and trademark are capitalized and amortized over their useful life.

Equity considerations provide a strong case for taxing capital gains as comprehensively as it appears feasible. Otherwise, receipts which provide a taxpayer with spending power are left untaxed. Moreover, capital gains tend to be heavily concentrated among high-income individuals. Leaving them untaxed undermines the vertical distribution of the tax burden. On the other hand, a comprehensive taxation of capital gains would require each taxpayer to keep a balance sheet showing his properties. As obliging individuals to maintain accounting records is utterly unenforceable and politically unacceptable, the taxation of capital gains tends to be restricted to a few selected assets, among which real estate and securities are by far the most prominent.[339]

5.1.3 Income determination

Income tax is imposed on persons who have earned taxable income for the relevant tax period. Therefore, four central concepts underpinning the income tax system can be distinguished. First, the person liable to tax must be identified (income is allocated to a person who earns it by personal services or by virtue of owning property).

Second, the taxable income of that person must be calculated separately for each tax period, which means that it is necessary to provide accounting rules for the allocation of income and expenses to particular tax periods.

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338 Capital gain, IBFD Glossary, IBFD Tax Research Platform, available at: www.ibfd.org.

339 Plasschaert, *The Definition of Gross Taxable Income in Schedular or Global Income Taxes*, *supra* n. 278, at p. 540.

Income is usually determined on a cash or accrual basis. The accrual method seeks to allocate both income and deductions to the tax year in which the taxpayer's economic activity produces them. The records should reflect expenses definitely incurred and income definitely earned without regard to whether payment has been made or whether payment is due. This method is more resistant to manipulation as it is irrelevant whether taxpayers arrange for payment in a later tax period. The cash method takes account of income when it is received and of expenses when they are paid. Taxpayers are allowed to use this method because of its simplicity.

Third, the tax base must be defined. All income tax systems, whether global or schedular, seek to impose taxation on a net amount (gross income minus deductions) because this amount properly reflects a person's increase in his economic capacity for the tax period. The gross income is the total amount of taxable receipts derived by a person during the tax period. In many global systems, the definition of gross income provides little guidance to the income concept, often including the term that it purports to define. For example, in the United States, gross income is defined as "all income from whatever source derived".[340] Consequently, even under a global system, the inclusion of amounts in gross income is often specified by reference to particular categories (for example, employment, business, investment). The gross income of a person does not include amounts that are exempt from tax. An amount (welfare payment, scholarship) or an entity (charitable, or education institution) may be exempt for social compassion reasons. Exemptions may also result from international conventions, for example, to prevent double taxation. Finally, an amount may not be included in the tax base for administrative or political reasons (for example, windfall gains). The total amount of deductions consists of expenses incurred by the person in deriving amounts subject to tax plus any other amounts allowed as a deduction.[341] A deduction of business and investment losses is part of the logic of taxing net income. To earn income, one must incur the risk, and sometimes also the actuality, of loss which is just a cost of doing business. To tax gains but not allow the offset of losses would bias income tax against risk. If income tax is to remain neutral as to the risk and investment decisions, it must allow a deduction of losses in profit-seeking activities.

The fourth basic element is the method of calculation of the amount of tax payable. In most cases, this involves applying the relevant tax rates to the taxable income of the taxpayer and then subtracting any tax offsets that may be available.[342]

340 Sec. 61 of the IRC.
341 Burns & Krever, *Individual Income Tax, supra* n. 319, at p. 8.
342 Id., at p. 7.

5.2 THE UNITED STATES

5.2.1 Characteristics of individual income tax

The United States first adopted individual income tax in 1864 to finance the Civil War (1861-1865). This tax, which was repealed in 1872, affected only 1% of potential taxpayers due to generous exemptions. The next Income Tax Act was enacted in 1913 after the adoption of the 16th Amendment to the Constitution.[343] This Amendment gave Congress broad powers to implement income tax. It made clear that Congress may use taxes to discourage any activities without considering how the revenue will be affected. Moreover, Congress may favour some groups with tax preferences without favouring all groups as long as the distinction is not based on a suspect classification.[344] In *Regan v. Taxation with Representation of Washington* (1983), the Supreme Court confirmed that Congress had "broad latitude in creating classifications and distinctions in tax statutes".[345]

Individual income tax is levied on citizens, residents and non-residents. Taxpayers belonging to the first two groups are taxed on their worldwide income, whereas those falling within the latter category, only on their US source income. A person is considered a resident if he holds a green card under the US immigration laws or has a substantial presence in the United States over a three-year period. The substantial presence test is met if the person is present in the United States for at least 31 days during the current calendar year and for at least 183 days during the current and prior two years, determined by counting each day of presence in the current year as one day, each day of presence in the first prior year as one-third of a day and each day in the second prior year as one-sixth of a day.[346] US citizens residing anywhere in the world are liable for US income tax, irrespective of the income type and source. Persons who renounce their US citizenship may be subject to income tax on the net unrealized gain on their worldwide property as if the property had been sold at fair market value on the day before expatriation.[347]

Within the United States, taxes based on income are imposed at the federal, state and sometimes also at local levels. Although the tax system within each jurisdiction may define taxable income separately,[348] many states refer to the federal concepts for determining the taxable income. This thesis exclusively deals with the federal income tax law.

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343 J.R. Repetti, *The United States,* sec. 1 in: *Comparative Taxation: A Structural Analysis* (H.J. Ault & B.J. Arnold eds., Kluwer Law International 2010).

344 Id., at sec. 2.

345 *Regan v. Taxation with Representation of Washington,* 461 US 540 (1983).

346 Sec. 7701(b) of the IRC.

347 Sec. 877A of the IRC.

348 State and local income taxes are deductible from adjusted gross income for federal tax purposes by persons who itemize their deductions instead of claiming the standard one.

Although the US income tax system is of global nature, it has tended towards a schedular income concept in the recent years. Several categories of expenses are limited in their deductibility to similar categories of income. For example, investment expenses are deductible only from investment income.[349]

The starting point for determining which earnings are taxable for federal income tax purposes is the concept of gross income. The Internal Revenue Code (IRC) does not classify income by specific categories or sources. Instead, section 61 of the IRC states that "except as otherwise provided in this subtitle, gross income means all income from whatever source derived". This provision emphasizes that taxpayers have gross income when they receive anything of economic value, whether in the form of cash, property, services or other benefits in kind. Prizes, awards and lottery winnings are also included.[350] The gross income definition applies regardless of whether the underlying activity is legal or illegal. In the case *James vs. United States* (1961), the Supreme Court said that "when a taxpayer acquires earnings, lawfully or unlawfully, without the consensual recognition, express or implied, of an obligation to repay and without restriction as to their disposition, he has received income that he must report, even though it may still be claimed that he is not entitled to retain the money, and even though he may still be adjudged liable to restore its equivalent".[351] Section 61(a) of the IRC lists 15 examples of items included in the gross income. These are: (1) compensation for services, including fees, commissions, fringe benefits, and similar items; (2) gross income derived from business[352]; (3) gains derived from dealings in property; (4) interest; (5) rents; (6) royalties; (7) dividends; (8)alimony and separate maintenance payments; (9) annuities; (10) income from life insurance and endowment contracts; (11) pensions; (12) income from discharge of indebtedness; (13) distributive share of partnership gross income; (14) income in respect of a decedent; and (15) income from an interest in an estate or trust. This list is not exhaustive. Therefore, unless the IRC specifies that something is excluded from the gross income definition, the assumption is that it is enclosed. Exceptions to what is included in gross income can be found under sections 101-140 of the IRC. With respect to individuals, the most significant exclusions encompass: minor fringe benefits,[353] compensation received for injuries or sickness,[354] gain from sale of principal residence,[355] gifts and inheritance of property.[356] The characteriza-

349 Repetti, *supra* n. 343, at sec. 5.1.
350 Sec. 74 of the IRC.
351 *James v. United States*, 366 US 213 (1961).
352 In the case of business activity (manufacturing, merchandising or mining business), gross income amounts to gross profit and not to gross receipts. It is determined by deducting costs of goods sold from gross receipts (Treas. Reg. 1-61-3).
353 Sec. 132 of the IRC.
354 Sec. 104 of the IRC.
355 Sec. 121 of the IRC.

tion of a payment as either a gift or income must be made on a case-by-case basis.[357] Gifts made by an employer to an employee usually qualify as a (non-taxable) fringe benefits or employee achievement awards.[358] Any income derived from the gift, including profit upon its sale, is taxable.[359]

Gains from the disposition of capital assets also form part of the gross income. A capital asset is defined as property other than property held primarily for sale to customers in the ordinary course of business,[360] depreciable or real property used in the trade or business, copyright produced by the taxpayer or given to him by the creator, or derivative financial instruments held by a dealer.[361] The Supreme Court ruled that the definition of a capital asset must be broadly interpreted, and only assets coming within one of the statutory categories of non-capital assets are excluded.[362] To compute the tax liability correctly, it is necessary to distinguish between short- and long-term gains (the latter are subject to a preferential tax rate, whereas the former are taxed just like other ordinary income). An unrealized gain (an increase in the market value of an asset) is not subject to tax.[363] Correspondingly, a decrease in the value of property is not taken into account, unless the property is sold, abandoned or destroyed. Capital losses may be deducted in a tax year to the extent of capital gains for that year, with a USD 3000 limit on any excess.[364] The excess may be carried forward indefinitely.[365]

In order to arrive at taxable income, adjusted gross income must be determined first. It is computed by subtracting allowable deductions from gross income. Unlike gross income, which is broadly defined in section 61 of the IRC and expansively interpreted by the courts, deductions are cast in narrow statutory language, which, in turn, is construed strictly against the taxpayer. The main category of deductions includes ordinary and necessary trade and business expenses.[366] An activity qualifies as a trade or business if it is

356 Sec. 102 of the IRC.
357 CCH Editorial Staff, *US Master Tax Guide 2013,* sec. 702 (CCH 2013).
358 Sec. 74.c and 132.a of the IRC.
359 Sec. 102.b of the IRC.
360 When the taxpayer holds an asset for dual purposes – to rent or to sell, whichever becomes more profitable – he generally gets capital treatment since he did not hold it primarily for sale to customers (K. McNulty & D.L. Lathrope, *Federal Income Taxation of Individuals,* sec. 98, 8th ed. (West 2002)).
361 Sec. 1221 of the IRC.
362 *Arkansas Best Corporation v. Commissioner*, 485 US 212 (1988).
363 The Supreme Court held in *Cottage Savings Association v. Commissioner*, 499 US 554, 559 (1991) that: "Under an appreciation-based system of taxation, taxpayers and the Commissioner would have to undertake the 'cumbersome, abrasive, and unpredictable administrative task' of valuing assets on an annual basis to determine whether the assets had appreciated or depreciated in value."
364 Sec. 1211.b of the IRC.
365 Sec. 1212.b of the IRC.
366 Sec. 62 of the IRC.

regular, continuous and has a profit motive.[367] In determining whether there is a profit motive, the following must be taken into consideration: the manner in which the taxpayer carries on the activity, the expertise of the taxpayer, the time and effort expended by the taxpayer in carrying on the activity, the taxpayer's history of income or losses with respect to the activity, his financial status and any elements of personal pleasure or recreation.[368] Expenses are ordinary if they are generally accepted in the particular business sector (taxpayer need not often make them) and necessary if they are helpful and appropriate to the conduct of the trade and business.[369] In general, a taxpayer may deduct losses related to trade or business activity which have not been compensated by insurance or otherwise.[370] To be deductible, a loss must be evidenced by closed and completed transactions and fixed by identifiable events. No deduction can be made if there is a reasonable prospect of loss recovery.[371] No deduction is allowed for payments which are illegal under the federal or state law (but only if such state law is generally enforced) if such a transfer subjects the payer to a criminal penalty or the loss of license or privilege to engage in a trade or business.[372]

Taxpayers frequently try to deduct expenses/losses claiming that they are incurred in the production of income; however, the activity turns out to be not profitable. To prevent this abuse, the IRC allows deductions of losses resulting from activities not engaged in for profit (hobby losses) only to the extent of income produced by that activity. An activity is presumed not to be a hobby if profits result in any three of five consecutive tax years unless the IRS proves otherwise.[373]

After computing adjusted gross income, personal exemptions, and standard or itemized deductions are subtracted to arrive at taxable income.[374] Taxable income is the amount to which the tax rate is applied to determine the amount of the tax due. The standard deduction is a general tax-exempt amount. It cannot be claimed if a person chooses to itemize his deductions. Itemized deductions are any deductions permitted under the IRC which are not used to arrive at adjusted gross income. They include: medical expenses,[375] gambling losses (to the extent of gambling income),[376] expenses incurred in producing income as well as managing and holding of income producing assets.[377]

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367 *Commissioner v. Groetzinger*, 480 US 23 (1987).
368 Treas. Reg. 1.183-2.
369 *US Master Tax Guide 2013*, *supra* n. 357, at sec. 901.
370 Sec. 165.a of the IRC.
371 *US Master Tax Guide 2013*, *supra* n. 357, at sec. 1104.
372 Sec. 162.c of the IRC.
373 Sec. 183 of the IRC.
374 Sec. 63 of the IRC.
375 Sec. 213 of the IRC.
376 Sec. 165.d of the IRC.
377 Sec. 212 of the IRC.

The reason for the itemized deductions is that not every profit-seeking activity may be characterized as "trade or business" that gives rise to deductions of necessary and ordinary business expenses under section 162 of the IRC (for example, handling one's own investments in the stock market is not considered business activity).[378]

The federal income tax is based on an annual system of reporting. The year for which a taxpayer's income is reported may be either a calendar year (one that ends on the last day of December) or a fiscal year (one that ends on the last day of any other month than December). In order to ascertain what income is to be included and what deductions are to be taken, the taxpayer must use an accounting method on the basis of which he regularly computes his income.[379] Generally speaking, the taxpayer may adopt any method as long as it clearly reflects income and is applied consistently. The two basic methods are cash and accrual accounting. It is important to note that those methods are not related to financial accounting methods.

The cash method requires an individual to report income when it is received and to make deductions when expenses are actually paid.[380] Since income need not be received in the form of cash to be taxable, the cash method entails the reporting of a cash equivalent, for example the fair market value of property (doctrine of cash equivalence).[381] Income is also charged to tax if it has been constructively received, which occurs when income is made available for an individual, so that he may draw upon it at any time. However, income is not constructively received if the taxpayer's control of its receipt is subject to substantial limitations or restrictions.[382] The accrual method requires an individual to report income when the right to receive it is fixed, the amount in question can be reasonably determined and no substantial uncertainty about collection exists.[383] On the deduction side, a parallel statement can be made.

In the United States, unlike in Germany and in some other European countries, there is no "book/tax conformity", i.e. different set of rules is used for tax and financial accounting purposes.[384] An individual not engaged in business must report income on the cash basis. Accrual method is prescribed when, for example, the IRC requires an individual to maintain an inventory

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378 McNulty & Lathrope, *supra* n. 360, at sec. 37. Section 212 of the IRC applies in situations where a taxpayer has incurred significant expenses to produce income, but fails to meet section 162 trade or business requirements. The standard for deductions under section 212 is the same as under section 162. If a taxpayer lacks profit motive, section 183 may be applied.

379 Sec. 446 of the IRC.

380 Sec. 451 of the IRC.

381 McNulty & Lathrope, *supra* n. 360, at sec. 70.

382 Treas. Reg. 1.451-2.

383 Treas. Reg. 1.451-1.

384 J. Kadel, *Einkommensermittlung und Rechnungslegungsmethoden im US-amerikanischen Steuerrecht*, IStR 13 (2001).

to clearly reflect his income.[385] Change from one accounting method to another requires an IRS approval and recognition of any income escaping taxation under the change.[386]

5.2.2 Taxation of income from virtual trade

5.2.2.1 Initial comments

The statement "all income is taxable" seems to be clear and easy to apply in practice. However, the key problem is that the term "income" has never been defined in the tax law. The IRS claims that income is whatever it says it is. The 16th Amendment to the Constitution gave the federal government the power to tax every single receipt that it deems to be income.[387] According to the IRS, anything of value may constitute taxable income if it regards it as such.

The Schanz-Haig-Simons concept is widely accepted as the basis for the taxable income definition.[388] It holds that an individual's income consists of his consumption plus accumulation during the taxable period. The Schanz-Haig-Simons concept is an economic one. It is very broad and goes far beyond what tax law requires, including, for example, unrealized capital gains and imputed income in the income definition. Despite its wide acceptance, it remains ambiguous since the terms "consumption" and "accumulation" are open-ended. Taking it as the sole basis for defining taxable income would ignore the practical requirement that income must be something that can be reliably measured, reported and paid.[389]

The judicial interpretations helped clarify the term income. In *Eisner v. Macomber* (1920), the Supreme Court had to decide whether a pro-rata stock dividend was income.[390] In holding that it was not, the Supreme Court defined income as "the gain derived from capital, labor or from both combined, provided it be understood to include profit gained through a sale or conversion of capital assets." By requiring the gain be "derived" or "served" from the property, the Supreme Court gave birth to the realization requirement, which remains part of the definition of income today. The narrow *Macomber* definition did not cover many things one thinks of as income (embezzled funds, found money, prizes and awards).

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385 Treas. Reg. 1.446-1(c)(2)(i) and 1.471-1.

386 Sec. 446.e and 481 of the IRC.

387 The 16th Amendment states: "Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration."

388 Thuronyi, *The Concept of Income*, *supra* n. 246, at p. 46. For more information on the Schanz-Haig-Simons concept, *see* 4.2.3. *Schanz-Haig-Simons model*.

389 Camp, *supra* n. 24, at p. 24.

390 *Eisner v. Macomber*, 252 US 189 (1920).

More than three decades after it decided *Macomber*, the Supreme Court had to rule in *Commissioner v. Glenshaw Glass Co*. (1955) whether punitive damages were income.[391] Unlike compensatory damages, punitive damages bear no relationship to the labor or capital of the plaintiff but are paid solely to punish the defendant. Hence, they are a windfall for the plaintiff. As windfalls do not proceed from the recipient's labor or capital or both combined, the punitive damages received by Glenshaw Glass could not be income under the *Macomber* definition. The lower courts had consistently held so. To treat punitive damages as income, the Supreme Court needed to redefine the term.[392] Thus, in *Glenshaw Glass*, the Supreme Court laid down what has become the modern understanding of taxable income. It declared that income taxes could be levied on "accessions to wealth, clearly realized, and over which the taxpayers have complete dominion". If these requirements are met, any increase in wealth falls within the taxable income definition, unless Congress makes a specific exemption. The *Glenshaw Glass* definition, which is the Schanz-Haig-Simons concept limited by realization, is neither too broad, as the Schanz-Haig-Simons concept alone would be, nor too narrow, as the *Macomber* definition was. By retaining realization while moving to embrace the Haig-Simons-Schanz model, the Supreme Court seemed to develop the right income definition.[393]

As the main function of the tax system is to produce revenue, discussions of the income concept cannot be detached from practical considerations and implementation aspects. Unlike economics and other social sciences, tax law does not only describe phenomena but also creates rules that people (both those subject to the law and those who administer it) must follow. The US tax law – as expressed in statutes, cases and interpreted in administrative guidance – contains operational limits to what taxpayers must include as "gross income" in their tax return. All these limits represent instances of economic income that are not treated as gross income because they present significant operational problems of measurement, payment or compliance. The operational criteria are: measurable market value and exclusion of imputed income.[394] They close the gap between economic theory and administrative practicality, and turn the economic income concept into an administrable income definition that takes account of the fact that tax law must be implementable and enforceable.

In answering the question whether the receipt of virtual currency may give rise to taxable income, a two-step process is necessary. First, it must be established whether the criteria laid down by the Supreme Court in *Glenshaw Glass* are met. Is that the case, the next step is to investigate whether practical

391 *Commissioner v. Glenshaw Glass Co.*, 348 US 426 (1955).
392 Abreu & Greenstein, *supra* n. 305, at p. 301.
393 Abreu & Greenstein, *supra* n. 305, at p. 305.
394 Camp, *supra* n. 24, at p. 25, with further references.

considerations, as reflected in operational limits and other non-recognition criteria, may exclude profits in a virtual form from the taxable income definition.

Before going into detail of the Supreme Court criteria and the operational limits, it is useful to take a look at activities that may be relevant for income tax purposes. These are:
- the creation and possession of virtual currency;
- exchanges of goods and services for virtual currency; and
- exchanges of virtual currency and items for traditional currency.

A detailed description of these activities can be found in section 4.1 (*see* Table 1).

5.2.2.2 Accession to wealth

An accession to wealth means that taxpayers gain access to valuable resources. They are able to use more resources than before. It is irrelevant whether their accession is legal or not (illegal income is also taxable).

The receipt of virtual currency or objects increases the spending power of an individual. Although virtual currencies are assets that amount to nothing more than a computer code existing in cyberspace, they can be exchanged for a number of (real or virtual) goods or services. The fact that the user's ability to convert virtual wealth to usable wealth (i.e. real money) may be remote and contingent on factors beyond his control is not important. The term "value" does not imply money or things convertible into money. Permission to use is what makes an item valuable, not just permission to sell it. The Supreme Court once held that use is almost as big a stick in the bundle of property rights as is alienability.[395] Thus, the receipt of both virtual items and virtual currency represents an accession to wealth. However, an exception needs to be made for community-related currency in situations where a virtual world closes down. As the usefulness of community-related currency depends on the virtual world it belongs to, once an online environment disappears, its currency becomes worthless.

5.2.2.3 Realization

Although the realization requirement is firmly embedded in US tax law, no general definition of realization has achieved widespread acceptance yet. The realization requirement has evolved in an unprincipled manner and remains

395 *United States v. Craft*, 535 US 274, 283 (2002).

ambiguous to this day.[396] Although it acquired constitutional status after the first Supreme Court decisions in income tax matters, it is widely accepted today that realization is not a constitutional requirement but a rule of administrative convenience and that Congress is authorized to tax unrealized gains if it chooses to do so.

In one of its first decisions regarding the 16th Amendment to the Constitution, *Eisner v. Macomber* (1920) (which authorized Congress to impose tax on "income from whatever source derived"), the Supreme Court held that "income" means only realized income.[397] The Supreme Court was called upon to decide whether a stock dividend declared and issued by a corporation to its shareholders constituted the shareholders' income. In ruling that it did not, the Court stated that realization required not only a mere transfer of property but also the receipt of a contemporaneous benefit by the transferor. After the *Macomber* decision, realization appeared to be a constitutional requirement.

Twenty years later, in *Helvering v. Bruun* (1940), the Supreme Court held that a landlord whose tenant built a building upon the leased land and then abandoned the lease had income in the amount of the value of the new building.[398] The landlord's legal relationship to the building changed upon the tenant's abandonment of the lease because, as a result of the abandonment, the landlord acquired rights which it did not have before (for example, the right to take possession of, or re-lease, the building). The *Bruun* decision marked a retreat from the *Macomber* standard of realization. It suggested that any definite event (for example, the forfeiture of a leasehold) could constitute realization.

Eight months after the *Bruun* decision, in *Helvering v. Horst* (1940), the Supreme Court explicitly acknowledged that the realization requirement was found on administrative convenience.[399] The Court reiterated this view in *Cottage Savings v. Commissioner* (1991).[400] In that case, the Supreme Court found that a taxpayer who exchanged a pool of mortgages with a fair market value of USD 4.5 million for another pool with the identical fair market value had a realization event, despite the equivalence of the market values because the underlying mortgages in each pool were different. In the Court's view, the difference in the identity of the properties and obligors in the underlying mortgages sufficed to create realization. The Supreme Court stated that a realization event occurs when there is a sale or exchange of property that is

396 Chung, *supra* n. 24, at p. 120; Seto, *supra* n. 24, at p. 17; D.N. Shaviro, *An Efficiency Analysis of Realization and Recognition Rules Under The Federal Income Tax*, 48 Tax Law Review 1 (1992). According to Black's Legal Dictionary, realization is "an event or transaction, such as the sale or exchange of property, that substantially changes a taxpayer's economic position so that income tax may be imposed or a tax allowance granted".

397 *Eisner v. Macomber*, 252 US 189 (1920).

398 *Helvering v. Bruun*, 309 US 461 (1940).

399 *Helvering v. Host* 311 US 112 (1940).

400 *Cottage Savings Assoc. v. Commissioner*, 499 US 554 (1991).

materially different in kind. To determine whether properties are materially different in kind, the Supreme Court rejected the idea of comparing the economic substance of the properties involved and, instead, evaluated whether the properties being exchanged had legally distinct entitlements.

Although the receipt of money in exchange for property is the most common form of realization, this requirement does not mean that property must be sold for cash. The exchange of any services or items for other services or items may constitute realization. If person A gives person B an item in exchange for USD 100, person A has gross income irrespective of whether the item given away was his property.

The realization requirement intends to ensure that federal income taxes are always levied on flows. From an accounting perspective, governments may tax two kinds of things: stocks and flows. Stocks include the kinds of items that would appear on a balance sheet, while flows enclose those that would appear on a profit-loss statement. In other words, "stocks" represent the state of the world at any given point, while "flows" changes in that state over time. Head and property taxes are taxes on stocks, whereas income taxes and sales taxes generally taxes on flows.[401]

The Supreme Court stated that "the concept of realization is founded on administrative convenience".[402] It defers taxation until the taxpayer has the means to pay the tax. As the occurrence of a realization is usually in a taxpayer's control, this requirement prevents hardship for many people with insufficient liquidity. The realization rule does not itself define income, but states when income may be taxable. It involves a "now or later" timing question and not a "whether or not" one.[403] To put it differently, the realization requirement plays the same role in income tax as the title transfer plays in sales tax: it establishes a taxable event. However, the liquidity constraint standing alone cannot be the sole justification for the realization requirement. There are a number of situations in which taxation occurs although taxpayers have not monetized the value of their property (barter exchanges or windfalls). Property taxes are also levied despite potential cash-flow problems. A more convincing reason for the application of the realization principle is that the annual valuation of the taxpayer's assets is administratively impossible due to the need to obtain subjective information, the expense of appraisals and a possible increase in the number of tax disputes.[404]

With regard to virtual worlds, some scholars observed that the nature of the participant's property rights in virtual items should determine whether

401 Seto, *supra* n. 24, at pp. 18-21.

402 *Cottage Savings Association v. Commissioner*, 499 US 554, 559 (1991) (quoting *Helvering v. Horst*, 311 U.S. 112, 116 (1940)).

403 McNulty & Lathrope, *supra* n. 360, at sec. 19. D.H. Schenk, *A Positive Account of the Realization Rule*, 57 Tax Law Review, p. 357 (2003-2004).

404 Schenk, *supra* n. 403, p. 359.

an in-world transaction (for example, an exchange of a virtual item for Linden dollars) constitutes a realization event.[405] In her article *Stranger than Fiction: Taxing Virtual Worlds*, Professor Lederman takes a right-based approach and concludes that the answer to the question of whether virtual exchanges can be considered taxable events depends on the rights that participants have in their virtual currency and items.[406] If virtual items are considered property, sales and barter exchanges should be taxable events because a disposition of property may constitute a realization for federal income tax purposes.[407] In contrast, if virtual items are not considered property but rather treated under a license theory, virtual transactions amount to mere reallocations of possession of items in which all participants have use rights. They do not constitute realization events and are not taxable. She cites to two real world examples where people trade possession of items to which they have use rights but are not subject to tax. The first involves co-workers who trade office equipment owned by their employer. The second involves passengers on a cruise who trade deck chairs owned by the cruise line.

Professor Lederman's right-based approach raises many problems. First, professor Lederman relies heavily on three sections of the IRC that deal with the taxation of property sales and other dispositions.[408] However, taxpayers have gross income when they receive anything of economic value, whether in the form of cash, property or services. A disposition may constitute a realization for federal income tax purposes even if it is not a disposition of property.[409]For instance, tax is due when a taxpayer sells his services in exchange for another's services; the taxpayer is taxed on the consideration he receives (i.e. the value of the other person's services), even though he did not receive any cash.

Lederman cites to two examples where people trade possession of items to which they have use rights but are not subject to tax (co-workers trading

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405 *See*, for example, Lederman, *supra* n. 24; Miano, *supra* n. 139. There are also scholars who reject this view. According to Camp, receipts of virtual items should be treated as income, regardless of whether what is given up or received is characterized as property. If the player has no property rights, the transaction constitutes the provision of services. In exchange for USD, one party agrees to help another party advance in the game by meeting in-world and transferring a game object that will enhance the game play. If non-tax law concludes that a virtual item is property, the sale of that item is subject to the formula in section 1001 of the IRC. See Camp, *supra* n. 24.

406 Lederman, *supra* n. 24.

407 Sec. 1001 of the IRC mentions "realization" in connection with the sale or other disposition of property.

408 Sec. 61(a)(3) of the IRC states that gross income includes "gains derived from dealings in property"; sec. 1001(a) mentions that "the gain from the sale or other disposition of property shall be the excess of the amount realized therefrom over the adjusted basis"; and sec. 1001(b) states that "the amount realized from the sale or other disposition of property shall be the sum of any money received plus the fair market value of the property (other than money) received."

409 Chodorow, *Ability to Pay and the Taxation of Virtual Income*, *supra* n. 24, p. 714.

office equipment owned by their employer and passengers on a cruise exchanging deck chairs owned by the cruise line). However, in my view, those examples are different from exchanges of use rights in virtual worlds. For instance, one generally possesses a deck chair for a short period, relinquishing it at the end of each day, if not sooner. Even if one were to hold a chair for the cruise's duration, cruises generally last a short time, and the chair must be given up when the cruise ends. In contrast, virtual worlds have no set end. While people may technically have only use rights in their virtual items, they are not expected to give them up on a set schedule. The number of people with whom one may trade on a cruise is also limited, as people can only trade with others on the same cruise. They cannot hold seats for people getting on the next cruise. These restrictions significantly limit the market for the deck chairs. Finally, the level of control that users exercise over the property in question may differ. It seems likely, or at least possible, that employers and cruise companies exercise significantly greater control over their property than do the developers of virtual worlds.[410]

The right-based approach also raises administrative difficulties. The determination whether to tax in-world transactions would require a difficult and potentially costly world-by-world analysis of the rights involved and could lead to inconsistent treatment of similar online environments. In *Second Life*, users have intellectual property rights in the self-created content but only license rights to use Linden Dollars. According to Professor Lederman, a sale of a self-created item for Linden Dollars would result in an exchange of distinct legal entitlements and constitute a taxable realization event. However, in *Entropia Universe*, participants have only license rights to any virtual items, including the PED currency. In this case, the sale of an item for PED would not be taxable because an item exchange transaction – even a currency transaction – is a non-taxable reallocation of possession. As the EULAs of *Second Life* and *Entropia Universe* differ, these two virtual worlds with commoditized economies would receive a different tax treatment.

Once an exchange transaction is complete, the legal rights to the avatar or the participant's account have changed. The participant has a different set of use rights in the avatar and can dispose of more virtual resources. Thus, the exchange of virtual currency for money, goods or services constitutes a realization event.

The creation of virtual currency (either through mining or game achievements) changes a taxpayer's economic position. As a result of the mining process or a successful completion of a quest, he acquires a right to use virtual currency he did not have before. The fact that there is no direct relationship between the taxpayer's mining efforts and the received currency (i.e. the taxpayer does not know in advance how long the mining process will be before

410 Id., at pp. 714-715.

any currency can be obtained) is irrelevant. As the Supreme Court ruled in *Glenshaw Glass*, a windfall may qualify as realized income, even though it is not derived either from capital or from labour.

5.2.2.4 Complete dominion

The question of complete dominion is problematic with regard to community-related virtual currency. On the one hand, virtual world users have some kind of horizontal rights against other participants – they may exclude them from using their virtual items and accounts. These rights are protected by the software itself, and the software makes their violation impossible. A player may freely dispose over his virtual items, at least as far as the architecture of the game permits, once they are credited to his account. On the other hand, the existence of a game provider could be regarded as a restriction preventing the participants from having a complete dominion over their virtual items. The game operator has a substantial influence on all in-world events and the ultimate control over the income-generating asset, which is the game itself. The EULA gives the virtual world operator the power to make a lot of decisions that may adversely affect an individual player's situation: it may shut down the virtual world, change it in a way that eliminates the value of the virtual item, unwind players' transactions or deprive them of all their virtual currency. By accepting the EULA, users explicitly agree that the world operator has the absolute right to manage, regulate, control, modify and eliminate the world contents as it sees fit in its sole discretion. The game operator has exercised those rights many times in the past. With regard to illegal activities, Linden Lab closed down all in-game casinos in July 2007, after recognizing that online gambling is considered illegal in the United States. All members operating this type of business lost their virtual assets without receiving any compensation.[411] The account of Marc Bragg was suspended when Linden Lab believed he was unethically purchasing land at less than fair market value.[412]

The application of the IRS ruling on barter clubs could lead to the conclusion that participants have complete dominion over virtual currency they receive.[413] A barter club credited or debited its members' accounts with trade units for goods or services provided or received. The IRS took the position that a member of a barter club received income for his services upon receipt of those trade units. The IRS stated that the receipt of trade units was the receipt

411 W. Terando et al., *Taxation Policy in Virtual Worlds: Issues Raised by Second Life and Other Unstructured Games, supra* n. 102, p. 106.

412 In 2006, a Second Life member, Marc Bragg, identified a way to purchase land for amounts below the market rates. After purchasing virtual real estate for thousands of dollars, Linden Lab terminated his account. Bragg sued Linden Lab over the termination. The suit was ultimately settled with a confidential agreement before the final decision was reached. *See* Dougherty, *supra* n. 7.

413 Rev. Rul. 80-52, 1980-1 C.B. 100.

of valuable property since those trade units could be converted into goods or services at any time. Any limitations on the use of the trade units by the barter club members were irrelevant for tax purposes. The IRS specifically noted that it did not matter that the barter club did not guarantee that a member would be able to use all of his trade units or redeem any unused credits. As trade units could be used immediately to purchase goods or services offered by other members of the club, they should be taxable upon receipt. Following the reasoning of the IRS, the EULA restrictions should not prevent community-related virtual currency from being taxable income. The EULA should be viewed only as affecting the amount of monetary income that one can obtain but not the existence of income in general.

The Supreme Court shed more light on the term "complete dominion" in the case *CIR v. Indianapolis P & L* (1990).[414] Indianapolis Power and Light Co. (IPL) required certain customers to make deposits with it to assure prompt payment of future electric bills. Although the deposits were at all times subject to the company's unfettered use and control, IPL did not treat them as income at the time of receipt, but carried them on its books as current liabilities. The question arose whether the purpose of those payments was to serve as a security or as advance payments for electricity. The Supreme Court held that although IPL derived some economic benefit from the deposits, it did not have the complete dominion over them at the time they were made. IPL had an obligation to repay the deposits upon termination of service and, thus, its right to retain them was contingent upon events outside its control. The customer controlled the ultimate disposition of a deposit. The circumstance that IPL enjoyed unrestricted use of the money was not decisive. The Supreme Court stated that:

> 'In determining whether a taxpayer enjoys "complete dominion" over a given sum, the crucial point is not whether his use of the funds is unconstrained during some interim period. The key is whether the taxpayer has some guarantee that he will be allowed to keep the money.'

IPL's receipt of these deposits was accompanied by no such guarantee. If some other person can decide how, when, or whether the taxpayer can take actual possession of the funds, those funds are not in the complete dominion of the taxpayer. Another negative example is a loan. The borrower is unrestricted in his use of the loan funds received; however, he also has a current obligation to repay the funds, and, therefore, he realizes no taxable income from the loan.

Following the reasoning of the Supreme Court, the receipt of community-related virtual currency and items cannot be regarded as taxable income. Due to the legal restrictions contained in the EULA, users do not have a complete dominion over their in-world resources. They have no guarantee that they

414 *CIR v. Indianapolis P & L*, 493 US 203 (1990).

will be able to retain them: they have even explicitly accepted that the world operator can terminate their accounts for no particular reason. Moreover, they can use their virtual resources only as long as they pay the subscription fee. On the other hand, if income in the form of community-related virtual currency is cashed out, users may freely dispose of their money and should be treated as having taxable income.

The requirement of complete dominion does not exclude the receipt of bitcoins from the income concept. A bitcoin "owner" is the only person who can access and use the "coins" accumulated in his wallet. In contrast to community-related currency, taxpayers have complete dominion over any decentralized universal currency they receive.

The view that virtual world users may not have a complete control over their virtual currency and items was also expressed by a group of scholars from Iowa State University that examined the tax treatment of *Second Life* activities.[415] In their opinion, in evaluating when virtual income should be recognized for federal income tax purposes, an important factor is whether a participant's accumulation of virtual assets is subject to a substantial risk of forfeiture. If such a risk exists, any income that a player generates is held in currency that is essentially worthless until redeemed for a real one. In the case of *Second Life*, a risk of forfeiture may arise from two possible sources. First, no buyer of virtual currency may exist. Second, under the limits imposed by the EULA, Linden Lab may suspend or cancel any member's account without notice for any reason. Moreover, monitoring and reporting obligations with regard to taxing in-world gains could result in the collapse of virtual economies. For those reasons, income should be recognized when virtual assets are converted into real currency. Only users who elect to transform their virtual world participation from a game to real life should be subject to taxation.

5.2.2.5 Valuation

An accession to wealth must have ascertainable market value. This requirement presupposes some objective method of valuation, so that the tax authorities can verify what the taxpayer reports. If the value of an item cannot be reduced to a readily ascertainable value in US currency, there is no reportable income. Taxpayers cannot report as gross income an economic abstraction.[416]

This reasoning has been applied with regard to frequent flyer miles. Many taxpayers travel on business with their flights paid for by their employer. They receive credit for the travel in their personal frequent flyer accounts. Once

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415 W.D. Terando et al., *It's Just a Game, or is it? Real Money, Real Income; Real Taxes in Virtual Worlds,* Communications of the Association for Information Systems, vol. 20 (2007); *Taxation Policy in Virtual Worlds: Issues Raised by Second Life and Other Unstructured Games, supra* n. 102, at pp. 94-107 (2008).

416 Camp, *supra* n. 24, at p. 25.

they accumulate a certain number of miles or points, they can exchange them for free travel services. Thus, they translate their miles into USD in a way that is ascertainable and reviewable. For example, if taxpayers cash out their miles by using them to upgrade to first class on a private flight, the IRS may argue that they have income to the extent of the difference in the value between the cost of the first class seat and the cost of a normal seat. The general concept of frequent flyer miles would fall within the scope of section 61 of the IRC. However, before cashing out, it is impossible to find a reliably objective method to assign a fair market value to miles in a frequent flyer account. First, there is an issue of the relevant market. Miles can be redeemed in multiple markets apart from air travel. They can be redeemed for hotel stays, car rental and various types of merchandise. Second, even as to air travel, the market value of a flight between two points varies dramatically in response to the market demand, oil prices and time of travel. Third, there is no robust secondary market for flyer miles, because most contracts between carriers and flyers make the miles inalienable. Fourth, there is currently no practical way to determine a taxpayer's basis in a set of miles cashed out.[417]

The IRS initially issued a memorandum stating that a taxpayer permitted by his employer to keep the earned airline miles received income under a non-accountable plan. The employer would need to report the value of the airline miles as part of the employee's salary.[418] Due to an outcry from the public, the IRS changed its position and ultimately decided not to tax frequent flyer miles, unless they were exchanged for cash. Thus, while frequent flyer miles have economic value and their accumulation is an accession to wealth within the economic meaning of gross income, the impossibility of determining their fair market value led the IRS to exempting them from taxation.[419]

Treas. Reg. 1.61-2(d) contains rules on valuation of benefits in kind: if services are paid for in property, the fair market value of the property received as payment must be treated as consideration. If services are exchanged for other services, the fair market value of such other services is recognized as income. Individuals can make reasonable estimates of fair market value of virtual currencies based on exchange rates listed on various trading platforms. Historical data on virtual currency schemes can also be easily downloaded. However, it is difficult to determine the value of virtual items kept within the online environment. Many items are unique in nature and the only way to readily measure their value is to sell them. Due to the difficulty of finding similar items, the valuation process is likely to result in high compliance and administrative burden.

417 Id., at p. 27.
418 IRS. Tech. Adv. Mem. 1995-47-001 (24 Nov. 1995).
419 IRS Announcement 2002-18, 2002-1 C.B. 621.

5.2.2.6 Imputed income

Imputed income comprises the value of benefits derived from non-market transactions. There are three types of imputed income: value derived from self-benefiting activities (for example, cleaning the house, gardening), value from using self-owned property and benefits derived from utilization of leisure time.[420] In general, imputed income is capable of measurement. The value of leisure can be determined on an opportunity cost basis as the earnings foregone if the individual earned income rather than pursued free-time activities. It is also possible to quantify the value of self-performed services: for example, the value of the time that a parent spends assisting his child with his homework can be determined by the price that the parent would otherwise have to pay to hire a similarly qualified tutor to do the job.

Nowhere does the statute say that imputed income shall not be taxed; nowhere is imputed income excluded from the broad scope of section 61 of the IRC. However, the main reason for not including imputed income into the taxable income base is the administrative difficulty of properly and equitably measuring the economic utility experienced by every individual and determining the amount of the net gain. Secondly, tracking of millions of low-income self-benefiting activities would place an insurmountable administrative burden on the tax authorities.[421] Thus, an "unstated exclusion" shelters imputed income from taxation. This unstated exclusion is so well entrenched that most laymen would not even agree that imputed income is income at all.

The administrative basis for excluding imputed income from the legal definition in section 61 of the IRC is explained each year in the *Joint Committee on Taxation's Report on Tax Expenditures*:[422]

> 'the individual income tax does not include in gross income the imputed income that individuals receive from the services provided by owner-occupied homes and durable goods. However, the Joint Committee staff does not classify this exclusion as tax expenditure. The measurement of imputed income for tax purposes presents administrative problems and its exclusion from taxable income may be regarded as an administrative necessity.

According to Professor Camp, all in-world transactions should be exempt from tax as they "are not normal market transactions but represent self-provided services or, at most, enjoyment of self-owned property".[423] Thus, they consti-

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420 Holmes, *supra* n. 251, at ch. 12.; McNulty & Lathrope, *supra* n. 360, at sec. 20. *See also* section 5.1.2.4. *Imputed income*.

421 Camp, *supra* n. 24, p. 38.

422 Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2011-2015*, p. 6 (2012).

423 Camp, *supra* n. 24.

tute imputed income. Virtual items are play-things used within a play-market to enhance the value of the play, and the virtual currency is play-money which merely enhances a player's position in a virtual world.

However, an important feature of imputed income is that economic benefits are both produced and exhausted by the taxpayer outside the marketplace. In contrast, all virtual exchanges are market events. They are reciprocal transactions involving at least two parties. Although self-generated virtual currency does not require a direct involvement of third parties, such currency is not consumed by its creator. Rather, it is intended to be used in sales transactions either in a virtual or the real world. For those reasons, virtual currency cannot be labeled imputed income.

5.2.2.7 Income versus capital gain treatment

Capital gains form part of the gross income definition under section 61 of the IRC. This means that a capital gain must meet the general income characteristics, i.e. it must constitute an accession to wealth, clearly realized and over which the taxpayer has complete dominion. As long-term gains are subject to a lower tax rate, it is necessary to establish whether the sale of virtual items or currencies for real money may give rise to a capital gain. The following conditions must be met for the preferential treatment to apply: the objects sold are considered property, the sale does not occur within one year from their purchase, the objects are not primarily held for sale to customers and they do not constitute copyright produced by the taxpayer or given to him by the creator.

The first requirement means that virtual items must be property *in general* and not necessarily property of the person who arranges their disposal. According to the *Black's Law Dictionary*, the term "property" has a broad meaning: it extends to every species of valuable right and interest, to everything that has an exchangeable value or that goes to make up wealth. "Property" is also described as a bundle of rights (exclusion, possession and disposal).[424] The right to exclude is a principal component of all theories of property; the Supreme Court has also described it as fundamental on several occasions.[425] In *Halliburton v. Commissioner* (1935), the Ninth Circuit of the Federal Court of Appeal determined that property included money.[426]

Virtual items are capable of being owned. There is always a person who has the exclusive right of disposing and using them. In the case of Bitcoin, it is the person who acquired or produced the coins. Community-related virtual

424 D.J. Kochan, *The Property Platform in Anglo-American Law and the Primacy of the Property Concept*, 29 Georgia State University Law Review 2 (2013); *Kaiser Aetna v. United States*, 444 US 164, 176 (1979).

425 *Coll. Sav. Bank v. Fla. Prepaid Postsecondary Educ. Expense Bd.*, 527 US 666, 673 (1999).

426 *Halliburton v. Commissioner*, 78 F.2d 265 (9th Cir. 1935).

items and currency are controlled by the world operator who is vested with the right to exclude others from enjoying any parts of the virtual environment. The IRS confirmed that virtual currency constitutes property in its Notice 2014-21.[427]

In order to apply the preferential tax treatment, the items sold must not primarily be held for sale to customers. An example of a situation in which an item is not primarily held for sale is the sale of *Second Life* virtual real estate that the seller acquired from another user, developed and used for renting out to other participants. Whereas casual sales may qualify for the preferential tax treatment, a lower tax rate cannot be applied if a person engages in a large number of transactions involving similar items. In such circumstances, the items sold are more likely to be treated as stock in trade.

5.2.3 Conclusions

The term gross income is described in section 61 of the IRC as including "all income from whatever source derived". The decisions of the Supreme Court have made it clear that this definition is to be broadly interpreted and that it includes all sources of income (not necessarily limited to cash), unless specifically excluded by law. The Schanz-Haig-Simons model is generally accepted as the conceptually correct income definition underlying section 61 of the IRC. As this concept is too broad to be translated into functional legal rules, the Supreme Court ruled that income taxes could be levied on any "accessions to wealth, clearly realized, and over which the taxpayers have complete dominion".[428] To take into account the fact that tax law must be implementable and enforceable, additional criteria are used to exclude some instances of economic income from the gross income concept. These are: measurable market value and exclusion of imputed income. This chapter evaluated profits from virtual transactions against the above mentioned criteria.

Under US tax law, real income from virtual transactions (for example, sales of bitcoins and virtual items for USD) is taxable. Those who sell virtual items or currencies for real money must report profits from such transactions according to the general rules. The fact that a person acts without a profit motive does not preclude taxation. Income from a hobby also falls within the broad scope of section 61 of the IRC. The intensity of an activity, the amount of profits and losses and the type of items sold are only relevant for determining the applicable deductions. In certain circumstances, the sale of virtual objects for real money may also give rise to preferential capital gains taxation.

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427 The IRS classified convertible virtual currency as property in its Notice 2014-21 (*see* IRS, Virtual Currency Guidance, *supra* n. 40).

428 *Commissioner v. Glenshaw Glass Co.*, 348 US 426 (1955).

With respect to profits existing only in a virtual form (for example, in the case of a seller who accepts bitcoins as consideration), it is necessary to distinguish between community-related and universal currencies.[429] Community-related currency is created by a private operator who has significant influence on its functionality. Participants of virtual worlds must agree that they do not have any proprietary rights in the virtual currency and that such currency can be modified at the operator's discretion. Thus, in my opinion, virtual world participants do not have complete dominion over their virtual income. This applies irrespective of how that community-related currency was obtained (through trade with other participants or from the world operator). In contrast, the receipt of universal virtual currency may give rise to taxable income, irrespective whether the currency was generated or obtained in an exchange transaction. The rules outlined above with respect to the taxation of real income from virtual transactions and the provisions on the valuation of benefits in kind apply accordingly.

5.3 The United Kingdom

5.3.1 Characteristics of individual income tax

The United Kingdom imposes both income and capital gains tax on individuals. Residents are taxed on their worldwide income. There is no statutory definition of residence. In determining it, reliance is placed on the HMRC guidance contained in *HRMC 6 Residence, Domicile and the Remittance Basis*.[430] The UK tax law distinguishes between residence, ordinary residence and domicile. Domicile[431] is mainly important for inheritance tax purposes, whereas capital gains and income tax are founded on residence. To be resident, an individual must be present in the United Kingdom during some part of the year of assessment. An individual who is present in the United Kingdom for 183 days or more in a tax year is always considered resident for that year. If an individual spends less than six months in the United Kingdom, he may still be regarded as resident depending upon whether his visits are frequent

429 The guidance issued by the IRS does not make such a distinction. It applies to convertible virtual currency, defined as currency that "either has an equivalent value in real currency or acts as a substitute for real currency" (*see* IRS, Virtual Currency Guidance, *supra* n. 40). Based on that definition, both community-related currency and universal virtual currency would qualify as convertible. However, although the notice mentions Bitcoin explicitly, it contains no reference to currency used in virtual worlds.

430 HRMC, *Residence, domicile and the remittance basis*, available at www.hmrc.gov.uk/cnr/hmrc6.pdf.

431 Domicile is where the individual has a settled intention to reside permanently. Everybody must have a domicile and a person can only be domiciled in one place at any time. *See* CCH Editors, *British Master Guide*, sec. 227 (CCH 2012).

and substantial.[432] Ordinary residence implies continuity or habitual residence. It is referred to a man's abode in a particular place or country which he has adopted voluntarily and as a part of the regular order of his life for the time being. It is possible to be resident but not ordinarily resident in a country and vice versa. For example, if an individual is abroad for a full tax year, he may be ordinarily resident in the United Kingdom without being resident.[433]

Income tax was introduced in the United Kingdom in 1798 and has remained in force ever since, except for a gap between 1816 and 1842. It was completely overhauled in 1803 when the Finance Act of 1803 established a set of Schedules for different income categories. Each Schedule was subject to different rules. Income that did not fall within a Schedule was not subject to tax. The 1803 system included the taxation of imputed income arising from the occupation of property, which remained in force until 1963.[434]

With time, the UK tax law became lengthy and complex. Referring to a particular provision of income tax law, Lord Reid held in the House of Lords that it "is so obscure that no meaning can be given to it. I would rather do that then seek by twisting and contorting the words to give to the subsection an improbable meaning. Parliament is so accustomed to obscure drafting in finance Bills that no one may have noticed the defects in this subsection."[435] Following the criticism that tax law became complex and incomprehensible, the Tax Law Rewrite Project was established and commissioned with the task of rewriting tax legislation into a more logical and user-friendly format. As a result of the Tax Law Rewrite Project, the UK income tax legislation is now included in three principal statutes:

- Income Tax (Earnings and Pensions) Act 2003 (ITEPA 2003), which covers income from employments pensions, social security benefits, and replaces the former Schedule E;
- Income Tax (Trading and Other Income) Act 2005 (ITTOIA 2005), which covers income from trade, professions, vocations, property, savings and investment, and replaces the six cases of former Schedule D, A and F;
- Income Tax Act 2007 (ITA 2007), which covers basic provisions about the charge to income tax, tax rates and personal relief.

Income tax has been of schedular nature since its introduction in 1798. There is no statutory definition of income, beyond the statement that income is taxable if it falls within one of the income categories.[436] Section 3 of the ITA

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432 Id., at sec. 224.
433 Id., at sec. 226.
434 J. Tiley, *The United Kingdom,* sec. 1 in: *Comparative Income Taxation: A Structural Analysis* (H.J. Ault & B.J. Arnold eds., Kluwer Law International 2010).
435 *Fleming v. Associated Newspapers Ltd* (1972) 48 TC 382.
436 J. Tiley et al., *Tiley and Collison's UK Tax Guide* 2012-2012, sec. 9.3 (LexisNexis 2012).

2007 lists the following income sources: employment, pension, social security, trading, property, savings and investment, and miscellaneous ones. Each category has its own rules to compute taxable income. Losses can only be offset only within the categories.[437] If there is no source, there is no taxable income. Profits from illegal activities or legally unenforceable contracts are also allocated to the sources and subject to tax.[438]

Total income consists of the taxpayer's income from all sources, calculated according to the provisions under which it arises and after deducting expenses appropriate to a particular category. To arrive at taxable income, allowable payments (pension payments, loss relief, gifts to charities) and personal reliefs (age-related allowance, tax reduction for married couples) are deducted.[439] Income tax is a self-assessed tax. Taxpayers must calculate their tax due no later than 31 January following the end of their tax year. The year of assessment runs from 6 April to 5 April in the next year. Trading and professional income is assessed on the basis of the accounting year ending in the year of assessment. For certain types of income (for example, dividends), tax is deducted at source.

Revenue receipts must be distinguished from capital receipts that attract capital gains tax. What is income and what capital has to be determined in the light of all the circumstances and the weight to be given to a particular circumstance depends on the common sense rather than any legal principle. The two main tests used in distinguishing income from capital are: whether receipts relate to assets that form part of the permanent business structure and whether they relate to circulating or fixed capital. The former is acquired to be used or sold, whereas the latter is retained in the business with the object of making profits.[440] Capital expenditure is not deductible in computing profits, even though incurred wholly and exclusively for business purposes. The difficulty of determining whether payments are income or capital receipts was expressed in *IRC v. British Salmson Aero Engines Ltd* (1938): "in many cases it is almost true to say that the spin of the coin would decide the matter almost as satisfactorily as an attempt to find reasons".[441]

5.3.2 Characteristics of capital gains tax

An individual who is either resident or ordinarily resident in the United Kingdom is subject to capital gains tax (CGT) on his worldwide capital gains.

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437 Id., at sec. 9.6.
438 Id., at sec. 14.9.
439 N. Lee et al., *Revenue Law: Principles and Practice*, sec. 7.4 and 7.21, 28th ed. (Bloomsbury 2010).
440 *British Master Guide*, *supra* n. 431, at sec. 630.
441 *IRC v. British Salmson Aero Engines Ltd* (1938) 2 KB 482.

The statutory provisions relating to capital gains tax are laid down in the Taxation of Chargeable Gains Act (TCGA) 1992. The distinction between income and capital still remains central to the UK tax system, despite a certain amount of convergence. According to section 39 of the TCGA 1992, an income tax characterization takes priority over one for CGT purposes.[442]

When income tax was first introduced, various forms of capital had already been subject to other taxes. Trust law made a sharp distinction between income and capital receipts. As income tax was seen as temporary, there was little room for extending it to capital gains.[443] CGT was eventually introduced in 1965 on the grounds of equity rather than for yield because taxpayers started exploiting opportunities to convert income into capital to escape taxation. Originally, CGT was charged at a significantly lower rate than income tax. This encouraged the proliferation of sophisticated devices, whereby an income profit was turned into a capital gain. The scope of this type of arrangements was reduced by the alignment of the tax rates and the extensive anti-avoidance legislation.[444]

Capital gains tax is levied on gains from the disposal of assets. Some assets are exempt; for example, a private car, personal possessions (tangible and moveable assets) that are individually worth GBP 6,000 or less and "wasting assets" (i.e. assets with a lifespan of up to 50 years that often lose their value over time).[445] The chargeable gain is found by taking the disposal consideration and deducting from that figure the allowable expenditure. If the latter exceeds the former, the taxpayer has made a loss for CGT purposes.[446] Capital gains tax is levied at 18% on gains up to the limit of the taxpayer's basic rate band and at 28% on gains in excess of that limit. Capital losses may be only set off against capital gains of the same or subsequent years.[447] There is an annual tax-free allowance (known as the Annual Exempt Amount), which for 2013-14 is GBP 10,900 for an individual.[448]

442 HRMC, *Schedule D: Relationship to Capital Gains Tax*, available at: www.hmrc.gov.uk/MANUALS/bimmanual/BIM14055.htm.

443 Tiley, *The United Kingdom*, *supra* n. 434, at sec. 1.

444 *British Master Guide*, *supra* n. 431, at sec. 202.

445 *See* HMRC, *Capital Gains Tax on personal possessions: the basics*, available at www.hmrc.gov.uk/cgt/possessions/basics.htm#2.

446 Lee, *supra* n. 439, at sec. 19.21.

447 For 2013-14, the basic rate band was GBP 32,010. If a taxpayer has taxable income up to the amount of the basic rate band, any chargeable gains are taxed at 28% (HMRC, *Income Tax – the basics*, available at www.hmrc.gov.uk/incometax/basics.htm#6).

448 *See* HMRC, *Capital Gains Tax rates and allowances*, available at www.hmrc.gov.uk/rates/cgt.htm#1.

5.3.3 Taxation of income from virtual trade

5.3.3.1 Initial comments

Having established the legal framework for income taxation in the United Kingdom, it can be examined whether and to what extent receipts from trade in virtual currencies and items may be subject to tax.

A detailed description of activities that may be relevant for income tax purposes can be found in section 4.1 (*see* Table 1). In short, these are:
- the creation and possession of virtual currency;
- exchanges of any goods or services for virtual currency;
- exchanges of virtual currency and items for traditional currency.

Any profits from those activities are subject to tax if they fall within one of the source categories (trading, professions or vocations, miscellaneous) or constitute a capital gain. This is examined in the following sections.

5.3.3.2 Trading income

Trading income is dealt with under Part 2 of the ITTIOIA 2005. The term "trade" is incompletely defined in the legislation, which states that this concept includes "every trade, manufacture, adventure or concern in the nature of a trade".[449] Without precise legislative guidance, it must be studied on a case-by-case basis whether a transaction under consideration measures up to the usual characteristics of trade.[450] Those characteristics were developed by case law and were divided by the Royal Commission of 1955 into six badges: subject-matter, period of ownership, frequency of transactions, supplementary work, circumstances responsible for sale and motive.[451]

The first badge (subject-matter) states that some forms of property, such as commodities or manufactured articles, are normally the subject of trading and only very exceptionally the subject of investment. When a person buys an item for investment, he intends to keep it for a reasonable time, i.e. long enough to develop a feeling that he will enjoy the possession or use of the item purchased.[452] Property that neither yields income nor gives personal enjoyment to its owner is more likely acquired with the object of a deal.[453] A gain made from the sale of assets held for investment may give rise to a charge under the CGT rules.

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449 Sec. 832(1) of the Income and Corporation Taxes Act 1988.
450 *British Master Guide*, *supra* n. 431, at sec. 555.
451 Royal Commission on the Taxation of Profits and Income, Final Report Cmd 9474 (1955), Comments on what is a trade.
452 *British Master Guide*, *supra* n. 431, at sec. 558; Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 14.10.
453 *British Master Guide*, *supra* n. 431, at, at. 562; Lee, *supra* n. 439, at sec. 10.23.

The second badge (period of ownership) assumes that if property is meant to be dealt in, it is sold within a short time after acquisition. A quick sale is more consistent with a trading activity rather than an investment that is likely to be long-term.[454]

The third batch (frequency of transactions) presumes that if realizations of the same sort of property occur in succession over a period of years, the taxpayer has been engaged in trade.[455] Nonetheless, an isolated transaction may be an adventure in the nature of the trade depending on the facts of an individual case.[456] Some cases illustrate this principle. In the first one, a money-lender bought one million of toilet paper rolls while being on business trip abroad. He sold the paper to a single purchaser on his return to the United Kingdom and made a profit of GBP 10,000. The court held that the taxpayer was engaged in an adventure in the nature of a trade and that he made the purchase of such a vast quantity obviously for no other purpose than that of reselling it at a profit.[457] Trade was also assumed in another case, where a woodcutter who had never previously traded in whisky bought three lots of it and sold them two years later at a profit.[458] Thus, the nature and size of the transaction are more important than its frequency in determining whether a particular activity may constitute trade.

Later transactions may colour earlier ones and trigger a trading income tax liability on them.[459] This statement is well illustrated by the case in which a taxpayer started a driving school and sold it at a profit. Subsequently, he set up and sold some 30 driving schools. The court held that the sales that followed the first one had tainted it. The first transaction could also be considered a trading transaction, even though initially there might not have been any intention to sell the first driving school. The subsequent sales made the court believe that there must have been.[460]

The fourth badge (supplementary work) states that if property is worked upon in any way during the ownership to bring it into a more marketable condition or if any special efforts are made to attract purchasers, there is evidence of trading.[461]

Under the fifth badge (circumstances responsible for the sale), the knowledge that a purchase will increase in value is insufficient evidence to find that a transaction is in the nature of trade. Many people buy things to keep and enjoy them, but, at the same time, they know that these objects will increase in value and may be sold at a profit. If the resale appears to be the

454 *British Master Guide*, *supra* n. 431, at sec. 564; Lee, *supra* n. 439, at sec. 10.24.
455 *British Master Guide*, *supra* n. 431, at 566.
456 *T. Beynon & Co Ltd v. Ogg* (1918) 7 TC 125.
457 *Rutledge v. IRC* (1929) 14 TC 490.
458 *IRC v. Fraser* (1942) 24 TC 498.
459 Lee, *supra* n. 439, at sec. 10.25.
460 *Pickford v. Quirke (HMIT)* (1927) 13 TC 251.
461 *British Master Guide*, *supra* n. 431, at sec. 568; Lee, *supra* n. 439, at sec. 10.26.

only reason for the purchase, it can be concluded that the taxpayer is trading.[462] The fact that an asset is sold in response to a sudden opportunity negates the idea that any plan of dealing prompted the original purchase.[463] A forced sale to raise cash for an emergency raises the presumption that the transaction is not a trade.[464]

If there is clear evidence upon which it can be decided whether the taxpayer is trading, the taxpayer's motive (the sixth badge) is irrelevant. However, if the evidence is ambiguous, the motive can be considered. A desire to make a profit is not sufficient evidence to support a finding of trading since it is uppermost in the minds of all who buy for investment. The question of motive is important where the taxpayer buys for investment and quickly thereafter changes his mind and decides to sell or the other way round. Providing that there is clear evidence that the asset was bought for investment, a quick resale will not make the transaction an adventure in the nature of trade. If the taxpayer who bought an item with the intention of reselling it at a profit decides to retain it, he will not be trading when he decides to sell it later on.[465]

A scheme that inevitably involves a loss may not be a trading transaction.[466] However, operations of the same kind and carried out in the same way as those which characterize ordinary trading are not excluded from trading operations because they make a loss or there is no intention to make profits.[467] HMRC advises taxpayers to be consistent in their approach to transactions that may be trading transactions, irrespective of whether they lead to a profit or a loss.[468]

With regard to hobby activities, the HMRC acknowledges that "in some cases the person's hobby can lead them to make substantial supplies and may grow to become a business activity. Many successful businesses grow out of a hobby or private interest."[469] The distinction between a hobby and a trade, profession or vocation is a question of fact and degree.[470] It seems that the main criterion to distinguish between hobby and trade is the manner in which

462 *British Master Guide*, *supra* n. 431, at sec. 564.
463 Id., at sec. 570.
464 Lee, *supra* n. 439, at sec. 10.27; Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 14.24.
465 *British Master Guide*, *supra* n. 431, at sec. 571.
466 *FA and AB Ltd v. Lupton* (1971) 3 All ER 948, 47 TC 580.
467 *JP Harrison (Watford) Ltd v. Griffiths* (1960) 40 TC 281.
468 HMRC, *Trade: general: hobbies and artificial trades,* available at: www.hmrc.gov.uk/manuals/bimmanual/bim20090.htm.
469 HMRC, *VAT Business and Non-Business activities: hobbies*, available at: www.hmrc.gov.uk/manuals/vbnbmanual/VBNB27000.htm.
470 HMRC, *Athletes: Trade/profession or hobby*, available at: www.hmrc.gov.uk/manuals/bimmanual/BIM50605.htm.

the activity is organized and its profitability in general. If profits are an isolated event in the overall picture of continuing losses, trade cannot be assumed.[471]

In order to establish whether exchanges of virtual items and currencies may give rise to trading income, it is necessary to have regard to the entire context in which they are made. As there are no precise legal rules on income characterization, case law is the only frame of reference for distinguishing among various income sources. Based on that case law, the following general observations can be made. Virtual currencies do not yield periodical income, so they are not likely to fall into the investment category. The main reason for the purchase of universal currencies is to benefit from their increase in value: taxpayers want to make a profit by reselling them. Although community-related currencies are also bought to "enjoy their possession or use", the use of the currency in the virtual world should be treated as incidental to trade if objective circumstances imply that the taxpayer acts as a trader (i.e. he sells and buys currency in large quantities, his sales transactions are not related to his in-world situation). A one-off deal (for example, the sale of a virtual island) may be considered an adventure in the nature of trade. This characterization is even more likely if the taxpayer has put effort to develop and improve the virtual item. Trading income may be assumed if the time between acquisition and sale is relatively short. A taxpayer who made some occasional sales of virtual currency before commencing a more intensive trading activity runs the risk that all his previous transactions will be considered trade.

The HMRC has provided useful guidance to help taxpayers who sell items online to establish whether they may qualify as traders or are subject to capital gains taxation.[472] From this guidance, it follows that a person selling ten self-made items a week at a profit of at least GBP 35 each carries on a trade. The guidance places particular emphasis on whether items are purchased with the intention of resale.

If virtual trade gives rise to trading income, it is necessary to outline how to compute the taxable profit. Profits are defined as the surplus by which the receipts from trade or business exceed the expenditure.[473] Trading profits are usually computed on the earning basis, i.e. on sums earned in the period of account as opposed to sums received (the cash basis).[474] Accounts prepared

471 HMRC, *Trade: general: hobbies and artificial trades* (available at: www.hmrc.gov.uk/manuals/bimmanual/bim20090.htm) states that "taxpayer who wants tax relief for losses, which are not, in truth, trading losses may point to a profit in a particular year to support the trading assertion. This factor would normally carry little weight if that profit were an isolated event in an overall picture of continuing losses."

472 HMRC, *Selling items online, through classified advertisements and at car boot sales*, available at www.hmrc.gov.uk/guidance/selling/examples.htm.

473 *Russell v. Aberdeen Town and County Bank* (1888) 2 TC 321 at 327.

474 *British Master Guide*, *supra* n. 431, at 590.

for commercial purposes according to generally accepted accountancy practice[475] rarely show the taxable trading profits, although over the years the accounting and tax profits have become more aligned. Under Finance Act 2013, small trading businesses (with turnover lower then GBP 79,000) will be allowed to use the cash basis.

The right to deduct expenses in computing taxable income does not rest on any express statutory provision but rather on the absence of any express prohibition. It is interfered from the fact that it is the profit and not the receipts that are taxed.[476] The right to deduct is limited by a number of rules: (1) expenses must be incurred "wholly and exclusively" for the purpose of trade (principle of remoteness and duality); (2) they must be income and not capital;[477] and (3) a deduction must not be prohibited by a statute.[478] The word "wholly" refers to the quantum of the money expended, whereas the word "exclusively", to the motive accompanying it.[479] Expenditure for personal purposes is not deductible. The duality rule prevents the deduction of expenditure for mixed purposes. There have been numerous cases where this principle was strictly applied.

The leading case on that matter is the decision of the House of Lords in *Mallalieu v. Drummond* (1983), in which a lady barrister sought to deduct the cost of clothes bought to wear in court since such clothes were required by court etiquette.[480] The undisputed evidence was that the taxpayer's expenditure was motivated solely by thoughts of court etiquette. However, the House of Lords disallowed the deductibility as, in addition to the business purpose, there were the purposes of warmth and decency.

In *Prince v. Mapp* (1969), a guitarist in a pop group could not deduct the cost of an operation on his little finger because he played the guitar partly for business and partly for pleasure.[481] The dual-purpose cases show that if the taxpayer incurs the expenditure for two purposes, one business and the other personal, none of expenditure is deductible. However, an exception is made if it is possible to split a payment into a portion which is incurred for business purposes and a portion which is not.[482] Section 34(2) of the ITTOIA 2005 provides that if an expense is incurred for more than one purpose, a

475 Generally accepted accounting practice has no legal definition in the United Kingdom. It encompasses the principles set out in the accounting standards and other statements issued by the Accounting Standards Board (ASB) but goes beyond that to include the requirements of company law, industry-specific requirements, regulatory factors and pronouncements by HMRC (Lee, *supra* n. 439, at sec. 10.64).

476 Tiley, *UK Tax Guide, supra* n. 436, at sec. 14.99.

477 A payment is capital expenditure if it is made to bring into existence an asset for the enduring advantage of the trade (Lee, *supra* n. 439, at sec. 10.131.).

478 Id., at sec. 10.130.

479 Tiley, *UK Tax Guide, supra* n. 436, at sec. 14.100.

480 *Mallalieu v. Drummond* [1983] STC 665, [1983] 2 AC 861, HL.

481 *Prince v. Mapp* [1969] 46 TC 169.

482 Tiley, *UK Tax Guide, supra* n. 436, at sec. 10.137.

deduction can be made for any identifiable part which is incurred wholly and exclusively for the purposes of trade. This approach was followed in *Copeman v Flood* (1941) where a 17-year old daughter of the managing director of a company was also appointed as director. The tax authorities claimed that the entire salary expense was not wholly and exclusively incurred for business purposes.[483] In order to judge whether an item of expenditure is deductible in computing profits, it is necessary to look at the nature of the activity of the taxpayer in incurring that expenditure. Sums spent for earning profits will be deductible even if no profit is expected that year. Losses which are incidental to the carrying out of the business are deductible.[484]

The characterization of profits from virtual exchanges as trading income may result in onerous compliance obligations for taxpayers wishing to claim deductions. The dual-purpose cases show that courts tend to interpret deductions very narrowly. As many of the resources used in the production and maintenance of universal virtual currency (electricity and Internet) are also used for private purposes, it will be difficult to find a reasonable key to allocate part of them to trading activities. The costs of the necessary computer equipment are not deductible as trading expenses but may qualify for capital allowances.[485]

Traders who accept virtual currency as consideration for goods and services perform barter transactions. According to IAS 18 (which provides guidance on accounting for revenue from the sale of goods and provision of services), in barter transactions, the fair market value of goods and services received (if it is reliably measurable) should be recorded as revenue.[486] If this fair market value cannot be measured, the value of the goods and services given up (determined by reference to non-barter transactions) should be used (SIC 31).

5.3.3.3 Income from profession and vocation

The law does not contain the definitions of profession and vocation. According to the case law, a profession involves work requiring purely intellectual skill or manual labor dependent upon purely intellectual skill.[487] A journalist and an editor carry on a profession, but a newspaper reporter carries on a trade.[488] A profession differs from a trade as it involves an element of continuity. Casual profits arising from an isolated professional or vocational

483 *Copeman v Flood* [1940] 24 TC 53.
484 Id., at sec. 14.109.
485 HMRC, *Capital allowances on plant and machinery*, available at: www.hmrc.gov.uk/capital-allowances/plant.htm.
486 Under IAS 18, fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.
487 *IRC v. Maxse* (1919) 1 KB 647 at 656.
488 Id.

transaction are more likely to be taxed as miscellaneous income.[489] An isolated transaction may be an adventure in the nature of trade, but income from an isolated service cannot be taxed as professional income. Vocation is analogous to calling: the way in which a man passes his life.[490] This definition is somewhat unhelpful as it would embrace a wide variety of activities not all of which would be vocations. A dramatist and a jockey have been held to be carrying a vocation, but a gambler has not.[491] In the case where the taxpayer's sole means of livelihood was betting on horses, the court held that the profits were not taxable. There was no vocation; the taxpayer was simply addicted to betting.[492] Profits from professions and vocations are computed under the same rules as those applicable to trading income.

To establish whether an activity constitutes a profession or vocation, it is necessary to determine the degree of intellectual skills involved. The production of universal currency and its exchanges rely more on the available resources and business sense than on intellectual skills. The only case where a profession could be assumed is the creation of virtual objects (programming) that has a certain level of permanence. However, as these self-generated virtual items produce income only when they are sold, the whole activity is more likely to be treated as trade.

5.3.3.4 Miscellaneous income

Section 687 of ITTOIA 2005 includes a residual category to catch receipts not covered by any other provisions. However, the HMRC has made clear that although the miscellaneous income provisions are "sweep up" sections, this does not mean that these provisions tax all profits that fall outside the other charging provisions of the tax acts. Excluded are, for example, voluntary receipts (gifts), gambling winnings from wagers and bets, and capital accretions on isolated transactions in assets.[493]

The courts have named three requirements for profits to qualify as miscellaneous income: they must possess a quality of recurrence, be of income nature and not be gratuitous.[494] There is no rule that profits must recur each year to be taxable. Case law does not provide guidance on how frequently a particular activity must be pursued. A profit on the sale of a single item that is not a trading venture will be a capital accretion and not miscellaneous

489 Lee, *supra* n. 439, at sec. 10.46.
490 *Partridge v. Mallandaine* (1886) 18 QBD 276 at 278.
491 *Billam v. Griffith* (1941) 23 TC 757; *Wing v. O'Connell* (1927) IR 84.
492 *Graham v. Green* (HMIT) [1925) 2 KB 37.
493 *See* HMRC, *Miscellaneous income: scope of the provisions: overview*, available at: www.hmrc.gov.uk/manuals/bimmanual/BIM80101.htm.
494 Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 18.4.

income.[495] Profits from a series of sales may amount to a trade.[496] A large number of transactions (50 transactions a year over an eight year period) were found assessable under the miscellaneous income provisions.[497] However, the HMRC observes that such a case might also be viewed as giving rise to trading income.[498]

To be of income nature, a receipt must have a source and be distinct from that source. Hence, a gift, the casual finding of a thing or the receipt of gambling winnings are not subject to tax.[499] When profits are derived from the provision of services or exploitation of a capital asset, such profits are treated as having income quality. Those derived from the disposal of a capital asset are of capital nature.[500]

According to case law, the following activities may give rise to miscellaneous income: sale of cotton futures, letting racehorses for share of prize money, sale of rights in life story to newspaper and the receipt of commissions.[501]

Profits from occasional virtual exchanges which do not qualify as trade (for example, they are rarely carried out) may constitute miscellaneous income.[502] It is difficult to draw the line between trade and other income-generating activity as there are no precise guidelines on that matter. It is not clear what intensity, frequency and turnover an activity must have to become trade.

The mining of bitcoins cannot give rise to miscellaneous income. At the first sight, it may appear that bitcoin miners perform a service: they solve complicated cryptographic algorithms to verify bitcoin transactions and prevent double spending. Those calculations require computer hardware, large amount of electricity and a lot of processing. In exchange for their services, bitcoin miners get paid in bitcoins. However, not every miner is rewarded with new bitcoins. As more and more miners compete for a limited supply of blocks (ledgers of past transactions) to verify, not everyone receives reward for his mining efforts. Mining resembles a gamble and gambling winnings are not subject to income tax.

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495 *See* HMRC, *Miscellaneous income: scope of the provisions: isolated sales of assets*, available at: www.hmrc.gov.uk/manuals/bimmanual/BIM80135.htm.

496 *See* HMRC, *Miscellaneous income: scope of the provisions: series of sales of assets*, available at: www.hmrc.gov.uk/manuals/bimmanual/BIM80140.htm.

497 *Cooper v. Stubbs* [1925] 10 TC 29.

498 *See* HMRC, *Miscellaneous income: scope of the provisions: series of sales of assets*, available at: www.hmrc.gov.uk/manuals/bimmanual/BIM80140.htm.

499 Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 18.4. More recently, in *Anise v Hammond* [2003] STC (SCD) 258, gambling profits were held not to be taxable income because they had been received by chance.

500 Id., at sec. 13.3.

501 Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 18.6.

502 Id., at 13.6.

Miscellaneous income can be computed on either a cash or an accrual basis. Miscellaneous losses cannot be set off against income under another heading of the same year. They can be carried forward into next taxable periods.[503]

5.3.3.5 Capital gains

Capital gains tax is levied on a gain a taxpayer makes when he disposes of an asset. Under section 21(1) of the TCGA, all forms of property should be considered assets and, in particular, incorporeal property, any currency other than sterling[504] and any form of property created by the person disposing of it. The word "property" is not expressly defined in the legislation. It is generally believed that it should encompass anything which is capable of being owned.[505] The following were recognized as assets: a lease,[506] goodwill,[507] loans,[508] royalty rights,[509] the right to an action for damages[510] and rights under a service contract.[511] These examples show that "asset" is a very broad term; rights that do not seem to constitute property in its ordinary sense may nevertheless constitute assets for CGT purposes. A right may qualify even if it is incapable of valuation or assignment.[512] In *Marren v. Ingles* (1980), the right to receive an unquantifiable sum in the future was considered to be an asset.[513] Each asset is treated as a distinct item, so that tax only arises on the disposal of that asset and is computed in the light of the expenditure on that asset. An exception is made for shares and securities of a company of the same class and held by one person.[514]

There is no general definition of the word "disposal". It is believed that "disposal" encompasses the transfer of beneficial ownership (whether legal or equitable), or some parts of it, from one person to another.[515] Section 22 provides that there is a disposal of assets even where a capital sum (i.e. money or money's worth) is derived, notwithstanding the fact that no asset is acquired by the person paying the capital sum. As an example, it mentions capital sums received as consideration for use or exploitation of assets. A disposal under

503 Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 18.13.
504 Currency in sterling is not an asset. It is means by which the gain on other assets is measured.
505 P.G. Whiteman et al., *Whiteman on Capital Gains Tax,* sec. 6-04 (Sweet & Maxwell 2008).
506 *Bayley v. Rogers* (1980) TC 420.
507 *Kirby v. Thorn EMI* (1987) STC 621.
508 *W.T. Ramsay Ltd. v. IRC* (1981) 54 TC 101.
509 *Rank Xerox v. Lane* (1979) 53 TC 185.
510 *Zim Properties v. Procter* (1984) 58 TC 371.
511 *O'Brien v. Benson's Hoisery* (1979) 53 TC.
512 Whiteman, *supra* n. 505, at sec. 6-37 and 6-38.
513 *Marren v. Ingles* (1980) 54 TC 76.
514 Sec. 104(1) of the TCGA 1992.
515 Whiteman, *supra* n. 505, at sec. 7-04.

the contract is treated as made even though the contract itself is unenforceable.[516]

Virtual currency and items constitute assets (property) for CGT purposes as they are capable of being owned and transferred (in the case of universal currency, the owner is the person who legitimately acquired or created it, whereas in the case of community-related currency, it is the world operator. Virtual items are owned either by a user or the world operator). Any contractual restrictions imposed on community-related currency do not affect its characterization as property.[517] Even if the status of virtual currency as capital asset was doubtful, a capital sum is received upon its sale, creating a "disposition of assets".

For virtual currency whose value is subject to fluctuations, section 24(2) of the TCGA may also be relevant. According to this provision, if an asset becomes of negligible value, the taxpayer is deemed to have disposed of and immediately acquired the asset at its market value (nil), enabling him to claim loss relief. Should the value of the asset subsequently increase, the result will be that, on a later disposal, the base value will be nil so that all the consideration received will be treated as gain. According to the HRMC, negligible value should be less than 5% of the original value.[518]

The chargeable gain is calculated by deducting allowable expenditure, which is defined as expenditure incurred wholly and exclusively in the acquisition, disposal of the asset and any enhancements of its value. Deductions must be computed with regard to the disposal of a particular asset and not a group of assets.

5.3.4 Conclusions

UK income tax law is schedular in nature. It imposes income tax on several categories of receipts. One of them is trading income. Whether a person qualifies as trader must be established a case-by-case basis using the six criteria developed by the case law. A residual category catches non-gratuitous receipts of income nature not covered by any other provisions. Capital gains tax is imposed on disposals of assets. The terms "asset" and "disposal" have been extended by the legislation to cover transactions that would not fall within their commonsense meaning: tax liability arises if a capital sum is received, even if the person paying the sum does not acquire any asset.

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516 *Thompson v. Salah* (2000) STC 113.

517 *See* HMRC, *Schedule D: Meaning of property*, available at: www.hmrc.gov.uk/manuals/bimmanual/bim14070.htm "The property also does not have to be owned directly or absolutely. If an interest in the property allows the person concerned to derive income from it, he or she will be taxable."

518 Tiley, *UK Tax Guide, supra* n. 436, sec. 27.22.

The creation of virtual items does not have any income tax consequences as it involves neither source nor disposal. Virtual exchanges may result in trading income, miscellaneous income or capital gains. It follows from section 39 of the TCGA 1992 that an income tax characterization takes priority over one for CGT purposes.[519] Repetitive and frequent transactions may imply trade. Taxpayers occasionally selling virtual items and currencies are more likely to generate miscellaneous income. A profit on the sale of a single item (provided that the sale is not a trading venture based on its characteristics and size) constitutes a capital gain. However, as there are no numerical indicators, it is difficult to make an unambiguous distinction among various income sources and decide which category receipts from virtual trade will be allocated to. Any attempts to do so by the taxpayer will result in uncertainty because a particular transaction may be found, by the tax authorities and courts, to fall within a different category. An incorrect characterization of the income source results in the wrong computation of the tax liability, which may lead to the imposition of penalties and interest. Under UK law, it does not matter whether income is generated in a real or virtual form. Virtual receipts are subject tax based on to the rules on benefits in kind (their fair market value is recorded as revenue). Accumulated virtual currency is not taxable.[520]

5.4 GERMANY

5.4.1 Characteristics of individual income tax

The German concept of income has undergone many changes since its introduction. The Prussian Income Tax Act of 1981 followed the source theory (*Quellentheorie*), under which a receipt constitutes income if it is periodic and comes from a permanent source. Under the influence of Georg von Schanz, the Income Tax Act of 1920 contained an accrual income concept. The current system follows a mixed approach: tax is levied on inputs from several different categories that follow either the source or the accrual income theory.[521]

Income of individuals is taxable in Germany either because of a nexus between the country and the individual earning the income (residence taxation) or because of a nexus between the country and the activity which generates

519 HRMC, *Schedule D: Relationship to Capital Gains Tax*, available at: www.hmrc.gov.uk/MANUALS/bimmanual/BIM14055.htm.

520 The views outlined in the chapter are generally in line with the opinion of the HMRC on the tax treatment of Bitcoin. In Brief 09/2014, the HMRC stated that income from activities involving virtual currency is subject to the general rules of income tax and capital gains tax. The question whether there is a taxable profit or gain must be answered on a case-by-case basis. *See* HMRC, *Brief 09/14, supra* n. 44.

521 W. Schön, *Germany*, sec. 6.1.1 in *Comparative Income Taxation: A Structural Analysis* (H.J. Ault & B.J. Arnold eds., Kluwer Law International 2010).

the income (source taxation). Individuals whose domicile or habitual place of abode is in Germany are considered residents and are subject to tax on their worldwide income. According to section 8 of the General Tax Code (*Abgabenordnung*, AO), an individual's domicile is the place where he occupies a home in circumstances which indicate that he will retain and use it (only actual facts are relevant and not the intention of the taxpayer). An individual's habitual place of abode is the place where he is present in circumstances which indicate that his stay is not just temporary. Such a place is deemed to exist if an individual has been continuously present in Germany for a period of more than six months.[522]

Income tax liability of individuals is increased by a solidarity surcharge (*Solidaritätszuschlag*), which was introduced in 1995 to raise money for the financial reconstruction of the federal states in the eastern part of Germany following the German reunification.[523] Solidarity surcharge amounts to 5.5% of the payable income tax. Individuals carrying on a trade or business (excluding agricultural and professional sector) are also subject to business tax (*Gewerbesteuer*). Business tax is an important source of revenue for municipalities. Its rate varies from one municipality to another.[524] Foreign businesses are only subject to trade tax if they have a permanent establishment in Germany.

Unlike the US tax system, the German tax law does not contain an all-encompassing provision that would tax income from whatever source derived. The German income definition is of schedular nature. Tax is only levied on seven income categories (*sieben Einkünftsarten*) that are listed in section 2 (1) of the Individual Income Tax Act (*Einkommensteuergesetz*, EStG).[525] These are:

1) income from agriculture and forestry (section 13 of the EStG);
2) business income (section 15 of the EStG);[526]
3) income from independent personal services (section 18 of the EStG);
4) income from employment (section 19 of the EStG);
5) capital investment income (section 20 of the EStG);
6) rental income (section 21 of the EStG); and
7) miscellaneous income (sections 22, 23 of the EStG).

522 Sec. 9 of the AO.

523 D. Grashoff & F. Kleinmanns, *Aktuelles Steuerrecht 2012,* sec. 2.1 (229) (Verlag C.H. Beck 2012).

524 Id., at sec. 2.3 (331).

525 The term "*Einkünfte*" means net income (receipts minus expenses).

526 Business income is called in Germany "*Einkünfte aus Gewerbebetrieb*". For tax purposes, the term "*Gewerbebetrieb*" has a different meaning in the German Commercial Law Act (*Handelsgesetzbuch,* HGB). It is also not equivalent to the term "entrepreneur" (*Unternehmer*) or "enterprise" (*Unternehmen*) used in the German VAT Act (T. Stapperfend, *Hermann/Heuer/Raupach Einkommensteuergesetz. Kommentar,* sec. 15 (1003) (Otto Schmidt Verlag 2008)).

The last category is not an open-ended group encompassing sources that are not referred to in the previous provisions,[527] but includes a conclusive list of income items, which contains, among others, annuities and private short-term capital gains. If a taxpayer's income does not fall into any of the above mentioned categories, it is not subject to income tax. Among financial benefits that are not covered by the list are gifts, bequests and lottery winnings.[528] Prizes are subject to tax only when they arise in connection with one of the income categories (for example, an architect creates a prize-winning item within his professional activity). If they are granted for personal achievements or a successful participation in an event (for example, tournament for amateur sportsmen, quiz show), they are not taxable.[529] Activities performed by a taxpayer that fall within more than one income category should be considered separately. However, if they are economically connected with one another, they should not be artificially split but treated according to their dominant element.[530]

The income categories are not of equal rank; there is a priority order among them. Income items are first allocated to the main income categories (*Haupteinkünftsarten*): agriculture, business, self-employment and employment. Within this group, business income is subordinated to income from agriculture and independent personal services. If none of the four categories mentioned above is appropriate, income items may be assigned to the remaining three groups (*Nebeneinkünftsarten*).[531]

For the computation of taxable income, two different methods exist (*Dualismus der Einkünfteermittlung*). Section 2 (2) of the EStG divides the seven income categories into two types: profit categories (*Gewinneinkünfte*, categories 1 to 3) and surplus categories (*Überschusseinkünfte*, categories 4 to 7), and prescribes a different method for the determination of net income for either of them.[532] The main difference between these categories concerns capital gains and losses from the disposition of assets.

Taxable income for *Gewinneinkünfte* is the profit accounted for on an accrual basis by way of comparing the tax balance sheet results for the current year with those for the preceding year (net worth comparison method, *Betriebsvermögensvergleich*).[533] Economic events are recognized regardless of when cash transactions occur. The profit calculation is based on generally accepted ac-

527 G. Niemeier et al., *Einkommensteuer,* p. 51 (Erich Fleischer Verlag 2009).
528 K. Tipke & J. Lang, *Steuerrecht,* sec. 8 (124), 21st ed. (Otto Schmidt Verlag 2013); H. Endriss at al., *Steuerkompendium, Band 1: Ertragsteuern,* p. 40 (NWB, 2007).
529 Zugmaier, *Hermann/Heuer/Raupach*, *supra* n. 526, at sec. 2 (80).
530 Id., at sec. 2 (92); P. Kirchhof et al., *Einkommensteuergesetz. Kommentar,* sec. 2 (50) (Otto Schmidt Verlag 2011).
531 Niemeier, *supra* n. 527, at p. 50; E. Ratschow, *Blümich: Einkommensteuergesetz. Loseblatt-Kommentar,* sec. 2 (52) (C.H. Beck Verlag 2009).
532 Ratschow, *Blümich*, *supra* n. 531, at sec. 2 (41).
533 Sec. 4 (1) and (5) of the EStG.

counting standards (*Grundsätze ordnungsmäßiger Buchführung*), which are in turn based on commercial law (*Handelsgesetzbuch*, HGB). The accounting records have to meet several requirements and several principles have to be taken into account. In the first place, the accounts have to be complete and faithful.[534] Profits that are not yet certain are not taken into account (the prudence principle), whereas losses are recognized when they are expected.[535] An increase in the value of business assets is not included in profits (the realization principle).[536] In Germany, there is a strong connection between tax and commercial accounting (*Maßgeblichkeit*). An interpretation by the Federal Tax Court holds that whenever there is an accounting choice, the taxpayer must use, for tax purposes, the option that results in a higher taxable income.[537] However, currently, there is a growing pressure on the legislature to delink the relationship between financial and tax accounting.[538]

The cash method (*Einnahmen-/Überschussrechnung*) may be used for *Gewinneinkünfte* by taxpayers who are neither under a legal obligation to keep the accounts nor keep them voluntarily.[539] The obligation to maintain accounting records could arise from tax or commercial law provisions.[540] Under the General Tax Code, entrepreneurs are required to keep the accounts if their profit and turnover exceed certain thresholds (EUR 50,000 and EUR 500,000 respectively). Neither tax nor commercial law imposes a bookkeeping obligation on independent service providers.

Net income from *Überschusseinkünfte* is determined on a cash basis per calendar year by deducting income-related expenses from gross income. Gross income may take the form of cash or benefits in kind (*geldwerte Vorteile*). The value of the benefits in kind is determined as the price that the taxpayer would have to pay to purchase the same goods at the same place and at the same time.[541] Under the cash method, income and expenses are reported in the year that they are actually paid or received (*Zu- and Abflussprinzip*). *Überschusseinkünfte* follow the source theory as they capture revenue derived from certain sources

534 Sec. 239 of the HGB and sec. 146 of the AO.

535 Sec. 252 of the HGB.

536 Sec. 252 of the HGB.

537 BFH, 3 Feb. 1969, GrS 2/68, BStBl. II S. 251; BFH, 21 Oct. 1993, IV R 87/92, BFHE 172, 462, BStBl II 1994, 176.

538 Schön, *supra* n. 521, at sec. 10.1.

539 Sec. 4 (3) of the EStG.

540 Sec. 1 and 238 et seq. of the HGB and sec. 140 and 141 of the AO. According to the Commercial Code, people carrying on commercial business activity (*Handelsgewerbe*) are required to keep the accounts and prepare annual financial statements. Commercial business activities are any business activities, except those that do not require a commercial business operation. Whether such an operation is necessary depends on many quantitative and qualitative factors (range of business relations, use of external financing, number of employees, fixed assets, turnover, branches, size of business activity). *See* A. Baumach et al., *Handelsgesetzbuch,* sec. 1 (23) (C.H. Beck Verlag 2010).

541 Sec. 8 (2) of the EStG.

but not the sources themselves (sales of assets used to earn income are not taxable).[542]

Under both methods, expenses incurred in producing taxable income are generally deductible. The condition is that they must be directly related to gross income.[543] Restrictions apply, in particular with respect to expenses of personal character (for example, gifts and the use of company cars for travelling from home to work). The costs of living are not deductible. This also applies to personal expenses that are also likely to support an individual's career.[544] An exception is made for expenses that can be allocated either to business or private use based on an objective and verifiable method.[545]

Losses may be fully set off against income arising in the same tax year (subject to certain restrictions). In general, losses up to EUR 1 million may be carried back to the preceding year, whereas the rest may be carried forward.[546] It is important to note that losses cannot be offset if they are generated by a hobby (*Liebhaberei*) as profits from a hobby remain non-taxable. German law does not know a provision similar to section 183 of the IRC.[547] A hobby activity exists if an individual has no intention to make a profit.

The net results of all categories are aggregated.[548] The sum of net income is reduced by certain allowances (for example, for children, elderly taxpayers) as well as special and extraordinary hardship costs (*Sonderausgaben und aussergewöhnliche Belastungen*).[549] The general income tax rate is progressive and depends on the amount of income, whereby a tax-free threshold for the minimum standard of living (*Grundfreibetrag*) exists.[550] Income tax is assessed annually. The assessment period is the calendar year. However, taxpayers earning business income may choose a year which is different from the calendar year.

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542 Kirchhof, *supra* n. 530, at sec. 2 (28).

543 Endriss, *supra* n. 528, at p. 54.

544 Sec. 12 of the EStG.

545 R 12.1 of the Individual Income Tax Guidelines (*Einkommensteuerrichtlinien*). Administrative guidelines (*Richtlinien*) are non-statutory rules issued by the tax administration. Although they are only binding for lower-level tax administration, they are often used by taxpayers as guidance. A taxpayer who wishes to deviate from the guidelines must generally do so through court proceedings.

546 Sec. 10d of the EStG.

547 Sec. 183 of the IRC allows the deduction of hobby losses up to the amount of hobby profits.

548 From 1 January 2009, income from private capital investment (category five) is generally taxed separately by way of a final flat withholding tax.

549 Special expenses are those incurred in connection with an individual's private lifestyle (for example, education costs, life and health insurance contributions), which are acknowledged as deductible by tax law. By virtue of equity reasons, the legislator allows individuals to deduct unusual and inevitable expenses for personal purposes (for example, high expenses for medical care, funerals, damages caused by violence) if they exceed expenses borne by a comparable group of taxpayers with a comparable income. *See* sec. 10 and 33 of the EStG.

550 The tax-free threshold for a single person was EUR 8,130 in 2013.

Germany does not have a capital gains tax. Capital gains derived from the sale of business assets are treated as ordinary business income, whereas those from the selling of non-business assets generally remain tax free. There are however two exceptions. Gains derived from private transactions are taxable if their total amount exceeds EUR 600 during the tax year and they arise from the disposal of: immovable property within ten years of the date of acquisition or other assets within one year of the acquisition date.[551]

5.4.2 Taxation of income from virtual trade

5.4.2.1 Initial comments

Having established the legal framework for income taxation in Germany, it can be examined whether and to what extent receipts from trade in virtual currencies and items may be subject to tax.

A detailed description of activities that may be relevant for income tax purposes can be found in section 4.1 (*see* Table 1). In short, these are:

- the creation and possession of virtual currency (through mining or game achievements);
- exchanges of any goods or services for virtual currency;
- exchanges of virtual currency and items for traditional currency.

Any profits from those activities may be subject to tax if they fall within one of the following income categories: business income, income from independent personal services or miscellaneous income. This is examined in the following sections.

It is generally recognized that income can only be taxed in the hands of the person who has derived it (*Erzielen der Einkünfte*). Income is considered to be derived by a person who uses his labour or his assets to obtain it through market participation.[552] A question arises whether, within the meaning of German income tax law, virtual income in the form of community-related money can be deemed to be "derived" by the users. On the one hand, restrictions imposed on participants by the EULA could prevent users from "deriving" income.[553] Users agree that they do not own any part of the virtual world which may be modified according to the discretion of its operator. On the other hand, although the legal ownership of virtual items lies with the operator, users are economic owners of their virtual items. Economic ownership, which is decisive for tax purposes, implies a factual control over an

551 Sec. 23 of the EStG.
552 Tipke & Lang, *supra* n. 528, at sec. 8 (121-123).
553 *See* section 3.2.2. *Legal framework*.

object.[554] Legal relationships are not a component of the economic ownership definition.[555] An item can be economically owned by a taxpayer even if he has to share his right to dispose of this item with others.[556] For those reasons, virtual income in the form of community-related money can be deemed to be derived by virtual world users.

5.4.2.2 Business income

Section 15(2) of the EStG defines business activity as an independent repetitive activity that is undertaken with a profit motive and involves business relations with third parties. The activity may not be considered agriculture, forestry, asset management or independent personal services.[557] The distinction between these groups is important as only business income is subject to business tax. Business activity may take many different forms: trade, production, supply of services – there are no restrictions on its type.[558] It does not require any capital investment. It is sufficient if the taxpayer's own work is the only input.[559]

Business income must be earned through transactions with other market participants (*Beteiligung am allgemeinen Wirtschaftsverkehr*).[560] The activity must be offered on the market against consideration that does not have to be a fixed price but may be performance-related.[561] It is sufficient if goods/services are offered to selected groups and not to the general public.[562] The market participation requirement is not met in the case of gifts, lottery winnings, income derived from self-performed services and utilization of self-owned property.[563] As regards winnings, the Federal Tax Court (*Bundesfinanzhof*) distinguishes between games of chance (wagering, lottery, roulette) and those whose outcome depends on the skills of the player (Skat, Backgammon, and Poker).[564] The former do not result in taxable income due to the lack of a market exchange. A lottery fee is paid in return for the lottery participation and not for the drawn prize since the chance of winning depends on circumstances beyond the player's (and the organizer's) control. Consequently, a lottery win is given without any consideration. On the other hand, if a game

554 A. Pahlke & U. Koenig, *Abgabenordnung*, sec. 39 (15) (C.H. Beck 2009).
555 Kirchhof, *supra* n. 530, at sec. 11 (11).
556 E. Littmann et al., Das Einkommensteuerrecht: Kommentar, sec. 11 (114) (Schäffer-Poeschel 2010).
557 BFH, 3 July 1995, GrS 1/93, BStBl II 95, 617; Tipke & Lang, *supra* n. 528, at sec. 8 (414).
558 Niemeier, *supra* n. 527, at p. 630.
559 Stuhrmann, *Blümich: Einkommensteuergesetz. Loseblatt-Kommentar*, *supra* n. 531, at sec. 15 (15-16).
560 Tipke & Lang, *supra* n. 528, at sec. 8 (413).
561 BFH, 11 Nov. 1993, XI R 48/91.
562 Kirchhof, *supra* n. 530, at sec. 15 (30).
563 Tipke & Lang, *supra* n. 528, at sec. 8 (124); Kirchhof, *supra* n. 530, at sec. 2 (47).
564 BFH, 11 Nov. 1993, XI R 48/91.

result depends on the player's skills, the player can more or less influence it. He does not take a huge risk since players with better skills are likely to be more successful in the long run. There is a market exchange: the player pays his initial stake in return for other players promising him to give him their contributions in case he wins. The consideration he receives depends on the game outcome.[565]

All profits derived from exchange transactions are generated through market participation. Virtual goods are offered to all other Internet users potentially interested in buying them. It does not matter that (at least) one part of the transaction consists in virtual money or items.

In the case of currency obtained outside exchange transactions, the matters are more complicated. To acquire community-related money through game participation, users do not offer any goods or services to others; they just take part in a quest and are lucky enough to get a reward. The reward is received from the game provider who cannot be considered as a participant in the exchanges the in-world market. He is the creator of the online environment and does not directly interfere in in-world user-to-user transactions. By accepting the EULA and paying the subscription fee, the user is granted the right to play that does not include the right to win any virtual objects. Although better players tend to get more virtual rewards, an analogy to games whose outcome depends on the player's skills is not possible. The same reasoning applies to virtual objects created by the user. They are obtained without entering into exchange transactions. ltems that form part of virtual worlds are made thanks to the software provided by the world operator and their creation occurs without a direct involvement of another party. Thus, neither community-related currency nor virtual items are obtained in market transactions.

Although the mining of bitcoins may look like a service (solving cryptographic algorithms to verify bitcoin transactions in exchange for newly-created bitcoins), not every mining effort results in the creation of virtual currency. Miners compete for a limited number of blocks of transactions to verify. They cannot be sure that they will receive a reward. Thus, the mining process resembles a game of chance and is deemed to take place without market participation.

The profit intention (*Einkünfteerzielungsabsicht*) is a desire to earn a favourable financial return on an activity.[566] It does not have to be the main reason for engaging into a transaction.[567] It may initially not be present, later appear and subsequently disappear.[568] As an inner component, the profit intention

565 A. Schmidt-Liebig, *Einkommensteuerbarkeit und Einkunftsqualifikation von Spiel- und ähnlichen Gewinnen*, Steuer und Wirtschaft 2, p. 162 (1995).

566 Niemeier, *supra* n. 527, at p. 52.

567 BFH, 20 Jan. 2004, IV B 203/03, BStBl II 04, 355; Tipke & Lang, *supra* n. 528, at sec. 8 (414); Endriss, *supra* n. 528, at p. 69.

568 Stuhrmann, *Blümich*, *supra* n. 531, at sec. 15 (50).

has to be determined on the basis of external circumstances.[569] A mere declaration of the intention to make profits is not sufficient.[570] The actual profit realization is not necessary; it merely implies that an activity is performed with a profit motive.[571] If losses are generated for a longer period, the taxpayer must take measures to improve his economic performance.[572] It is also necessary to estimate whether there are sound economic reasons to expect profits in the future (*positive Ergebnisprognose*). A mere chance to realize them is not sufficient.[573] The prediction can be based on business plans, cash-flow statements or other accounting documents. No minimum amount of profits is required; however, the amount should be economically relevant (unfortunately, the case law does not state what is "economically relevant").[574] Activities that are not undertaken for the purpose of making profits are regarded as a non-taxable hobby. Thus, the painter van Gogh, who sold hardly any of his paintings during his lifetime, or the novelist Franz Kafka, who wanted to burn down his manuscripts, would not be considered as engaged in taxable activities. In sum, the following circumstances imply that an activity is not undertaken with a profit motive: business misconduct (no measures taken despite heavy losses), no sound profit prediction, part-time activity, the use of income generated from other activities to cover losses and hobby character of an activity.[575] Profit intention has to be determined on a case-by case basis taking into consideration the principles outlined above. If the play ceases, taxation may begin. However, there are no general monetary thresholds above which a profit intention would be assumed.

Both playing computer games and visiting online communities are generally regarded as a pastime. Gamers spend hours in front of the computer screen to prove others who has the best skills in reaching top levels, whereas unstructured worlds are visited by those seeking social interaction or distraction from the routine of everyday life. Many people enter virtual worlds in their free time and pursue other careers for their income-earning purposes. They are unable to predict how much virtual profit they will generate within a particular period of time. For many users who occasionally buy and sell virtual items, the trade is motivated by in-world considerations and not by monetary reasons. Even if they spend more money on their virtual world participation than they derive from it, they are not likely to quit or to switch to a different

569 S. Seeger, *Schmidt: Einkommensteuergesetz. Kommentar*, sec. 2 (22) (C.H. Beck 2012); Stuhrmann, *Blümich*, *supra* n. 531, at sec. 15 (45); Niemeier, *supra* n. 527, at p. 51.
570 BFH, 15 Nov. 1984, IV R 139/81, BStBl 1985 II, 205.
571 Endriss, *supra* n. 528, at p. 70.
572 Seeger, *Schmidt*, *supra* n. 569, at sec. 2 (22).
573 BFH, 2 Mar. 1994, VII R 59/92, BStBl II 96, 219.
574 BFH, 26 June 1985, IV R 149/83, BStBl II 85, 549.
575 N. Braun, *Objektivierung der Gewinnerzielungsabsicht bei der Liebhaberei*, 55 Betriebsberater 6, p. 283 (2000).

and more profitable world. Thus, in the majority of cases, the profit intention is likely to be denied.

Nevertheless, there are people, such as gold farmers, power levelers and professional bitcoin miners, who perform their activities exclusively for economic purposes. Sales of virtual objects are a normal income-earning activity for them. A strong indication of the profit intention is the number of sales exceeding the number of purchases. A person that routinely sells virtual currency for real money at a profit is likely to use virtual money for non-virtual reasons.

The burden of proof regarding the profit intention rests on the tax authorities. If they want to tax profits derived from virtual trade, they must come forward with evidence that the activities ceased to be a mere hobby and became an income-generating activity.[576] On the other hand, if a taxpayer wants to deduct losses from his virtual trade participation, he must prove that he is engaged in business activity.

Other requirements of business activity are independence and repetitive character. An activity is independent if the taxpayer acts in his own name and on his own account.[577] He must bear business risk and develop business initiative. Repetitive character (*Nachhaltigkeit*) requires an activity be performed regularly or at least with an intention to repeat it.[578] It is not sufficient that a taxpayer purchases inputs needed for the activity on a regular basis. He must have the intention to make the activity a permanent income source. The activity need not be performed continuously. It may be performed occasionally or temporary. However, the taxpayer must have the intention to repeat it when an appropriate opportunity appears.[579]

People who engage in virtual trade may freely decide about the time, place and character of their activity. The amount of money that they earn depends on their work performance. Those who engage in many trade transactions and treat the trade as an income source meet all the criteria of the business income definition (provided that their income falls outside the definition of income from independent personal services, which is examined in the next section).

There are two methods of net business income determination: cash method (*Einnahmen-Überschussrechnung*) and accrual method (*Betriebsvermögensvergleich*). Virtual trade, even if performed on a large scale, is highly unlikely to cause obligation of keeping the accounts and applying the accrual method (the relevant thresholds are turnover higher than EUR 500,000 and profit exceeding EUR 50,000). The cash method seems to be the most appropriate method to

576 Weber-Grellert, *Schmidt*, *supra* n. 569, at sec. 15 (35).
577 Niemeier, *supra* n. 527, at p. 631; Tipke & Lang, *supra* n. 528, at sec. 8 (413).
578 Niemeier, *supra* n. 527, at p. 632; Tipke & Lang, *supra* n. 528, at sec. 8 (413); Weber-Grellert, *Schmidt*, *supra* n. 569, at sec. 15 (17).
579 Stapperfend, *Hermann/Heuer/Raupach*, *supra* n. 526, at sec. 15 (1040).

determine the net amount of income from virtual transactions. Under this method, revenues are recorded during the period they are received and expenses in the period, in which they are actually paid (*Zu- and Abflussprinzip*).

Business-related expenses can be deducted from the gross income. In the case of virtual worlds, it may difficult to draw a line between expenses caused by business and private motives. A division of expenses must be made on a case-by-case basis by weighing all the individual circumstances. If a clear allocation to a private or business sphere is not possible, no deduction is allowed.[580]

5.4.2.3 Income from independent personal services

Section 18 (1) of the EStG enumerates three different groups that may generate income from independent personal services. The first group is described by activity. It contains scientific, artistic, literary, teaching and educational activities that are provided in an independent capacity. The second group is comprised of professions and includes, among others, physicians, attorneys, engineers, public accountants, tax advisers, journalists and interpreters. The third group encompasses other similar professions. Case law provides guidance on what degree of similarity is required to fall within the scope of that group. By virtue of this case law, a similar profession must have the typical features of one profession from the second category and a comparable level of education (which does not need to be obtained in the same way; it is possible to replace university degree with self-study or distance learning programmes). Similarity to one of the activities in the first group is not sufficient.[581] The following were recognized as similar professions: construction engineer (but not construction manager), software engineer and film maker. The case law on that matter is very intransparent. It is always necessary to consider the facts of an individual case to recognize a profession as similar. The fact that a profession is regarded as freelance by other laws is irrelevant. Professional independent service providers are only those who are regarded as such for tax law purposes.[582]

People who sell self-created virtual items for real or virtual money could be regarded as independent service providers if: (1) their activities could be regarded as artistic ones within the meaning of section 18 of the EStG; or (2) they can be seen as a "professions similar to those listed in section 18(1) of the EStG.

There is no precise legal definition of an artist. According to the Federal Tax Court, an artistic activity is an independent creative activity with a high

580 BFH, 21 Sep. 2009, GrS 1/06, BStBl II 10, 672.
581 Littmann, supra n. 556, sec. 18 (128).
582 R. Jahn, *Steuerliche Abgrenzung gewerblicher Tätigkeit von freiberuflicher und sonstiger Tätigkeit, Der Betrieb*, p. 1947 (31 Aug. 2012).

level of originality and individuality.[583] No academic education is required to be an artist; the natural talent is decisive.[584] The artist must be able to influence the whole process of art creation.[585] Case law and legal doctrine distinguish between commercial and pure art.[586] Pure art has no other purpose than to be itself and has only aesthetic value that aims to impact people's senses.[587] Artworks created for commercial purposes cannot be created in large numbers and must have utility value which is lower than their artistic value.[588] In the case of commercial art, a careful examination is required to distinguish art from other business activity. The latter is the case if industrial elements outweigh the creative ones[589] or if an item is mainly created for practical use (for example, photographs used for advertising purposes).[590] The Tax Court of Hamburg (*Finanzgericht Hamburg*) ruled that a video editor working in advertising cannot be considered as an artist since he processes film material according to prescribed standards which leave no room for his own creative inventions.[591] If an artist earns a living from the sale of his creations (writer owning a publishing house), the whole activity is considered as a business.[592]

Community-related virtual objects could be regarded as commercial art since they are developed for use in virtual worlds. However, it is rather unlikely that somebody would create only one copy of a virtual item that may be successfully sold to other participants: virtual items are usually generated in large quantities Moreover, virtual objects are mainly purchased because of their in-game value and functionality and not because of their aesthetic features. Thus, neither virtual objects nor high-level avatars can be regarded as commercial artworks.

Income from sales of self-generated virtual objects could be qualified as income from independent personal services is if its creators could be seen as having professions similar to those listed in section 18(1) of the EStG. The occupation that they are most likely to resemble is the engineer. According to the case law, the job of an engineer requires the planning, supervising and

583 BFH, 11 July 1991, IV R 33/90, BStBl II 92, 353; BFH, 11 July 1991, IV R 102/90, BStBl II 92, 413.
584 Hutter, *Blümich*, *supra* n. 531, at sec. 18 (92); Brandt, *Hermann/Heuer/Raupach*, *supra* n. 526, at sec. 18 (102).
585 Littmann, *supra* n. 556, at sec. 18 (91).
586 BFH, 29 July 1981, I R 183/79, BStBl II 82, 22; BFH, 14 Aug. 1980, IV R 9/77, BStBl II 81, 21; Hutter, *Blümich*, *supra* n. 531, at sec. 18 (93); Brandt, *Hermann/Heuer/Raupach*, *supra* n. 526, at sec. 18 (103); Littmann, *supra* n. 556, at sec. 18 (91).
587 Hutter, *Blümich*, *supra* n. 531, at sec. 18 (94-95).
588 Id., at sec. 18 (95).
589 Kirchhof, *supra* n. 530, at sec. 18 (75).
590 Littmann, *supra* n. 556, at sec. 18 (91b).
591 FG Hamburg, 16 Dec. 2004, VI 263/02, 10 DStRE 2005, p. 553.
592 Littmann, *supra* n. 556, at sec. 18 (91).

constructing of technical objects based on technical and scientific knowledge.[593] To date, there is no case law on gold farmers or bitcoin miners, but the Federal Tax Court held a few years ago that software developers might be regarded as similar professions to engineers if their services were based on appropriate education or practical training and had a comparable level of sophistication.[594] However, a software developer cannot be automatically considered to be similar to an engineer; evidence of comparable theoretical know-how is required.[595] A developer of trivial software is excluded from the scope of section 18 of the EStG.[596]

Although not everyone can successfully produce community-related virtual objects, the relevant skills are mainly acquired through practice. The more one practices, the better one becomes. Neither special education nor organized trainings for professional development are required. The creation of bitcoins is a matter of appropriate software and other technical resources. In conclusion, income from virtual trade cannot be regarded as income independent personal services as defined in section 18(1) of the EStG.

5.4.2.4 Miscellaneous income

Miscellaneous income comprises gains derived from disposal of assets if the time period between their purchase and sale does not exceed one year and the total profits from such transactions exceed EUR 600.[597] Disposals may be both barter and sales transactions.[598] The term "asset" (*Wirtschaftsgut*) is very broad. It includes all benefits (both tangible and intangible) that are capable of valuation and that can be used for a longer period.[599] Objects of everyday life that are not likely to increase in value are excluded from the scope of this provision.[600]

Virtual currencies are capable of valuation on the basis of the daily exchange rates. The value of other virtual objects (for example, a virtual sword) is more difficult to establish as it requires comparisons with the prices of similar objects. As almost every virtual object has value which is more or less difficult to measure,[601] those objects can be regarded as assets for the purposes of section 23 of the EStG. They cannot fall within the excluded category

593 BFH, 7 Dec. 1989, IV R 115/87.
594 BFH, 4 May 2004, XI R 9/03, BStBl II 2004, 989; BFH, 18 Apr. 2007, XI R 29/06, BStBl II 2007, 781.
595 BFH, 8 Nov. 2002, IV B 120/01.
596 BFH, 4 May 2004, XI R 9/03, BStBl II 2004, 989.
597 Sec. 22 No. 2 and 23(1) No. 2 of the EStG.
598 Weber-Grellert, *Schmidt*, *supra* n. 569, at sec. 23, (50) and (71).
599 Glenk, *Blümich*, *supra* n. 531, at sec. 23, (62-63); H 4.2. (1) of the Individual Income Tax Guidelines.
600 Sec. 23(1) No. 2 of the EStG.
601 For the concept of value, *see* section 4.2.5.1. *Value*.

of objects of everyday life given their significant volatility and price fluctuations. An exclusion is not possible if an object is likely to increase in value.

The gain is determined as the difference between the purchase and sales price of the asset. In the case of self-generated virtual currency, the purchase price may include the software, hardware and Internet costs as expenses necessary to obtain the item.[602] If a person has virtual currency from different sources (i.e. currency both purchased at different exchange rates and self-generated), he may use the first-in first-out (FIFO) method, under which the oldest items are recorded as sold first although they may not necessarily be actually sold first.[603]

Thus, section 23 of the EStG applies to income from virtual trade if transactions are performed in a private capacity (as opposed to those forming part of business activities that give rise to business income). It covers situations where a person sells virtual currency within a year from its purchase to benefit from its increase in value and the total profit from disposal of private assets has exceeded the threshold of EUR 600 in a calendar year.

5.4.3 Conclusion

German income tax law is schedular in nature. It imposes income tax on seven categories of receipts. Unlike in the United States, in Germany, there is no all-encompassing provision that would tax income from whatever source derived. A common characteristic of all categories is that income must be derived through market participation. This requirement is not met in the case of currency generated by a person (for example, bitcoin mining) or obtained from the virtual world operator. Consequently, those activities do not have any income tax consequences. Income from virtual trade may fall within either business or miscellaneous income category. The latter is subordinate to the former. Business activity requires an independent repetitive activity that is undertaken with a profit motive. If any of these elements is missing, the sale of virtual currency and items can be covered by the miscellaneous income provision provided that the time period between their purchase and sale does not exceed one year and the total gain from disposals of private assets has exceeded EUR 600 in a calendar year. Under German law, it does not matter whether income is generated in a real or virtual form. Virtual receipts are subject tax based on the rules on benefits in kind.[604]

602 Eckert, *supra* n. 30, at sec. IV.1.

603 Weber-Grellert, *Schmidt*, *supra* n. 569, at sec. 23, (22).

604 The market value (*gemeiner Wert*) is to be used as valuation standard. For definition, *see* sec. 9 of the Valuation Act.

5.5 THE NETHERLANDS

5.5.1 Characteristics of individual income tax

Dutch individual income tax (*inkomstenbelasting*) is levied on the basis of the Individual Income Tax Act of 2001 (*Wet inkomstenbelasting*, IB). It was radically reformed in 2001; the reform brought about a schedular system with different rates for each income category and the abolition of the net wealth tax. Until 2001, all income was added together and the tax was levied on the total using one rate structure.[605]

Income tax is levied on the worldwide income of individuals resident in the Netherlands. There is no clear definition of residence in the Dutch tax law. Under section 4 of the General Tax Act of 1959 (*Algemene wet inzake rijksbelastingen*, AWR), residence is to be determined "according to the circumstances", such as the availability of a permanent home, the place where the spouse and under-aged children live and the place of personal and economic relations (for example, the place of employment).[606] In general, an individual is deemed to reside in a country if he is physically present there.

Under the schedular tax system effective as from 1 January 2001, taxable income is divided into three categories known as "boxes". A different method of income calculation and a different tax rate apply to each box. Income that does not fall under any of the boxes is not taxable. Among financial benefits that are not covered by the list are gifts, bequests and lottery winnings. The three categories (boxes) are:

- Box 1: income from labour and owner-occupied dwelling (*belastbaar inkomen uit werk en woning*), which includes income from the following sources: present and past employment, business activities, other activities, periodical payments and owner-occupied dwellings;
- Box 2: capital gains and other income from a substantial shareholding in a company (*belastbaar inkomen uit aanmerkelijk belang*);
- Box 3: income from savings and investments / net wealth income (*belastbaar inkomen uit sparen en beleggen*).

The net results of the various income sources of Box 1 are aggregated and then personal deductions (*persoonsgbonden aftrek*)[607] and progressive rates are applied.

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605 P. Siekman & N. Luijsterburg, *Personal Income Taxation in the Netherlands*, 60 Bull. Intl. Taxn. 8, p. 316 (2006).

606 R. Offermanns, *The Netherlands,* sec. 1.1 in: *Global Individual Tax Handbook* (IBFD 2012).

607 *Persoonsgebonden aftrek* (sec. 6.1 of the IB) consist of expenses that reduce a person's ability to pay (for example, educational expenses, medical expenses). The personal deduction is first subtracted from income from Box 1. Any reminder can be deducted from the income from Box 3. If there is still a portion left, it can be deducted from income from Box 2.

Income from Box 2 is taxed at the flat rate of 25%. A substantial shareholding exists if the taxpayer owns alone or together with his spouse, directly or indirectly, at least 5% of the issued share capital in a company with a capital divided into shares.

Income from Box 3 includes all types of income from capital other than income derived from a dwelling, dividends and capital gains from substantial shareholding (which are taxed in Box 1 and 2). The worldwide value of a taxpayer's assets (minus debts) is deemed to produce a 4% net yield. This net yield is taxed at a flat rate of 30%, resulting in a tax of 1.2% on the yearly average value of the net assets. The assets and debts are valued at the market value that they have on 1 January. A personal tax exemption applies to income from Box 3. It depends on the age of the person and on the fact whether he has underage children in his custody. The exempt standard amount for 2013 was EUR 21,139.[608]

There is an order of priority where the sources of income overlap: an item of income is considered to belong to the category of income first mentioned in the Income Tax Act 2001. The order of priority applies not only among the boxes but also within a particular box.[609] Thus, if income qualifies both as income from business (Box 1) and from a substantial shareholding (Box 2), it is deemed business income. If income qualifies as both income from business and income from employment, it is deemed business income. Furthermore, net assets (whether or not exempt) which generate taxable income in Box 1 or 2 are not included when determining the deemed yield for the purposes of Box 3.[610]

Income from all boxes is treated separately and not aggregated; a negative result of one box cannot be set off against a positive result of another. Only income from Box 1 and 2 may be negative, i.e. it may result in a loss. The income tax due is calculated on the sum of income from all three boxes (*verzamelinkomen*).[611] A tax credit is granted against the total amount of tax due. It is comprised of a general rebate (*algemene heffingskorting*) and supplementary ones (for example, for single parents, the handicapped and the elderly).[612]

Capital gains are not taxed in the hands of private individuals with the exception of capital gains from a substantial shareholding in a company (Box 2). Gains derived in the course of business are taxed as a part of ordinary business income.[613] Before the Income Tax Act 2001 came into force, the

608 Sec. 5.5. of the IB.
609 Sec. 2.14 of the IB.
610 Sec. 2.14 of the IB.
611 Sec. 2.18 of the IB.
612 R.E.C.M. Niessen et al., *De Wet inkomstenbelasting 2001 met hoofdzaken loonbelasting*, sec. 3.0.3 (Sdu 2012); L.G.M. Stevens, *Elementair belastingrecht voor economen en bedrijfsjuristen – Theorieboek,* sec. 4.4.a, 28th ed., (Kluwer 2012).
613 A.J. van Soest et al., *Belastingen : inkomstenbelasting, vennootschapsbelasting, besluit voorkoming dubbele belasting 2001,* p. 54, 23rd ed. (Kluwer 2007).

absence of capital gains taxation and the relatively high tax rates applicable to ordinary income constituted a strong incentive for taxpayers to try to convert ordinary income into a tax–fee capital gain or into a substantial interest gain (that was taxed at 20%). The new statute eliminated such avoidance tactics by the introduction of deemed taxation of capital income and by subjecting both current income and capital gains to the same 25% rate in substantial interest cases.[614]

Taxable income is computed on a cash basis (*kasstelsel*), except for business income and income other activities that is usually determined on an accrual basis (*vorderingenstelsel*). Under the former, revenue and expenses are recognized when they are received or paid, whereas under the latter economic events are recognized irrespective of when the cash transaction occurs.[615] Income is received when it has been put at the disposal of the taxpayer or when it can be claimed and collected without any further difficulty. Income in kind is taken into account at the market value. If the benefit cannot be exchanged for cash or it is unusual to do so, the value is estimated or based on the amount saved by the taxpayer (for example, in the case of free living).[616]

The taxable period is the calendar year. For an entrepreneur, a deviating book year may be applied.[617] The latter applies as long as the taxpayer keeps accounts on a regular basis and the nature of business justifies a deviating financial year.

5.5.2 Taxation of income from virtual trade

5.5.2.1 Initial comments

Before going into detail of the Dutch income taxation, it is useful to take a look at activities that may be relevant for income tax purposes. These are:
- the creation and possession of virtual currency;
- exchanges of goods and services for virtual currency; and
- exchanges of virtual currency and items for traditional currency.

A detailed description of these activities can be found in section 4.1 (*see* Table 1).

The Dutch tax law does not contain a definition of the term "income". The notion of income was influenced by several income theories, the most im-

614 K. van Raad, *The Netherlands*, sec. 5.1 in: H.J. Ault & B.J. Arnold, *Comparative Taxation: A Structural Analysis* (Kluwer Law International 2010).
615 Niessen, *supra* n. 612, at sec. 2.0.7; Stevens, *supra* n. 612, at sec. 4.3.e.
616 Sec. 144 of the IB.
617 Sec. 3.66 of the IB.

portant of which was the source theory (*Bronnentheorie*).[618] Under this concept, a benefit may be regarded as income if it comes from a permanent source (*bron*).[619] The disposition of the source itself is not taxable.[620] A "source of income" exists in situations where the taxpayer engages in an economic activity with the intention to derive a benefit therefrom and where such benefit can be reasonably expected to materialize. Thus, the following three requirements must be met:

- participation in economic life (*deelname aan het economische verkeer*);
- intention to obtain income (*voordeel beogen*) (subjective criterion);
- a reasonable income expectation (*voordeel verwachten*) (objective criterion).[621]

The first criterion (participation in economic life) implies that an individual has to offer goods or services on the market for consideration. He has to make it visible to others that he is willing to exchange them.[622] There must be a reciprocal relationship between the parties engaged in the transaction.[623] Illegal activities are also a form of participation in the economic life. Under the principle of fiscal neutrality, it is irrelevant for income tax purposes whether income is generated in a lawful or unlawful manner.[624] According to some decisions of the Dutch Supreme Court (*Hoge Raad*), the first criterion is decisive for establishing whether a source of income exists as neither subjective intention nor expectations influence the ability to pay. A benefit obtained from participation in economic life should be subject to tax, irrespectively of whether it was intended or not.[625] However, the second and third criterion is only relevant in cases where no profit has been generated yet, transactions may have speculative nature or they may be performed in a private capacity. The function of the profit-related criteria is to prevent deductions of expenses in situations that are not likely to produce any income.[626]

All profits derived from virtual exchanges are generated through market participation. Both real and virtual goods are offered to all other Internet users potentially interested in purchasing them. It does not matter that at least one part of the transaction consists of virtual money or items. In the case of self-

618 Van Raad, *supra* n. 614, at sec. 5.1.

619 The *Bronnentheorie* is reflected in the structure of Box 1, which names five sources of income.

620 Kavelaars et al., *Inkomstenbelasting : inclusief hoofdzaken loonbelasting en premieheffing*, sec. 0.12b, 8th ed. (Kluwer 2012); Niessen, *supra* n. 611, at sec. 2.0.7.

621 Niessen, *supra* n. 612, at sec. 2.0.7; Stevens, *supra* n. 612, at sec. 4.3.b; HR, 23 Oct. 1923, B. 3307; HR, 25 Jan. 1933, B. 5365; HR, 26 Nov. 1930, B. 4857.

622 Kavelaars, *supra* n. 620, at sec. 0.12b.

623 J.E.A.M. van Dijk, *Vermogensbeheer*, WFR 1976/5258.

624 HR, 20 June 1951, B. 9055; HR, 24 June 1992, 27327, BNB 1993/18; HR, 24 June 1992, 28156, BNB 1993/19.

625 HR, 3 Oct. 1990, BNB 1990/329; HR, 4 Apr. 1993, 28 847, BNB 1993/203.

626 HR, 14 Apr. 1993, 28847, BNB 1993/203; R.E.C.M. Niessen, *Algemene en bijzondere bronkenmerken*, Weekblad voor Fiscaal Recht 3, p. 4 (1997).

generated currency (for example, through mining or game achievements), no income can be assumed as there is no reciprocal relationship and therefore no market participation.[627] Those objects can be considered as investment or part of the gaming experience.

The second and third criterion is related to each other. Although subjective in nature, profit intention must be deduced from objective facts and not from statements by the taxpayer.[628] The profit expectation is reasonable when it is supported by factual circumstances and the profit occurrence is viable form the point of view of a rational person.[629] The judicial interpretation of this requirement is very broad. For example, the Supreme Court ruled that the collector of mammoth bones who created a complete mammoth skeleton and sold it to a museum may be considered as having a reasonable profit expectation. Income may arise if the taxpayer does not expect any profits, but the objective facts imply that such profits can be realized.[630]

Profit expectations and motives are of vital relevance in cases concerning activities mainly regarded as hobbies. In general, incidental benefits from a hobby or amateur sport are not taxable and the related expenses are not deductible.[631] A comparison of costs and benefits is frequently used to distinguish commercial activities from non-taxable pastimes. A hobby is deemed to exist if the expenses are likely to exceed the revenue in the long run.[632]

Thus, to determine whether virtual trade is an income-generating activity or a non-taxable hobby, it is necessary to consider the amount of revenue and losses (together with the prospect of their recovery), time devoted to the activity and the number of transactions engaged into. In the case of a seller whose costs continuously exceed the revenue obtained, it is clear that no reasonable profit expectation can be assumed.[633] The same applies if profits are realized occasionally, due to a lucky occurrence rather than the efforts of the participant.

No profit expectations can be assumed in the case of speculative dealings where the outcome of the transaction depends exclusively on circumstances

627 An explanation why under German law there is no market participation when virtual currency is generated is provided in section 5.4.2.2. *Business income*. The same reasoning applies in the case of the Netherlands.

628 HR, 22 Feb. 1978, BNB 1978/194.

629 Kavelaars, *supra* n. 620, at sec. 3.4.2a; Stevens, *supra* n. 612, at sec. 4.3.c.

630 HR, 27 Feb. 2009, V-N 2009/18.27.

631 Hof Arnhem, 27 June 1983, no. 645/1982, BNB 1985/9.

632 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting*, sec. 3.4.3.B.b5.I (Deventer Gouda Quint 2011). *See also* Hof 's-Gravenhage, 21 Nov. 1996, no. 95/1035, FED 1997/117. The case concerned an accountant who also played in an amateur music band. As amounts earned from incidental performances did not exceed the costs, the court concluded that the activity was outside the scope of income tax law.

633 However, the user must have an opportunity to provide evidence of objective facts that imply that profits may be realized.

beyond the taxpayer's control.[634] This does not apply if speculative transactions are carried out as a part of business activities of an entrepreneur.[635] The Supreme Court applied this reasoning in the case concerning pyramid schemes.[636] It ruled that participants of such schemes could not have had any reasonable profit expectations due to the speculative character of their dealings. This did not apply to the organizers who were held to derive business income. Virtual trade cannot be regarded as speculative activity. Although it is true that some transactions are very risky (in the case of illegal sales and exchanges, the player may lose his entire game account, whereas in the case of Bitcoin, the bitcoin value may drop significantly), the risk relates to events that take place after the transaction occurs. Thus, it cannot be considered as equivalent to the risk embodied in games of chance, such as roulette.

The next sections focus on income from Box 1 and 3 as these categories are most likely to cover income from virtual trade.

5.5.2.2 Business income

Section 3.2 of the IB stipulates that "taxable business profits are the total amount of profits which the taxpayer as an entrepreneur derives from one or more enterprises less the entrepreneur deduction". The IB defines the term "entrepreneur" (*ondernemer*) as the person for whose account a business is carried on and who is directly liable for the obligations entered into with respect to the business.[637] The IB does not provide a definition of the term "business" (*onderneming*), but the jurisprudence of the Supreme Court indicates that a business is an organization of capital and labour with certain degree of permanence, which participates in the market with the intention of making a profit.[638] Points of particular interest are: the way the activities are organized, their extent, the period in which the activities are performed, the amount of the profits, and the level of investment made by an individual.

A series of unrelated transactions cannot be classified as durable even if all of them generate profits.[639] The Supreme Court decided that a freelance journalist working for various principals cannot be considered as maintaining a durable organization of labour and capital.[640] The required degree of permanence does not mean that transactions have to be performed on a continuous basis. For example, permanence is assumed if transactions are

634 HR, 18 Jan. 1967, BNB 1967/71.
635 Stevens, *supra* n. 612, at sec. 4.3.c.
636 HR, 1 Feb. 2002, no. 35848, 36238 and 36668, BNB 2002/127-129. A pyramid scheme is a business model that involves promising participants payments for enrolling other people into the scheme.
637 Sec. 3.4 of the IB.
638 HR, 11 Jan. 1989, BNB 1989/63.
639 H. Mobach, *Cursus belastingrecht, Inkomstenbelasting*, *supra* n.632, at sec. 3.2.2.B.b.
640 HR, 6 Sep. 1995, no. 30237, BNB 1995/298.

repeated seven times over a three-and-a-half-year period.[641] There are no precise statutory limits on how much time must be spend on business activity per week; however, according to Niessen (2012), it can be deduced from the case law that at least ten hours a week and 2/3 of the minimum salary should be generated from business activities.[642] The case law of the Supreme Court on the permanence of business activities is not always consistent. In a case involving a candidate notary who took care of a notary office for a period of one year after the death of a notary, the Supreme Court ruled that no business activity was carried out because of the short period of the activities (despite the fact that the notary practice was carried out for the account and risk of the candidate notary).[643]

An individual who carries on an independent profession also qualifies as a person for whose account a business is carried on.[644] The rules for taxation of professional income are the same as for taxation of business income. A definition of the term "profession" is not included in Dutch statutory tax law. According to the case law, one of the main characteristics of a profession is that considerable time is spent carrying out the activities; the use of one's skills, personal qualities and labour are decisive while capital input is not required.[645]

The most important requirement for entrepreneurship that distinguishes it from employment is independence. This criterion is met if an individual carries out activities in his own name and assumes any responsibility and risk.[646] The main difference between wealth management (Box 3) and business is that in the case of the latter, the taxpayer must perform work to make his property profitable. There must be a causal connection between the profit and this work.[647]

Virtual exchanges may give rise to business income if the trader maintains a durable organization of labour and capital. The Dutch tax law sets high requirements to assume the presence of an enterprise since it offers various incentives for entrepreneurs.[648] Only those for whom trade in virtual items have become a major source of income could fall under the scope of the entrepreneurship rules. Their entrepreneur status must be proved by the

641 Hof Arnhem, 29 Mar. 2004, NTFR 2004/649.
642 Niessen, *supra* n. 612, at sec. 5.2.
643 HR, 5 Dec. 1990, BNB 1991/38.
644 Sec. 3.5 of the IB.
645 HR, 20 Nov. 1968, BNB 1969/13.
646 Niessen, *supra* n. 612, at sec. 5.2.
647 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting, supra* n. 632, at sec. 3.2.2.B.d.d1.
648 These are: self-employed allowance (*zelfstandigenaftrek*), research and development deduction (*aftrek voor speur- en ontwikkelingswerk*), and cooperation deduction (*meewerkaftrek)*. Under section 3.6 of the IB, some of those deductions are not allowed if entrepreneurs do not work for a sufficient number of hours (*urencriterium*).

amount of investment they make in virtual worlds (both in terms of time and money), the risk borne and the revenue obtained.

Business profits have to be calculated in accordance with the principles of sound business practice (*goed koopmansgebruik*), including a consistent policy, independent of its possible fiscal consequences. The taxpayer can use any calculation method that is in accordance with the business practice, unless it contravenes a tax regulation.[649] In calculating the annual profit, the principle of prudence has to be taken into account. This principle implies that profits which have not been realized yet should be excluded, whereas losses may be included at the moment they are expected but not realized.[650] In the Netherlands, the rules on tax and commercial accounting diverge substantially to reflect different aims of these two sets of provisions. Commercial accounting rules are to provide information necessary to judge the financial policy and operations of a business undertaking, while tax accounting rules aim to determine the basis for tax payable to the government.[651]

The total profit is usually calculated according to the wealth comparison method (*vermogensvergelijking*), under which the balance sheet value at the end of a taxable period must be reduced by its value at the beginning of the period and adjusted for any contributions (*stortingen*) and withdrawals (*onttrekkingen*).[652] The cash method is only allowed for small businesses that cannot be reasonably expected to have a bookkeeping system[653] and for freelancers with activities on a limited scale.[654] It is more commonly applied by taxpayers having income from other activities, which is calculated in the same way as business profit.[655]

All expenses incurred in the course of business are deductible, irrespective of whether they were necessary in the view of the tax authorities. In other words, the tax authorities may not interfere in business policy: they are not allowed to make a judgment as to whether the expenses were reasonable.[656] Expenses incurred in respect of the acquisition of the income source itself are

649 HR, 8 May 1957, BNB 1957/208.
650 R. Offermanns, *The Entrepreneurship Concept in a European Comparative Law Perspective* p. 41 (Kluwer Law International 2002).
651 Van Raad, *supra* n. 614, at sec. 9.1.
652 Kavelaars, *supra* n. 620, at sec. 3.2.8c; Stevens, *supra* n. 612, at sec. 6.4d.
653 HR, 24 Feb. 1960, no. 14197, BNB 1960/84.
654 HR, 7 Dec. 1966, no. 15657, BNB 1967/37.
655 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting, supra* n. 632, at sec. 3.2.17.A.a.
656 Stevens, *supra* n. 612, at sec. 6.4a.

not deductible.[657] Other limitations on expenses deductibility are contained in sections 3.14-3.17 of the IB.[658]

5.5.2.3 Income from other activities

Under section 3.90 of the IB, income derived from other activities (*belastbaar resultaat uit overige werkzaamheden*) is subject to tax. The aim of this provision is to capture all benefits derived from one's labour exercised outside the framework of an employment contract or business enterprise.[659]

As the term "*werkzaamheid*" is not defined in the Income Tax Act 2011, it is necessary to revert to the general source criteria. Thus, other activities are activities carried out in economic life and aimed at deriving profits which cannot be qualified as business or employment.[660] In order to obtain other income, labour must be performed although its scope and frequency is irrelevant.[661] A one-time insignificant activity is sufficient.[662] Moreover, there must be a causal connection between one's labour and the benefit obtained.[663] Examples of other activities include: income from: incidental lecturing, writing articles for a magazine, operating a lodging house, patents and copyrights (but in case of heirs, such intangible rights become an asset taxable under Box 3), consultancy work or any other freelance activity.[664] A "*werkzaamheid*" can also exist if a taxpayer tolerates or refrains from an activity.[665]

The criteria used to distinguish business from other activities are: permanence of the activities, extent of investments, time involved, scope of advertising, proceed- or debtor risk, and work for more than one principal.[666] The Supreme Court decided that business activities must have a minimum

657 G. Spenke & M. de Vries, *Taxation in the Netherlands,* sec. 3.3.13 (Kluwer Law International 2011).

658 These are, inter alia, fines, representation expenses, entertainment costs, home office (which cannot be separated from the rest of the house) and telephone fees for a telephone connection at home.

659 Stevens, *supra* n. 612, at sec. 11.1a

660 Kavelaars, *supra* n. 620, at sec. 3.4.2a; Stevens, *supra* n. 612, at sec. 11.1.a.

661 Kavelaars, *supra* n. 620, at sec. 3.4.2d.

662 Rechtbank Zwolle, 30 Jan. 1953, BNB 1953/116 (the case concerned a lawyer who wrote a note for his colleague and received remuneration for it); HR, 20 June 2003, 37974, BNB 2003/306 (the case involved the sale of a horse by a private individual).

663 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting, supra* n. 632, at sec. 3.4.3.B.b2. There is no causal connection in the case of a money transfer to the bank account of a taxpayer (without an underlying business reason). The benefit cannot be considered as an outcome of his own work (Hof 's-Hertogenbosch, 8 Apr.2008, no. 06/00160, V-N 2008/51.15).

664 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting, supra* n. 632, at sec. 3.4.1.A.

665 HR, 3 Oct. 1990, no. 26142, BNB 1990/329. The case concerned a person who took part in a medical experiment where the participants were obliged to abstain from eating certain food and to undergo regular medical checks.

666 Stevens *supra* n. 612, at sec. 6.3.a.

scope and substance.[667] However, no precise time and monetary thresholds are set in the statutory income tax law and case law, and it has to be determined on the basis of the facts of an individual case whether business income or (at least) income from other activities can be assumed.

Trade in virtual items (unless it is a loss-making hobby) meets all the general source criteria.[668] It requires one's labour consisting in the creation or acquisition of the item to be sold and arranging the sales transaction. As income from other activities has less strict substance and scope requirements than income from business activities, income from virtual trade is likely to fall into this category.

5.5.2.4 Savings income / net wealth income

Wealth is taxed in the Netherlands for two reasons. The first one is that wealth improves one's position in society by increasing his ability to pay (*draagkracht*). The other is that accumulated resources can be used to finance future expenses.[669] From 1892 to 2001, a separate wealth tax was levied on net assets of individuals. The legislator chose a global approach: all wealth (with a few explicitly mentioned exceptions) was subject to tax and not only its certain categories.[670] The tax was estimated to generate around 1% of the total tax revenue and to affect 600,000 taxpayers.[671]

As from 2001, wealth taxation is partially integrated into the income tax system (although officially wealth tax has been abolished). Under Box 3, income tax is levied on net wealth, i.e. the value of tangible or intangible assets (*bezittingen*) reduced by the value of associated liabilities (*schulden*). Net assets of a taxpayer are deemed to produce a 4% yield which is taxed at a flat rate of 30%. The deemed yield cannot be negative. The main flaw of the current taxation system is its incompatibility with the ability-to-pay principle: taxing fictitious income leaves the real income untaxed.

The Income Tax Act contains a list of assets which are taxable under Box 3. These are: real estate (second home, let property), rights in immovable property (for example, leasehold estate),[672] movable property with the exception personal items (furniture, clothes), savings, securities and other property rights.[673] The last category is a residual one covering all rights not included in the previous groups. Examples of other property rights are: membership

667 HR, 20 Nov. 1968, BNB 1969/13.
668 *See* section 5.5.2.1. *Initial comments*.
669 H. Mobach et al., *Cursus Belastingrecht, Vermogensbelasting*, sec. 0.0.2 (Deventer Gouda Quint May 1999).
670 Id., at sec. 2.4.0.
671 Id., at sec. 0.0.2.
672 Rental rights are considered assets; however, their value is set at nil (sec. 5.19 (4) of the IB).
673 Sec. 5.3 (2) of the IB.

in the homeowner association, interests in trusts, cultivation rights, inherited patents and copyrights.[674] Mere expectations (*verwachtingen*) cannot be considered as taxable assets.[675] Certain assets (nature areas, woods, assets of scientific nature and art collection) are explicitly excluded from Box 3.[676]

To be able to produce deemed investment income, an asset must have an economic value. Assets without any economic value are not subject to tax. The economic value exists if the asset itself or its transfer may yield revenue, or the possession of the asset enables its owner to save expenses that otherwise would be incurred.[677] Assets which cannot be alienated (for example, a cultivation permit) are nonetheless considered to have economic value.[678] The economic value is the price that a third party would be willing to pay for the asset under normal market conditions. Any personal interests that the owner may have in his asset (affection value) are not taken into account.[679] For valuation purposes, it is important whether an asset is transferable, fully owned or subject to any other legal restrictions.[680] The decisive date for establishing whether certain assets and liabilities are to be taken into account is the beginning of a calendar year.

Accumulated virtual currency and items could constitute "other property rights", the value of which is taxable under Box 3. Such currency has economic value[681] and can be used to generate revenue for the taxpayer. The fact that there is no absolute certainty as to whether virtual currency can be converted into real money is irrelevant since Box 3 includes assets that are not able to generate any monetary income at all. Even a conditional claim to an uncertain amount can form a taxable asset.[682] Legal restrictions on alienability do not preclude an item from belonging to one's wealth, but in such a situation, it is necessary to determine whether an asset can actually be disposed of. The factual possibility of doing so prevails over the legal entitlement.[683] Thus, in the Netherlands, not only profits from virtual exchanges but also accumulated virtual currency and virtual items are subject to income tax.

674 Kavelaars, *supra* n. 620, at sec. 5.3.2f.
675 Stevens, *supra* n. 612, at sec. 13.5.a.
676 Sec. 5.7 – 5.12 of the IB.
677 H. Mobach, *Cursus belastingrecht: Inkomstenbelasting, supra* n. 632, at sec. 5.1.4.B.
678 Id., at sec. 5.1.4.B.
679 Id., at sec. 5.1.4.B.
680 HR, 19 Apr. 1967, no. 15714, BNB 1967/135.
681 *See* section 4.2.5.1. *Value*.
682 Hof 's-Gravenhage, 22 Dec. 1976, BNB 1978/161.
683 Hof Amsterdam, 14 Oct. 1992, no. 551/90, V-N 1993, p. 449. The case concerned a Dutch person who inherited some assets abroad. The assets were subsequently taken over by the foreign government, except for a few ones that were rescued by his relatives from nationalization. The court decided that the rescued assets constituted assets within the meaning of the wealth tax (currently: Box 3) and were subject to tax, despite the fact that the taxpayer could not dispose of them.

To calculate the tax liability, the value of the accumulated currency and items as established on 1 January is relevant. Exchange rates from various trading websites could be used as value estimates. In the case of community-related currency and virtual items, any legal restrictions should be taken into account in the valuation process.

5.5.3 Conclusions

The Dutch income tax law has a schedular nature. Income tax is levied on receipts falling within one of the three boxes. There is no all-encompassing provision that would tax income from whatever source derived. Income from virtual trade (both in the real and in a virtual form) may fall within either Box 1 or Box 3.[684] If costs exceed revenues, a non-taxable hobby is assumed.

A common characteristic of income sources in Box 1 is that income must be derived through market participation. This requirement is not met in the case of currency generated by a person (for example, bitcoin mining) or obtained from the virtual world operator. Consequently, those activities do not have any income tax consequences under Box 1. Profits from virtual exchanges may give rise to either business income or other income.[685] The former are assumed if the trader has a permanent organization of capital. An activity that does not meet this requirement (for example, because it is temporary or occasional) may give rise to income from other activities. However, neither the statutory law not the case law provides precise monetary thresholds on the basis of which is can be decided whether income from business activities or income from other activities can be assumed.

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684 The same view is taken by the Dutch Ministry of Finance (*see supra* n. 41). In a letter of 10 April 2013 (answering the questions asked by a member of parliament), the Ministry of Finance refers to the general rules of income taxation and explains that the form in which profits are generated (real or virtual) is irrelevant.

685 The fact that dealings in a non-traditional currency (i.e. currency without legal tender status) may give rise to business or other income is confirmed by the Dutch tax authorities in a ruling of 21 February 2014 (*see* Dutch Tax Authorities (*Belastingdienst*), *Inkomstenbelasting. Belastbaar resultaat uit overige werkzaamheden*, BLKB 2014/286M). The ruling outlines the rules applicable to barter clubs, i.e. organizations whose participants provide services to one another in exchange for local currency that exists only in the form of bookkeeping entries and is not convertible into traditional currency. The central administration of a barter club must keep a register with details of all participants and provide those participants with a questionnaire from the tax authorities. On the basis of the answers in the questionnaire, the tax authorities establish whether a participant derives other income or business income and whether he is liable to charge VAT on his transactions. Income in local currency is taxable when units of local currency are allocated to the account of the participant. The exchange rate of local currency is determined by the central administration and is compared to that used by barter club participants in transactions with one another. Transactions that are performed for both traditional currency and local currency are decisive for the determination of the exchange rate.

Under Box 3, income tax is levied on the net value of assets. It is not relevant whether those assets are able to generate any income. They are deemed to produce a 4% yield that is taxed at a flat rate of 30%. Accumulated virtual currency and virtual items may be regarded as a qualifying asset since they have economic value. Thus, not only profits from virtual exchanges but also accumulated virtual currency is subject to tax.

5.6 INTERNATIONAL ASPECTS

5.6.1 Basic principles of international tax law

Two principles are in common use to determine the extent of a country's tax jurisdiction: residence and territoriality (source). Under a residence-based system, a country taxes the worldwide income of its residents. The residents are subject to unlimited tax liability. Under the source principle, a country taxes the income and gains of non-residents arising within its borders.[686] Many countries have adopted a tax system that combines both the source and residence principle. The countries under consideration in this thesis have adopted a residence-based approach with respect to income derived by their residents and a source-based approach with respect to income derived by non-residents.

The policy reason for taxing income that has its source in a particular country stems from the benefit theory of taxation: a country will tax income originating within its jurisdiction since it has provided public goods (for example, infrastructure or legal system) for the benefit of the non-resident taxpayer to enable him to undertake economic activity which generated the income. In this sense, the tax imposed can be regarded as a contribution towards the cost of those public goods.[687] Moreover, countries choose to tax non-residents because they are an "easy prey": since they do not vote, they can be taxed without risking the electoral power.

The application of the source principle is difficult in the context of electronic commerce. The White Paper prepared by the US Treasury in 1996 proposed a shift to residence-based taxation and noted that:[688]

> 'In the world of cyberspace, it is often difficult, if not impossible, to apply traditional source concepts to link an item of income with a specific geographical location. Therefore, source based taxation could lose its rationale and be rendered

686 For more information on the concepts of source, residence and double taxation, *see* K. Holmes, *International Tax Policy and Double Tax Treaties* (IBFD 2007); M. Lang, *Introduction to the Law of Double Taxation Conventions* (IBFD and Linde 2013); L. Oates & A. Miller, *Principles of International Taxation* (Bloomsbury 2012).

687 Holmes, *International Tax Policy and Double Tax Treaties, supra* n. 686, at ch 2.

688 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996).

obsolete by electronic commerce. By contrast, almost all taxpayers are resident somewhere.'

Due to the parallel application of the source and residence principle, taxpayers that engage in cross-border transactions may be taxed more than once on the same amount of income. This phenomenon is known as juridical double taxation. Double taxation occurs in three basic forms of conflicts: (1) residence-residence; (2) residence-source; and (3) source-source. Residence-residence double taxation arises when a taxpayer is deemed a resident of more than one country and each state asserts the right to tax his worldwide income. Residence-source double taxation occurs when one country seeks to tax income on a residence basis and another country asserts the right to tax the same flow of income on a source basis. Finally, source-source double taxation exists when two countries consider a particular flow of income to have a domestic source. Relief from double taxation may be provided by domestic rules or, more frequently, by bilateral tax treaties by granting a credit to resident taxpayers for taxes paid to the foreign jurisdiction or by exempting the foreign source income.

As virtual exchanges frequently take place in a multijurisdictional context, it is necessary to examine whether profits from trade in virtual currencies may be taxed in more than one country. The following sections describe the source rules which may capture income of non-residents from virtual trade in the selected countries: the United States, the United Kingdom, Germany and the Netherlands. If such income is considered to be sourced in those countries, double taxation occurs as the residence country of the taxpayer will consider this income to be part of the taxpayer's unlimited tax liability.

5.6.2 Cross-border virtual trade

5.6.2.1 The United States

Non-residents are subject to US income tax in one of two ways. If they are not engaged in a trade or business within the United States, they are subject to 30% tax on their passive US source fixed or determinable annual or periodic (FDAP) income.[689] Non-resident individuals who are engaged in business activities in the United States are subject to federal income tax on income that is effectively connected with the conduct of a US trade or business.[690]

Dealings in virtual currencies are likely to fall in the second category (trade or business) as they do not generate income of a periodical nature similar to dividends, interest or royalties. Neither the IRC nor the Treasury Regulations

689 Sec. 871(a) of the IRC.
690 Sec. 871(b) of the IRC.

define the term "trade or business". According to the case law, a non-resident individual is deemed to be engaged in a trade or business in the United States if his US activities are conducted on a regular, substantial and continuous basis for the purpose of earning a profit.[691] This determination is to be made on the basis of the facts and circumstances in each case.[692] To determine whether there is a US trade or business, the degree of both quality and quantity of contacts with the United States must be considered. Casual sales of inventory property do not constitute engaging in a trade or business, absent special circumstances.[693] Neither does searching for business opportunities.[694] An important element is the relative importance of the US trade or business activity to taxpayer's other activities.[695]

It should be noted that the trade or business standard differs from the permanent establishment standard defined in article 5 of the US and the OECD Model since a US trade or business does not require an office, place of business or any other physical facility. A foreign taxpayer may be deemed to be engaged in a trade or business in the United States, but such trade or business may not reach the level of a permanent establishment.

To establish the effective connection of a non-resident's income, a different set of rules applies to income from US and foreign sources. Income from US business activities is always regarded as effectively connected income.[696] Income from foreign sources is effectively connected with US trade or business if the taxpayer has office or other "fixed place of business" within the United States and the income is attributable to that office (i.e. the office is a material factor in the production of the income and the type of activity from which the income is derived is regularly carried out at that office).[697]

In view of the different rules for the US and foreign source business income, the key question is to determine the source of income from virtual exchanges – income that exists only in the cyberspace and crosses no physical borders. The US sourcing rules are laid down in sections 861-865 of the IRC. The list includes special provisions for: dividends, interest, royalties, personal services, capital gains, as well as income from transportation, space or ocean activities, international communications, insurance underwriting and social security

691 L. Lokken, *Income Effectively Connected with U.S. Trade or Business: A Survey and Appraisal* sec II.A, Taxes – The Tax Magazine (Mar. 2008).

692 Treas. Reg. 1.864-2(e).

693 *See,* for example, *Linen Thread Co. v. Commissioner*, 14 T.C. 725 (1950) (holding that two unplanned and unsolicited US sales by a foreign corporation resulting in a profit of about USD 150 did not constitute engaging in a trade or business in the United States).

694 F.R. Chilton, *Income Effectively Connected with a United States Trade or Business or Attributable to a Permanent Establishment*, 5 Hastings Intl. & Comp. L. Rev. 497, p. 504 (1981-1982).

695 Id., at p. 498 et seq.

696 Treas. Reg. 1.864-4(b). In contrast, US source FDAP income is effectively connected with a US trade or business if an actual connection under the asset use test or the business activities test is deemed to exist.

697 Sec. 864(c)(5)(B) of the IRC.

benefits. The source rules follow two principles: some trace the economic origin of income and identify the location where the economic benefits are generated,[698] whereas others apply purely formal criteria.[699] These formal rules are applied to specific types of income, the economic sources of which are either difficult to locate or easily manipulated by the taxpayer. The list of source rules in the IRC is not comprehensive. There are many types of income for which there is no specific source rule, such as income from gambling.

As there are no special source rules that would apply explicitly to virtual exchanges, income from such exchanges must be compared to other categories of income and the category it resembles most should be applied. One could argue that such income could be characterized, by analogy, as either income from the provision of services or capital gains. Should non-tax law conclude that virtual items cannot be property, the rule on services will apply. If virtual items are property, the rules on capital gains must be followed.

Income from personal services is sourced where those services are performed.[700] The relevant personal services consist of transferring a virtual item that improves the recipient's position within the online environment. Such services are performed by the seller at his location. The location of the server where the virtual currency or items are stored should not relevant for the application of the sourcing rules. Such location is usually not known both to the seller and to the buyer, and neither does it change the way the transaction is executed. The Treasury Department acknowledged that the use of a server "is not a sufficiently significant element in the creation of (...) income to be taken into account for purposes of determining whether a US trade or business exists."[701]

Gains from sales of personal property for a fixed price are sourced according to the residence of the seller.[702] A special rule exists for income from the sale of inventory property[703] that the taxpayer purchased: such income is sourced where the property is sold.[704] The Treasury Regulations prescribe that a sale of property is "consummated at the time when and the place where,

698 For example, royalties are sourced according to the location of the use of the intangible and gains from disposition of real property interests – according to the location of the property.

699 For example, dividends are sourced according to the payor's place of incorporation.

700 Sec. 862(a)(3) of the IRC.

701 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996).

702 Sec. 865(a) and (d) of the IRC.

703 Inventory property is defined as: "stock in trade of the taxpayer or other property of a kind which would properly be included in the inventory of the taxpayer if on hand at the close of the taxable year, or property held by the taxpayer primarily for sale to customers in the ordinary course of his trade or business". *See* sec. 1221(a)(1) and 865(i) of the IRC.

704 Income from the sale of inventory property that the taxpayer produced in the United States and sold outside the United States (or vice versa) is partly from sources in the United States and partly from sources outside the United States. For income allocation rules, *see* Treas. Reg. 1.863-3.

the rights, title, and interest of the seller in the property are transferred to the buyer. Where bare legal title is retained by the seller, the sale is deemed to have occurred at the time and place of passage to the buyer of beneficial ownership and the risk of loss" (the title passage rule).[705] The place of title passage is determined by the commercial law, absent an agreement between the parties.[706] Under the Uniform Commercial Code (UCC), title passes to the buyer at the place at which the seller completes his performance with reference to the physical delivery of the goods.[707]

In the case of sale of community-related virtual items and currencies by non-residents to US taxpayers, no legal title passes to the customers from a commercial law standpoint as the world operator remains the owner of the items. By analogy, the decisive event could be the transfer of the actual power to dispose of an item. It occurs when the seller sends the item to the buyer. The seller completes the transaction at his location as this is the place where the transaction is arranged and the "send" instruction is given.

As income from virtual exchanges bears unique traits, is characterized by global reach and an expanding market, it is worthwhile to look at the source rule for income from space and certain ocean activities. Under this rule, the source of such income is determined by the residence of the taxpayer deriving it.

As shown above, no matter which source rule is applied, income from virtual exchanges is always sourced at the location of the non-resident seller. Double taxation stemming from the source-residence conflict will not occur. Sourcing the income in the jurisdiction of the seller is also the technically correct solution as it takes into account the place where the primary economic activity giving rise to the income takes place. The human and physical capital that produced the income is located at the place of the seller. This solution also takes into account practical considerations. Due to the anonymous nature of Internet transactions, it is often difficult, or even impossible, to determine the consumer's location. Although in theory it may be possible to trace the path of Internet communications, theory and reality are, unfortunately, not always easily reconciled.

Finally, it is important to note that the problems related to the determination of the jurisdiction to tax business income do not appear if there is a tax treaty in place. Tax treaties concluded by the United States generally provide that industrial or commercial profits of a resident of the other country should be exempt from tax by the United States unless the resident of the other country is engaged in business activity through a permanent establishment situated in the United States and the profits are attributable to such this

705 Treas. Reg. 1.861-7.

706 In 1986, Congress repealed the title passage rule applicable to non-inventory property realizing the ease with which taxpayers could manipulate it.

707 Sec. 2-401 of the UCC.

permanent establishment. Since virtual trade does not give rise to permanent establishments, the state of residence will have the exclusive taxing rights over business profits in treaty situations,

5.6.2.2 The United Kingdom

UK tax law characterizes income from trade in virtual currencies as trading income, miscellaneous income or capital gains. This section examines under what circumstances those categories of income are taxed in the hands of non-residents.

Non-residents are subject to UK tax on profits from trading in the United Kingdom. As there are no statutory provisions on when trade is conducted within the country,[708] it is necessary to search for guidance in the voluminous case law and administrative guidelines. The earliest cases on whether trades were carried out in the United Kingdom were settled in the late 19th century when business methods were far less complex than nowadays. Many of the early tax cases placed great reliance on whether contracts, usually for the sale of goods, were made in the United Kingdom. *Erichsen v. Last* (1881),[709] an important Court of Appeal decision concerning whether trade was exercised in the United Kingdom by reference to the place of contract, stated: "wherever profitable contracts are habitually made in England by or for a foreigner with persons in England, (…) such foreigners are exercising a profitable trade in England, although everything done by or supplied by them in order to fulfil their part of the contract is done abroad." Under contract law, the place of contract is the same as the buyer's location when he receives the seller's acceptance of the offer. This applies irrespective of the medium by means of which the contract is concluded.[710]

In later judgments, the courts began to place less emphasis on the place of contract. In *Smidth & Co v. Greenwood* (1921), Lord Atkin commented that:[711] "The contracts in this case were made abroad. But I am not prepared to hold that this test is decisive. I can imagine cases where a contract of resale is made abroad, and yet the manufacture of the goods, some negotiation of the terms, and complete execution of the contract take place here under such circumstances that the trade was in truth exercised here. I think that the question is, where do the operations take place from which the profits in substance arise?" Thus, trade is exercised in the United Kingdom if a significant economic activity that contributes to the making of profits is performed

708 Brett LJ in *Erichsen v. Last* (1881) 8 QBD 414, 4 TC 422, held that: "I think it would be first of all nearly impossible and second wholly unwise to attempt to give an exhaustive definition of when a trade can be said to be exercised in this country".

709 *Erichsen v. Last* (1881) 8 QBD 414, 4 TC 422.

710 HMRC, *Non-residents trading in the UK: place of contract may not be decisive*, available at: www.hmrc.gov.uk/manuals/intmanual/INTM263050.htm.

711 *Smidth & Co v. Greenwood* (1921) 3 KB 583, 8 TC 193.

there. In order to determine that activity, it is important to identify the precise nature of the trade by the non-resident (a case-by-case determination).[712] The isolated activity of buying goods in the United Kingdom does not necessarily amount to trading in the United Kingdom.[713]

In the case of trade in virtual currencies and items, there are several locations that could be regarded as the place where significant profit-generating business activity takes place. The first one is the location of the buyer since the receipt of virtual items triggers the payment of the consideration which gives rise to profits. Another one is the location of the server on which the items or currency in question are stored. Finally, substantial business activity can take place at the location of the seller who arranges the transaction.

Although the consideration is an important element of the transaction, the act of payment cannot be regarded as its most substantial component. Rather, it should be viewed as a response to the online delivery of the purchased items by the seller. As explained in section 5.6.2.1, the place where the server operates does not affect the way in which the transaction is executed. The parties are usually not aware (and not interested) where the infrastructure supporting online environments is located. Thus, the place from which the non-resident seller operates is the one where substantial business activity is performed.

Gains accruing to non-residents are taxable as miscellaneous income if their source is in the United Kingdom.[714] The interpretation of "source in the United Kingdom" follows the same reasoning as that used to identify "trade in the United Kingdom". Therefore, the source of income from trade in virtual items and currencies is the location of the non-resident seller. Non-residents will not have UK source income from sales of virtual items and currencies to UK residents.

Finally, non-residents are subject to capital gains tax (CGT) only in respect of UK assets used for the purposes of a trade carried on in the United Kingdom through a branch or UK assets held for the purposes of the branch.[715] Due to the requirement of a UK branch, sales of virtual items and currencies by non-residents will have no CGT consequences in the United Kingdom.

5.6.2.3 Germany

Exchanges involving virtual currency can give rise to either business or miscellaneous income (in the form of capital gains from disposal of private assets) in the hands of resident taxpayers. The categories of income which are subject

712 HMRC, *Non-residents trading in the UK: place of contract may not be decisive*, available at: www.hmrc.gov.uk/manuals/intmanual/INTM263050.htm.
713 *Sulley v. Attorney General* (1860) 5 H&N 711, 2 TC 149.
714 Tiley, *UK Tax Guide*, *supra* n. 436, at sec. 18.12.
715 Sec. 10 of the TCGA 1992.

to German tax in the hands of non-resident individuals are listed in section 49 of the EStG. They include: income from a business conducted in Germany through a permanent establishment or permanent representative[716] and capital gains from the disposal of real estate and immovable property rights.[717] As the right to tax non-residents depends on a physical presence or possession of real estate within the country territory, sales of virtual items and currencies by non-residents will have no tax consequences in Germany.[718]

5.6.2.4 The Netherlands

In the Netherlands, virtual activities may result in business income, miscellaneous income or savings income. Non-resident individuals are liable to Dutch income tax on income enumerated in section 7.1 of the IB (*binnenlands inkomen*), which includes income from labour and dwelling (Box 1), income from a substantial shareholding in a company (Box 2) and income from savings and investments (Box 3). Sections 7.2-7.4 of the IB provide details on what type of income of non-residents is taxed within each box.

Business income derived by non-residents is taxable in the Netherlands if the non-resident has a permanent establishment or permanent representative there.[719] The term "permanent establishment" is not defined in statutory law. According to case law, it means: a physical place with a certain degree of permanence at the disposal of a non-resident.[720] Miscellaneous income of non-residents is subject to tax if activities of the taxpayer are carried out mainly in the Netherlands or the assets used to generate income are located there.[721] Under Box 3, non-residents are taxed on their Dutch assets (*Nederlandse bezittingen*), which include Dutch real estate and immovable property rights, and shareholdings in a Dutch company.

As the right to tax non-residents depends on physical presence, performance of activities or possession of real estate within the country territory, sales of virtual currencies and items by non-residents will have no tax consequences in the Netherlands.

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716 Sec. 49 (1) No. 2 of the EStG. The term "permanent establishment" is defined as any fixed place of business or facility serving the business of an enterprise (sec. 12 of the General Tax Code).

717 Sec. 49(1) No. 8 of the EStG.

718 The use of processing capabilities of servers located in Germany by non-residents does not give rise to a permanent establishment. According to paragraph 42.2 of the OECD Model: Commentary on Article 5 (2010), a distinction needs to be made between computer equipment, which may be set up at a location so as to constitute a permanent establishment, and the data and software which is stored on that equipment. As electronic data does not in itself constitute tangible property, it cannot have a location that can constitute a place of business.

719 Sec. 7.2(2a) of the IB.

720 Niessen, *supra* n. 612, at sec. 14.2.2.

721 Id., at sec. 14.2.2; HR, 12 July 2013, BNB 2013/259.

5.6.3 Conclusions

Cross-border virtual activities do not bear any risk of double taxation. The examination of the source rules of the United Stated, the United Kingdom, Germany and the Netherlands showed that those countries do not tax non-residents who engage in virtual trade with residents of those countries.

6 Income tax: conclusions

6.1 The model scenario

Chapter Four described the model system for taxing income from virtual trade by identifying the most comprehensive income definition and then limiting this concept on the basis of the generally acknowledged principle of taxation to make it capable of practical application.

According to the most comprehensive income definition (the Schanz-Haig-Simons concept), all increases in wealth and consumption should be taxable. It should not matter whether profits are generated in a virtual or traditional currency or whether they are realized or not. Virtual currency constitutes valuable resources and its receipt and appreciation in value enhances the economic power of an individual.

This economic view does not translate well into tax law because it ignores the practical requirement that taxes be something that can be reliably measured, reported and paid. Taxpayers with real and virtual income cannot be regarded as being in comparable situations. Taxpayers having cash can easily meet their tax liabilities, whereas taxpayers with income in a virtual form have to borrow the necessary funds or to sell their virtual currency to pay the tax due. Thus, the principle of equity does not preclude a different treatment of income in the real and a virtual form. Taxing virtual income would present insurmountable compliance and supervisory problems, in view of which it is doubtful whether it would be able to raise any revenue. The tax determination process ultimately rests on taxpayers disclosing their financial affairs and paying what they owe without overt government compulsion. Knowing that tax authorities are not aware of the existence of income in a virtual form (one of the main features of the Bitcoin system is anonymity), taxpayers would have little incentive to report the value of accumulated bitcoin profits. Those who would like to report their virtual earnings would have to differentiate between profits from sales and exchange transactions (which may be a challenging task for an average taxpayer). As virtual currency is frequently used for micropayments, tracking such low-value transactions would be burdensome for both taxpayers and tax authorities.

Therefore, in the model tax system, virtual income should not be subject to tax. In contrast, any real income derived from trade in virtual currencies and items should be subject to tax. This approach is in line with the principle of equity (increased ability to pay is taxed), administrative convenience (tax-

ation is deferred until the taxpayer has the means to pay the tax) and neutrality (taxpayers are not "forced" to monetize their assets).

6.2 THE ACTUAL SCENARIO

Chapter Five examined whether income from virtual transactions is subject to tax in four countries: the United States, the United Kingdom, Germany and the Netherlands. These countries were selected on the basis of their different approaches to income taxation (global versus schedular) and the different treatment of capital gains and accumulated wealth. The following conclusions were reached.

The global income tax system of the United States taxes "all income from whatever source derived".[722] Profit motive and market participation are not part of the taxable income definition. Certain income categories (windfalls, prizes and winnings) that are excluded from income taxation in other countries are subject to tax. The Schanz-Haig-Simons model is generally accepted as the conceptually correct income definition underlying section 61 of the IRC. The Supreme Court restricted this definition by ruling that income taxes should be levied on any "accessions to wealth, clearly realized, and over which the taxpayers have complete dominion".[723] To take into account the fact that tax law must be implementable and enforceable, additional criteria are used to exclude some instances of economic income from the gross income concept. These criteria are: measurable market value and exclusion of imputed income. Under US tax law, real income from virtual trade is generally taxable. There are no exceptions for occasional sales or for gains below certain thresholds. With respect to profits existing only in a virtual form (for example, in the case of a seller who accepts bitcoins as consideration), it is necessary to distinguish between community-related and universal currencies. In my opinion, the taxpayer does not have a complete dominion over community-related currencies since he has expressly agreed to the contractual terms according to which the world operator may modify and terminate the virtual environment at its sole discretion. In contrast, the possession of universal currency (bitcoins) is free from such restrictions. The taxpayer has the private key and is the only person that can use the coins accumulated in his wallet. Thus, the receipt of universal virtual currency may give rise to taxable income, irrespective whether the currency was generated or obtained in an exchange transaction. The fair market value of the "coins" must be included in gross income.

The United Kingdom imposes both income tax and capital gains tax (CGT) on individuals.[724] UK income tax law is schedular in nature: the tax is levied

722 *See* section 5.2. *The United States*.
723 *Commissioner v. Glenshaw Glass Co.*, 348 US 426 (1955).
724 *See* section 5.3. *The United Kingdom*.

on several categories of receipts. Capital gains tax is imposed on disposals of assets. The terms "asset" and "disposal" have been extended by the legislator to cover transactions that would not fall within their commonsense meaning: a CGT liability arises if a capital sum is received, even if the person paying the sum does not acquire any asset. Virtual exchanges may result in trading income, miscellaneous income or capital gains. Repetitive and frequent transactions imply trade. Taxpayers occasionally selling virtual items and currencies are more likely to generate miscellaneous income. A profit on the sale of a single item (provided that the sale is not a trading venture based on its characteristics and size) may constitute a capital gain. Under UK tax law, it does not matter whether income is generated in the real or a virtual form. Virtual income is subject to tax based on the rules on benefits in kind (their fair market value is recorded as revenue). Accumulated virtual currency is not taxable. The creation of virtual currency and the possession of virtual currency that appreciates in value do not have any income tax consequences as they involve neither source nor disposal.

Germany has a schedular tax system where income tax is levied on selected income categories.[725] There is no all-encompassing provision that would tax income from whatever source derived. Income from virtual trade may fall within either business or miscellaneous income category, depending on whether it is generated in a business or private capacity. No distinction is made between real or virtual income, community-related or universal currencies. All profits from exchange transactions are subject to tax. If income is received in a virtual form, rules on barter transactions apply. The creation of virtual currency and the possession of virtual currency that appreciates in value are not taxable since they do not involve reciprocal transactions with other market participants. The value of mined bitcoins can be considered a non-taxable prize.

The Netherlands has a schedular tax system where income tax is levied on receipts falling within one of the three boxes.[726] There is no all-encompassing provision that would tax income from whatever source derived. Income from virtual trade may fall within either Box 1 or Box 3. If the costs of the sales transactions exceed the revenues, a non-taxable hobby is assumed. Under Box 1, profits from virtual trade may constitute either business income (if the trader has a permanent organization of capital and labour) or other income. Under Box 3, income tax is levied on the net value of assets, irrespective of whether those assets are able to generate any income. Accumulated virtual currency may be regarded as a qualifying asset since it has economic value. Thus, not only profits from virtual exchanges but also accumulated virtual currency is subject to tax.

The different tax consequences of virtual transactions are summarized in Table 4. The outcome of the research may seem surprising: the Netherlands

725 *See* section 5.4. *Germany*.
726 *See* section 5.5. *The Netherlands*.

with its schedular income definition is a country where income in virtual currency is subject to the most comprehensive taxation.

Table 4: Tax consequences of the creation, possession and exchanges of virtual currencies

Event	*Tax consequences in selected countries*			
	United States	*United Kingdom*	*Germany*	*The Netherlands*
Creation and possession of virtual currency	Taxable (only universal currency)	Non-taxable (no source or disposal)	Non-taxable (no reciprocal transactions with other market participants)	Taxable under Box 3
Exchanges resulting in real income	Taxable	Taxable as trading income, miscellaneous income or capital gain	Taxable as business or miscellaneous income	Taxable as business or other income
Exchanges resulting in virtual income	Taxable (only universal currency)	Taxable as trading income, miscellaneous income or capital gain	Taxable as business or miscellaneous income	Taxable as business or other income

6.3 THE ISSUES

The actual scenario deviates from the model one since income in a virtual form is taxable in all the countries under consideration. However, the fact that income is taxable does not mean that it is *actually* taxed. People who have virtual income do not pay tax on that income for two reasons: either they are not aware that such income is taxable or they deliberately avoid paying tax knowing that this non-compliance is unlikely to be detected and punished.

The first issue (unawareness of tax liability) results from lack of clear guidance on the tax treatment of virtual currency. Tax authorities of many countries have not explained the tax consequences of mining of, and trading in, virtual currency. If taxpayers turn to the Internet for tax help, they may find a lot of misinformation there. There are a number of websites, wikis, and blogs that provide differing opinions on the tax treatment of virtual currency,

including some that could lead taxpayers to believe that transacting in virtual currencies relieves them of their responsibilities to report and pay taxes.[727]

This problem of ignorance of tax liability has also been discussed in various contexts with regard to people who sell personal items on auction websites, such as eBay.[728] Online sales put many taxpayers at risk for underpaid taxes and penalties since those taxpayers do not consider themselves either to be in business or to generate taxable income at all. The IRS noted that "misinformation about laws, such as prohibiting the taxation of Internet access (Internet Tax Freedom Act) and limiting sales tax on interstate sales, have lead some to incorrectly believe that Internet sales income including online auctions is not subject to income tax."[729] Virtual income aggravates the existing problem: even if taxpayers dealing in virtual currency assumed that they should report their virtual profits, they would not know how to do it.

The second issue (deliberate non-compliance) stems from the characteristics of virtual currencies: transactions take place anonymously usually in a multi-jurisdictional setting. A seller that accepts payments in bitcoins is not required to identify himself when establishing his online Bitcoin wallet. Although the entire history of bitcoin transactions is publicly available, it is extremely difficult to trace earnings accumulated in a particular wallet back to a particular taxpayer. Thus, it is unlikely that tax authorities will know about the income, unless taxpayers voluntarily report it.

What can be observed is that tax law is not applied to income from virtual trade. Ignored and unenforced tax law is useless. It neither generates revenue nor serves any redistributive purpose, so that its existence cannot be justified by any of the taxation objectives. It violates the principle of equity as it allows an increased ability to pay to remain untaxed. Low compliance rates harm the moral authority of law. Unenforced law creates a risk of arbitrary and discriminatory enforcement: it may be enforced against some but not others. It creates the impression that breaking the law is fine unless the taxpayer gets caught. The current legal situation of trade in virtual currencies can be best described as "vagueness in practice" – it is assumed that tax law should be applied but it is not clear when and how.[730] Thus, the application of the

727 *See* section 4.3.2. *Certainty and flexibility*.

728 In 2010, an IRS officer (Andrea Fabiana Orellana) failed to report USD 41,842 in income from eBay sales of private items. She was found liable for USD 12,428 in unpaid taxes and USD 2,486 in penalties. Orellana claimed her eBay sales were not a business and characterized them as an online garage sale. *See Orellana v. Commissioner*, TC Summ. Op. 2010- 51, US Tax Court (20 Apr. 2010). For compliance with sales taxes, *see*, for example, J. Alm & M.I. Melnik, *Do Ebay Sellers Comply with State Sales Taxes*? 63 National Tax Journal 2 (2010).

729 *See* www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Tax-Laws-and-Issues-for-Online-Auction-Sellers.

730 This statement is best illustrated by the approach taken in the GAO Report, *supra* n. 38, which provides various examples involving transactions in virtual currencies but does not elaborate on their tax consequences. Each example concludes that the taxpayer "may have earned taxable income".

current rules and concepts to virtual trade does not result in an economically reasonable outcome.

6.4 THE SOLUTIONS

6.4.1 Initial comments

It is obvious that "vagueness in practice" is not a desired situation and should be remedied. The approach suggested in this chapter seeks to align the actual scenario with the model one. It proposes to exempt any income in a virtual form from taxation (*see* section 6.4.2.) and implement reporting requirements together with taxpayer information services to improve compliance with regard to real income from virtual transactions (*see* section 6.4.3.).

A more radical solution to tackle the problem of virtual currencies would be to forbid their use and impose sanctions on those who disobey the law.[731] This form of action is interventionist and carries with it substantial political and normative implications. When faced with undesirable behavior, legislators often turn to sanctions to regulate. Statutory prohibitions are a simple tool for regulating people's conduct: if rules are violated, the offender is punished and others are deterred. However, sanctions are ineffective at regulating behavior which is common among law-abiding citizens and difficult to detect. Deterrence cannot be achieved if there are a large number of violators who get away with their actions. Too many sanctions can also provoke community outrage. Moreover, a ban on the use of virtual currency would not solve the conceptual issues of tax law. For those reasons, radical solutions are not advocated as a way to solve the virtual currency problem.

6.4.2 Virtual income

Income existing only in a virtual form should not be subject to tax. While it is clear that such a blanket exemption creates a preference for virtual economic activity, this exemption seems necessary in view of the difficulties that potential taxation of virtual income would create.[732]

Exchanges of goods or services for virtual currency constitute barter transactions. For an average taxpayer, the tax treatment of barter transactions is

731 Several Internet sources mistakenly reported that Thailand banned the use of Bitcoin (*see*, for example, The Telegraph, *Bitcoins banned in Thailand*, available at: www.telegraph.co.uk/finance/currency/10210022/Bitcoins-banned-in-Thailand.html). However, the Central Bank of Thailand did not ban Bitcoin, but issued a ruling that using bitcoins was illegal because of lack of laws that dealt with anonymous, cryptographically protected digital currencies.

732 *See* section 4.3. *Principles of income taxation*.

complex since he must know how to determine an objective (market) value of the transaction objects in order to calculate the taxable profit. This may be difficult if taxpayers engage in a large number of low-value barter transactions or if the objects of barter transactions are subject to significant price fluctuations.

Community-related currency is predominantly used for transactions within the virtual world. Such transactions generally involve low-value items. A single user may engage in many transactions every day, selling objects that he created and obtained from both the world operator and other participants. It is highly unlikely that he will be able to determine the taxable profit for each transaction and that an external party (for example, the tax authorities) will be able to check it.

Taxing both real and virtual income would require taxpayers to distinguish between gains from barter transactions and subsequent gains from exchanges of virtual currency into traditional currency, which may be a complex task for an average taxpayer.[733]

Although benefits in kind generally form part of taxable income, in some countries, certain categories of benefits in kind are explicitly excluded from taxation due to their complex valuation or for the sake of administrative ease. For example, the receipt of frequent flyer miles does not give rise to taxable income in the United States. Although frequent flyer miles would fall within the broad scope of section 61 of the IRC, it is impossible to assign a fair market value to miles in a frequent flyer account since such miles can be redeemed in multiple markets and the market value of a flight varies dramatically in response to various factors (market demand, oil prices and time of travel). Another example of income excluded from the US gross income concept are *de minimis* fringe benefits provided to employees. A *de minimis* benefit is any property or service that has so little value that accounting for it would be unreasonable or administratively impracticable. The exemption applies no matter how many *de minimis* fringe benefits are obtained. Those examples show that although benefits in kind make a person better off and increase his earning capacity, they are excluded from taxation for practical reasons, such as valuation complexity or large number of low-value transactions.

Taxing virtual income would affect taxpayers who visit virtual worlds only for hobby purposes. Those taxpayers might have large amounts of accumulated virtual currency which they use only for the purposes of their virtual identity. Participation in virtual worlds enables people to act without consequences to their "other" life. They can separate what happens online from the rest of their existence. Las Vegas has commercialized the idea as "what happens in Vegas, stays in Vegas". Similarly, virtual worlds allow large numbers of people to engage in role-playing that many do not expect to carry over into the real

733 This problem is also recognized in: W.R. Davis, *Bitcoin Is Property, Not Currency, IRS Says*, Worldwide Tax Daily, Tax Analysts (26 Mar. 2014).

world.[734] In other words, what happens in virtual worlds should stay in virtual worlds. As Walpole and Gray (2010)[735] concluded "it would be simpler to leave the virtual world to itself and only invoke the tax rules when the virtual world activities lead to a real world event. In this regard, it may be worth considering the virtual world as a work of ?ction such that only when the characters step off screen and into the real world should we become concerned with their actions."

It may seem that a tax exemption for virtual income would favour entrepreneurs accepting bitcoins as consideration for goods and services. Such entrepreneurs would have virtual profits which would remain tax free. However, it must be kept in mind that profits in Bitcoin are quite different from profits in traditional currency. Although Bitcoin intends to function as legal currency, it has not become one yet. Neither can it be used to pay legal debts nor can customers demand its acceptance by the sellers. Bitcoin users can fully benefit from their virtual currency once they convert it into traditional money.

The proposed solution could be implemented by inserting the following passage into the income tax law:

> 'Virtual currency (i.e. digital currency that does not have legal tender status in any country) created by the taxpayer or obtained from exchange transactions does not constitute gross income for the purpose of individual income tax law.'

Additionally, sellers accepting virtual currency as a means of payment should be required to report this fact to the tax authorities. This would allow tax administrations to monitor the virtual currency market and take appropriate steps in case a virtual currency starts functioning like a traditional one, i.e. it will be able to be used to purchase so many goods and services that its conversion will no longer be necessary to enjoy its benefits.

6.4.3 Real income

6.4.3.1 Initial comments

Real income from virtual exchanges should generally be subject to tax since it increases the ability to pay. The taxpayer has liquid means to satisfy the tax liability and he is not forced to monetize any assets. Real income from virtual exchanges can be successfully subjected to tax if the taxpayers are aware of their compliance obligations (*see* section 6.4.3.2.) and the tax authorities have effective means to enforce compliance (*see* section 6.4.3.3.).

734 Camp, *supra* n. 24, at p. 60.
735 Walpole & Gray, *supra* n. 23.

As regards the method of regulation for taxation of real income from virtual trade, two approaches can be distinguished: a rule-based or a risk-based approach. The differences between those two approaches have essential implications for the type of legislative and regulatory instruments, the extent and nature of compliance obligations (such as reporting or customer due diligence) and controls performed by tax authorities.

A rule-based approach provides precise rules, covering all instances in which measures have to be applied and determining the content of such measures. There is no or little room to apply different methods, even though the mandatory ones may prove inadequate or ineffective in a particular case. In an ideal rule-based system, no loopholes should exist. New rules are added over time to take account of the experience in implementation, and the regulations tent to grow in size and complexity in a continuous search for clarity and completeness. Although the creation of a fully comprehensive and detailed legal framework is not possible, any attempts to do so run the risk of over-regulation. To address a problem, legislators respond by enacting a set of rules, which requires a further subset of rules. Tax legislation is sometimes described as a never-ending process of closing one loophole to create another one. Although the rule-based approach is less costly and simpler to implement, it is also less flexible and less effective since it may provide similar rules to different situations and encourage formalistic over-reporting.

A risk-based approach relies on the general assumption that compliance and control obligations should be designed by taking into account the risks they are intended to tackle and mitigate. It is based on high-level legislation which sets out the main objectives to be pursued through compliance and essential measures to apply for those purposes. This legislation is accompanied by widespread guidance, instructions and best practice indications. Those instruments are updated and improved in an ongoing manner to take account of changing circumstances and evolving risks. Risk-based systems are more effective since they take into account particular circumstances in a more targeted manner and encourage convergence towards common practices that have proven effective in tackling particular risks in specific circumstances. Risk-based systems need ongoing maintenance to make sure that the understanding of the risks is always up-to-date and require the evaluation of the effectiveness of the applied measures, which is a more complex task than the application of pre-determined rules. Risk-based systems also provide less legal certainty.

Virtual currencies are an evolving phenomenon. Although, for the purposes of this thesis, they have been divided into two categories, each virtual currency scheme has its unique characteristics. New schemes with yet unknown features may appear and replace the existing ones. For those reasons, legal instruments used to regulate virtual currencies should exhibit a certain degree of flexibility and adaptability to the changing circumstances. Those objectives are better achieved through the risk-based approach with general high-level legislation

accompanied by more detailed guidelines that can be issued and amended in a simpler and less time-consuming procedure.

6.4.3.1 Taxpayer information

One of the main problems encountered by taxpayers is to know when sales of virtual currency for real money generate taxable income. In other words, when the hobby ceases and taxation may begin. For many taxpayers, occasional sales of virtual currency may be treated as non-taxable "garage sales" of personal property or part of their non-taxable hobby. As countries generally do not provide for numerical or monetary thresholds above which a hobby may give rise to tax liability, the question of when income from virtual exchanges is subject to tax is strictly fact dependent. The circumstances of an individual case must be examined. This approach has its merits as there is no principled way to set thresholds: taxpayers who are just below or just above the threshold may feel that they are treated unfairly. Thresholds are also subject to manipulation since taxpayers may artificially prevent exceeding them.

On the other hand, fact-dependent solutions create legal uncertainty since taxpayers and tax authorities may reach different conclusions as to the tax consequences of a particular situation. The unsophisticated taxpayer may not properly qualify income earned through virtual economies or currencies as taxable income. Even if taxpayers are aware that they may have a tax liability, they may be uncertain about the proper income characterization and any available deductions.

This legal uncertainty could be reduced if tax authorities issued appropriate guidelines, taking into account the special characteristics of virtual trade. A similar approach was suggested in the GAO Report, which states that:[736]

> 'to mitigate the risk of noncompliance from virtual currencies, the Commissioner of Internal Revenue should find relatively low-cost ways to provide information to taxpayers, such as the web statement IRS developed on virtual economies, on the basic tax reporting requirements for transactions using virtual currencies developed and used outside virtual economies.'

Tax authorities should promote compliance by explaining tax implications of virtual trade on their websites. The guidance should provide information on income characterization, allowable deductions,[737] income calculation methods and records to be kept. Links to such websites (or even short tax

736 GAO Report, *supra* n. 38, at p. 17.

737 The question of which expenses are deductible may not be straightforward. Tax laws of many countries contain more than one type of deductions. For example, in the United States, taxpayers may be confused whether section 62, 212 or 183 of the IRC is applicable.

information) could be inserted on the exchange platforms. Linden Lab used this approach to educate its European users about potential VAT consequences of their transactions.[738]

Tax authorities should seek a better understanding of the nature of virtual currency transactions and provide targeted guidance. As the range of potential income-generating situations is broad (there are bitcoin miners who treat their currency as stock in trade, hobby players who sell virtual items once in a while, users who cultivated their hobby into a business venture and professional entrepreneurs who accept virtual currency as a means of payment), taxpayers need be able to determine when their activity can be categorized as trade or business, a for-profit activity or a hobby. Assistance could be provided by means of examples, in a way similar to that used by the HMRC to educate its taxpayers about the tax consequences of online sales.[739] Those examples should include explanations on how to calculate tax liability in a particular case and provide for templates for recording transactions.

One of the central issues to be addressed is the question of basis and how to trace it through virtual spaces.[740] Basis is the previously taxed assets used to invest in the asset. It is usually an item's price. Thus, if a player bought virtual currency for USD 100, he will have a USD 100 basis in this currency. Upon sale, the basis is recovered by subtracting it from sales proceeds. Two rules can be used for the basis recovery. The first grants each object its own basis and determines the gain on an item-by-item basis. The second approach pools basis and allocates it across a type of assets. Which method of basis recovery should be used depends on the income-generating situation. Casual sellers are more likely to be able to determine the basis for the item sold. However, taxpayers that carry out a lot of transactions are unlikely to calculate the gain for each of the "coins" sold. Instead, the application of an inventory valuation method seems to be a more practical method of profit calculation. The choice of the method has a significant impact on the tax liability. Consider the following example, the taxpayer generated 50 bitcoins, bought another 50 (when 1 bitcoin = 50 USD) and another 50 (when 1 bitcoin = 100 USD). He has now 150 bitcoins. If 100 of them are sold when 1 bitcoin = 200 USD, what is his gain? According to the first-in first-out (FIFO) method, the first 100 coins are deemed to be sold, which results in the gain of USD 17,500 (20,000-2,500). If the last-in first-out (LIFO) method is used, the gain is only USD 12,500 (20,000-7,500).

In the majority of countries, tax administrations are not aware of virtual currency issues and do not produce any administrative guidance. Some countries issued a notice on the tax treatment of virtual currency, but limited it

738 *See* https://secondlife.com/corporate/vat.php.
739 *See* www.hmrc.gov.uk/guidance/selling/examples.htm.
740 Chodorow, *Tracing Basis through Virtual Spaces, supra* n. 103.

to the statement that the general rules apply.[741] Such a statement is insufficient as it presupposes that individuals know precisely what those general rules are. An individual who is only familiar with, for example, tax on employment income may not know what rules apply to entrepreneurs. Moreover, the general rules apply be default, so there is no need to state that fact explicitly.

The most comprehensive and informative guidance has been provided by the IRS, the Australian Taxation Office (ATO) and the Finnish Tax Administration. In March 2014, the IRS issued a notice on the tax treatment of convertible virtual currency.[742] This notice takes the form of answers to frequently asked questions. It describes the tax consequences of various activities involving virtual currency (for example, mining or acceptance as consideration for sales of goods and services) and answers, inter alia, the following questions:

- Is virtual currency treated as currency?
- Must a taxpayer who receives virtual currency as payment for goods or services include in computing gross income the fair market value of the virtual currency?
- How is the fair market value of virtual currency determined?
- What is the basis of virtual currency received as payment for goods or services?
- Does a taxpayer have gain or loss upon an exchange of virtual currency for other property?

Taxpayers are provided with short clear answers to those questions and with references to additional explanatory documents, if necessary. The provision of the guidance on the tax treatment of virtual currencies demonstrates that the IRS is able and willing to respond to innovations in the digital marketplace.

With regard to the tax treatment of virtual worlds, the IRS was less successful in providing clear and comprehensible information. It published the following general information on its website:[743]

> 'The IRS has provided guidance on the tax treatment of bartering, gambling, business and hobby income – issues that are similar to activities in online gaming worlds.
>
> In general, you can receive income in the form of money, property, or services. If you receive more income from the virtual world than you spend, you may be required to report the gain as taxable income. IRS guidance also applies when you spend more in a virtual world than you receive, you generally cannot claim a loss on an income tax return.

741 For example, the Dutch Ministry of Finance, Letter of 10 April 2013, *supra* n. 41; HMRC, *Brief 09/14, supra* n. 44.

742 IRS, *Virtual Currency Guidance*, *supra* n. 40.

743 IRS, *Tax consequences of virtual world transactions*, available at: www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Tax-Consequences-of-Virtual-World-Transactions .

> In addition, the IRS issued guidance on the tax consequences of various activities that apply to Internet-based activities and online businesses. This guidance can help answer questions about the tax consequences of your online virtual world activities.'

This statement is accompanied by links to websites where taxpayers can find more information on non-taxable hobbies, non-profit activities, online auctions, bartering, capital gains and self-employment. Those websites provide further links, so that the information which is essential for the taxpayer to understand tax consequences of his virtual activities covers more than 100 pages. Although the provision of administrative guidance is a positive development, the volume of the information and the way of its delivery (a collection of links to various sources, some of which are not relevant for virtual trade) may confuse an average taxpayer. Neither does the IRS guidance explain when activities in virtual worlds are sufficiently analogous to transactions mentioned on the various websites.[744]

The Finnish Tax Authority (*Vero Skatt*)[745] clarified the tax treatment of Bitcoin for income tax purposes in its notice issued on 28 August 2013. This Notice discusses various situations in which bitcoins are mined, traded as a hobby or in the course of business, or used for investment purposes. It includes six numerical examples showing how to calculate taxable income in bitcoin transactions. The Notice is written in a simple language, but it also provides references to the applicable Finnish legislation, so that taxpayers interested in the exact wording of the legal rules know where to find it.

The ATO issued guidance on the tax treatment of Bitcoin and other crypto-currencies on 20 August 2014.[746] The guidance clarifies the nature of virtual currency and proceeds to explain both GST and income tax aspects of bitcoin exchanges and mining. It covers a wide range of different situations in which virtual currency is traded for business or private purposes and describes what records are to be kept by taxpayers performing bitcoin transactions.

Comprehensive guidance can help taxpayers but it does not solve all their problems. Given the variety of virtual currency schemes and different personal situations of taxpayers, advice on the individual circumstances would be greatly appreciated. Taxpayers would like to have certainty that the chosen income characterization and income calculation methods will not be challenged by the tax administration. For those reasons, taxpayers should have the possibility to request advice, and tax authorities should handle those requests in a timely manner. The system of individual ruling should operate in a simple

744 The same criticism is expressed in the National Taxpayer Advocate's *2013 Annual Report to Congress* (*see supra* n. 35).

745 Finnish Tax Authority, *supra* n. 47.

746 ATO, *supra* n. 59.

and customer-friendly manner. For example, it should be possible to submit the relevant forms and all the supporting documentation by electronic means.

6.4.3.2 Monitoring and reporting

Educating taxpayers may improve tax compliance but it falls short of addressing the main difficulty that virtual currencies pose, i.e. the low likelihood of detection and enforcement of tax liabilities. The main threat to tax compliance is anonymity (tax enforcement cannot be secured if the identity of the taxpayer is not known) and asymmetric information (the taxpayer knows the facts regarding the transactions he engages in, but the government is forced to obtain that information either from the taxpayer or from third parties). Taxpayers who are well aware of their obligations to report earnings and to pay taxes may purposely choose not to do so if they know that tax authorities are not aware of the existence of such profits. Activities of individuals are difficult to track. Tax authorities are not aware that someone sells bitcoins and virtual items until the story is remarkable enough to receive media coverage. Monitoring individuals is nearly impossible and excessive surveillance would raise civil liberty concerns. Traditional anti-tax-evasion mechanisms cannot successfully address virtual currency-based tax evasion. For example, agreements on exchange of information are irrelevant since Bitcoin's operation is not dependent on the existence of a sovereign jurisdiction. There is no jurisdiction to exchange information with. Although tax authorities may employ complex statistical analysis to try to associate bitcoin transactions with external information allowing the identification of taxpayers, such an approach is labour intensive and time-consuming. It can only be used in particular cases but not to address the problem systematically.[747]

Enforcement and monitoring measures by tax authorities should not target an infinitely large number of unidentified individuals but a much smaller number of operators providing exchange services.[748] The problems of exploiting electronic commerce should be corrected at their source. Institutions are easier to regulate as they are smaller in number, have known locations and incentives to comply with the law. Their core business activity is to facilitate trade in virtual currencies and they get benefits from it. No real value can be obtained without their involvement: while virtual currencies are valuable, their value is limited and it is their conversion into real money that allows the taxpayer to fully enjoy their benefits. If intermediaries were subject to reporting requirements, online marketplaces would cease to support anonymous transactions. Properly implemented information reporting can significantly reduce

747 Marian, *supra* n. 30, at p. 45.

748 Game operators that do not provide facilities for redemption of virtual currency should not be subject to such measures since their aim is to create a virtual world, a place where people interact without consequences to their real life.

opportunities for tax evasion. It is no surprise that tax compliance is highest if a third party reporting is present.[749] Technology developments can make third-party reporting of tax relevant information less cumbersome.

The application of third-party reporting obligations to online businesses is not a new phenomenon. Such regulations have been already in place for online casinos for some time. Online casinos offer a means of transferring value across national boundaries in an easy and fast manner without any face-to-face contact. Virtual chips have real value when the user exchanges them for real currency, as it is the case with the Linden Dollar and Bitcoin.[750] Thus, regulations for online casinos may offer a useful starting point in considering an appropriate regulation for virtual currency. Online casinos are subject to strict anti-money laundering regulations in many countries.[751] For example, the UK Money Laundering Regulations 2007 require online casinos to establish and verify the identity of all customers before access is given to any remote gaming facility or where the customer purchases or exchanges casino chips totaling GBP 2,000 or more. Furthermore, the casino is required to establish policies that provide for the scrutiny of: (1) complex or unusually large transactions; (2) unusual patterns of transactions that appear to have no economic purpose; and (3) any other activity which the casino deems is particularly likely to be related to money laundering.[752]

Another example of a reporting mechanism applicable to online businesses is the procedure based on section 6050W of the IRC. Starting from the tax year 2011, the IRS began the implementation of a new reporting requirement designed to make auditing and compliance of online sellers easier. Any individual whose sales exceed USD 20,000 and who is engaged in more than 200 transactions has his gross revenue reported to the IRS by a third party settlement organization (for example PayPal or eBay).[753] That organization has to track the payment volume of an individual's accounts to check whether his payment volume goes above both of the above-mentioned thresholds in a calendar year. The amount of USD 20,000 is calculated by looking at a seller's gross payment volume for sales of goods or services, i.e. any adjustments for credits, cash equivalents, discounts, fees, refunded amounts or any other amounts are not netted out.[754] The affected sellers have to provide the settlement organization with their tax identification and social security number. The implementation of section 6050W of the IRC is estimated to raise USD 9.5

749 Lederman, *supra* n. 310, at p. 1737.

750 Stokes, *supra* n. 27, at p. 229.

751 Money laundering is the process by which unlawful funds are bestowed with the appearance of legitimacy or lawfulness or, alternatively, the illicit nature of the funds is obscured.

752 *See* www.legislation.gov.uk/uksi/2007/2157/contents/made.

753 Sec. 6050W of the IRC.

754 IRS, *IRC Section 6050W – Frequently Asked Questions*, available at: www.irs.gov/pub/irs-utl/irdm_section_6050w_faqs_7_23_11.pdf.

billion over the next ten years.[755] The main advantage of the new reporting requirement is that of centralization: one middleman files reports for many sellers. Its principal drawback is that the reporting entities cannot provide all of the information necessary for the tax authorities to match the report with the amount on the taxpayer's return because the reporting entity generally has no reliable way of knowing the taxpayer's basis in the property sold. Another limitation is that, given the applicable thresholds, section 6050W will likely apply to relatively few sellers.

With regard to virtual currency, the extent of customer identification and reporting requirements imposed on intermediaries would depend on the regulatory method chosen. A ruled-based approach would require the identification and reporting of all sellers or only those whose transactions exceed certain thresholds. Under the risk-based system, intermediaries would have to identify risks, judge their type and extent and apply measures that appear adequate, taking due account of any available guidance.

The most appropriate solution seems to be a combination of both approaches. All users of platforms where virtual currency can be sold for real money should be properly identified (for example, with their name, address, country and bank account). Customer due diligence would ensure that an intermediary keeps records with basic data of all traders, even if such information does not need to be immediately reported to the tax authorities. More extensive customer due diligence measures (for example, tax identification number or a copy of the identity card) should be used for frequent traders. The term "frequent" should be defined based on the characteristics of an individual currency and the risks involved. Tax authorities, in cooperation with exchange platforms, should develop qualitative and quantitative indicators for various currency schemes (for example, geographical risks and patterns of suspicious transactions). These are not static assessments. Efforts to combat tax avoidance using virtual currencies should be flexible in order to adapt as the currency schemes evolve. Trading platforms should be required to maintain user data and transaction records for a fixed period of time. They should provide taxpayers with access to such records, so that the latter can also use them to report their income.

The combination of both approaches should also be used for reporting requirements. To keep the volume of reportable information manageable, only transactions above predetermined thresholds and those with risky patterns and should be reported. Although the principle of equity would require that all income is reported, tax authorities are unlikely to have the administrative capacity to process such a large set of data. Moreover, it should not be forgotten that exchange platforms are global marketplaces visited by users from all over the world. Business activity of intermediaries would be negatively affected if they had to comply with a patchwork of inconsistent and detailed

755 Roscoe, *supra* n. 157, at p. 29.

country-specific filing and documentation obligations. Thus, they should be only required to report mere facts, for example, list of frequent traders and their trade volume on a country-by-country basis.

The imposition of reporting requirements affects the fundamental freedoms of intermediaries since they bear liability risks and have additional compliance costs.[756] It is therefore important that their fundamental rights are protected by the proportionality principle. Intermediaries should not be held responsible for anything which occurs outside their business relationships with taxpayers. Nor do they have to examine facts occurring beyond the scope of such relationships. Furthermore, intermediaries need a cost-free means of requesting a ruling from the tax authorities if they are in doubt about the scope of their reporting requirements. If they tax authorities do not respond in a timely manner, intermediaries should not be held liable for making a discretional decision.

As an additional tool for detecting non-compliance, tax authorities could use programmes specifically engineered to discover anonymous users who sell items on online marketplaces but fail to claim such income on their tax return. Special software can crawl through the websites and capture data necessary to identify sellers which is later cross-referenced with other databases and tax records. For example, German tax authorities use XPIDER, a software robot extracting information about sellers with high turnover from platforms, such as eBay.[757] The Xenon Spider Software, developed for the Dutch tax authorities, has been successfully applied in Canada, the United Kingdom, Austria and Denmark.[758]

Finally, it is clear that every third-party reporting and monitoring system has its limitations. It will not prevent all violations. Determined offenders will find ways to circumvent the rules[759] or sometimes even the institution itself (the trading platform) may be the source of the wrongdoing. However, the inability to achieve perfect compliance should not stand in the way of some improvements. There is a tendency to think that the creation of an unflawed income tax system is possible. That thought is wrong. It is possible to mitigate some of the problems of income tax law as they manifest themselves in some cases or to make some aspects of income tax law work well in certain situations. However, a perfect income tax system cannot exist in practice. Tax authorities cannot guarantee tax enforcement in every single case. Such an expectation is not only unrealistic in fact but also not acceptable under the

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756 Seer, *supra* n. 310, at sec. 5.

757 *XPIDER – der virtuelle Jäger der Steuerfahndung*, available at http://www.onlinesteuerrecht.de/home/index.php?option=com_content&task=view&id=231&Itemid=33.

758 *Zoekrobot Belastingdienst wereldwijd success* (2007), available at https://www.security.nl/posting/15305/Zoekrobot+Belastingdienst+wereldwijd+succes.

759 This can be accomplished by creating multiple user accounts (for example, in the name of a spouse or children) or by using several exchange platforms.

primacy of law. A 100%-tax enforcement would require administrative forces that would lead to a police state and violate the basic individual freedoms.[760]

760 Seer, *supra* n. 310, at sec. 5.

7 Indirect tax: general considerations

7.1 INTRODUCTORY REMARKS

Chapters Seven to Nine are concerned with indirect tax aspects of virtual currency. They answer the following research questions:

1) How transactions involving virtual currencies and items should be taxed (the model scenario)?
2) How transactions involving virtual currencies and items are actually taxed under the existing tax legislation (the actual scenario)?
3) How the actual scenario can be aligned with the model scenario?

The answer to the first question is provided in Chapter Seven, where the characteristics of a model system for taxing transactions involving virtual currencies and items are described (*see* section 7.5.). The model system is based on the general principles of taxation: neutrality, equity, certainty and administrative feasibility. Chapter Seven also provides some information on the general characteristics of indirect taxes (*see* section 7.2.), their history (*see* section 7.3.) and the development of electronic commerce since this commercial channel is relevant for phenomena (such as virtual currency) that exist only in digital form and are transmitted via electronic networks (*see* section 7.4.).

The answer to the second question is provided in Chapter Eight. Chapter Eight compares the tax treatment of virtual transactions in two indirect tax systems: EU VAT (*see* section 8.1.) and US retail sales tax (*see* section 8.2.), since the European Union and the United States remain two of the world's most important consumer markets, with a combined population of more than 800 million people.

EU VAT is explained on the basis of the EU VAT legislation and follows the structure of the VAT Directive,[761] making references to the national rules if necessary. As regards the United States, since there is no federal sales tax, the features common to the majority of states are discussed. Although Chapter Eight deals exclusively with the European Union and the United States, the issues that arise there and the different approaches taken by these jurisdictions

761 *Council Directive 2006/112/EC of 28 November 2006 on the Common System of Value Added Tax*, OJ L 347 of 11 Dec. 2006 (hereinafter: the „VAT Directive").

Table 5: Thesis structure

	Income tax	*Indirect tax*
Model scenario	Chapter 4 - Answers the question: how income from virtual trade should be taxed - Describes the model income tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility - Is independent of country-specific characteristics	Chapter 7 - Answers the question: how transactions involving virtual currencies and items should be taxed - Describes the model indirect tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility - Is independent of country-specific characteristics
Actual scenario	Chapter 5 - Answers the question: how income from virtual trade is actually taxed under the existing tax legislation - Describes the income tax systems of the United States, United Kingdom, Germany and the Netherlands - Each country-specific chapter is organized according to the income categories (e.g. business income, miscellaneous income, capital gains) - Does not provide recommendations or suggestions for improvement	Chapter 8 - Answers the question: how transactions involving virtual currencies and items are actually taxed under the existing tax legislation - Describes the indirect tax systems of the European Union and the United States - Each country-specific chapter is organized according to the structural elements of the indirect tax system (e.g. personal scope, taxable transactions, exemptions) - Does not provide recommendations or suggestions for improvement
Comparison	Chapter 6 - Answers the question: how the actual scenario can be aligned with the model scenario - Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems	Chapter 9 - Answers the question: how the actual scenario can be aligned with the model scenario - Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems

may have implications for a wide range of countries around the world that have modeled their indirect tax systems after the US or the European one and are also trying to find the best way to tax cross-border consumption in the Information Age. Chapter Eight also takes a closer look at the issues surrounding cross-border transactions that take place between individuals from the European Union and the United States (*see* section 8.3.). It investigates whether the lack of international coordination could cause double taxation or unintentional non-taxation of virtual transactions, both of which could affect competition and lead to market distortions.

Chapter Nine compares the actual scenario described in Chapter Eight with the model system for taxing virtual transactions presented in Chapter Seven. It identifies the features of the existing tax systems that deviate from those of the model system (*see* section 9.2. for EU VAT and 9.3. for US sales tax) and makes recommendations for their improvement.

The structure of the indirect tax chapters, as well as their parallelism to the income tax chapters, is shown in Table 5 (which reproduces Table 1 from section 1.3.).

The chapters on income tax have identified three types of activity involving virtual currencies that are relevant for income tax purposes:

- creation of virtual currency (through mining or completion of quests);
- possession of virtual currency that appreciates in value;
- exchanges of virtual currency into traditional currency or other assets.

Given the fact that indirect taxes are levied on transactions, only events involving transfers or dealings with other parties are relevant for indirect tax purposes. These include exchanges of virtual currency and its creation through mining or completion of quests.

7.2 General characteristics and types of indirect taxes

The objective of indirect consumption tax is to tax expenditures made by persons for their private purposes. It is the final consumer who should bear the tax burden. However, the tax is levied on transactions and remitted by a person different that the final consumer. Indirect consumption taxes vary in coverage, systematic approach and name. Some are of general nature, whereas others are levied only on certain products (for example, alcohol, tobacco and petroleum). The latter are not discussed in this thesis due to their irrelevance for virtual currencies.

Indirect taxes are an increasingly important revenue source. In the OECD member countries, the share of taxes on general consumption as a percentage of the GDP rose from 3.3% in 1965 to 6.7% in 2009. In 2009, the consumption tax revenue comprised about 20% of the total tax revenue, with VAT accounting

for the largest part (6.4%).[762] In the United States, retail state taxes yield almost a third of the state tax revenue.[763] In the European Union, VAT receipts accounted for 22% of the national tax revenues of Member States (including social security contributions) in 2012.[764]

Indirect taxes can be imposed at all stages of the manufacturing and distribution chain or only at one stage. An all-stage tax may be either cumulative or non-cumulative. Tax accumulation occurs when an amount of tax paid at a previous stage is again subject to tax at a later stage and, as a result, the same amount is subject to multiple taxation, the magnitude of which is determined by the length of the transaction chain: the longer the chain, the higher the tax. As there is no deduction for tax incurred on purchases, the tax cascading effect favours integrated businesses and leads to distortion of competition. The most frequently applied form of cumulative tax is gross receipt tax (GRT).[765]

In contrast, a non-cumulative tax takes into account the tax paid at an earlier stage, i.e. it applies only to the value added by the business. Three distinct approaches are available to determine the added value.[766] The first one (subtraction method) relies on aggregative data over a fixed period and taxes the difference between the total sales and purchases. Under the second one (addition method), all elements of the turnover (wages, interest, royalties, profit and subsidies) are taxed, provided that they have not been taxed at previous stages of the distribution chain. Both methods cannot accommodate multiple rates and exemptions because they do not distinguish different product categories within the sales. The third method (invoice credit method) calculates the tax on a transaction-by-transaction basis. Tax liability is determined by subtracting tax paid on the purchases (input) from tax due on the sales (output). This method is most frequently used to assess consumption tax. The most widespread non-cumulative tax is the value added tax (VAT), also called goods and services tax (GST). Limited to fewer than ten countries in the late 1960s, it has now been implemented by over 150 jurisdictions, where it often accounts for a large part of the total tax revenue.[767]

Single-stage taxes are classified according to the stage of the production and distribution chain at which the tax is applied: such tax can take the form of a manufacturer tax, a wholesaler tax or a retailer tax.[768] The main ad-

762 OECD, *Consumption Tax Trends*, ch. 3 (2012).

763 US Census Bureau, *State Government Tax Collections Summary Report: 2011* (12 Apr. 2012), available at: http://www2.census.gov/govs/statetax/2011stcreport.pdf.

764 Eurostat, *Taxation Trends in the European Union*, Annex A, Table 7 (2013).

765 R.F. van Brederode, *Systems of General Sales Taxation*, ch. 3.2. (Wolters Kluwer 2009).

766 For a detailed description of those methods, *see* id., at ch. 3.2.2; and B. Terra & J. Kajus, *Introduction to European VAT (Recast)*, sec. 7.5.3. (2012), Online Books IBFD.

767 OECD, *Consumption Tax Trends*, ch. 1 (2012).

768 Brederode, *Systems of General Sales Taxation*, *supra* n. 765, at ch. 3.1; Terra & Kajus, *Introduction to European VAT (Recast)*, *supra* n. 766, at sec. 7.4.1.

vantage of the first two types is that there is a relatively low number of taxpayers. However, as the basis of the tax is not the retail price, identical goods are not taxed equally when sold to final consumers. The degree of business integration influences the effective tax rate borne by the final consumer, and this may lead to distortions of competition. If a production process includes several manufacturers, tax accumulation occurs and creates an incentive to vertical integration. A drawback of a wholesale tax is complexity that arises when services are integrated in the system: although services should be exempt at the wholesale stage, unless they are rendered to final consumers, it is difficult for a supplier to determine in what capacity a buyer is purchasing a service.

A retail sales tax (RST) is applied to all supplies to final consumers, including those made by manufacturers and wholesalers.[769] The basis of taxation is the retail price. RST does not discriminate against some forms of distribution channels and has the advantage of simplicity. However, it makes it necessary to distinguish between taxable business-to-consumer (B2C) and exempt business-to-business (B2B) transactions, which may be problematic especially in the case of services. In many situations, the service provider has no means to verify for what purpose a transaction is carried out. Although the application of retail sales taxes is retreating because of the growing popularity of VAT, they still remain persistent in the United States.

Although an ideal RST and an ideal VAT should be economically equivalent, the differences between those two types of taxes, especially the collection mechanism, may affect their economic impact and administrative efficiency. Proponents of VAT argue that it is more resistant to losses because of the incremental collection method. On the other hand, a VAT system which offers input tax deductions all the way up an economic chain may actually be more susceptible to fraud.[770]

7.3 History of indirect consumption taxes

The rise to prominence of indirect consumption taxation occurred in the twentieth century. Gross receipt and sales taxes became a popular instrument to pay for the World War II expenses and to compensate for reduced revenues from other taxes after the Great Depression in Europe and in the United States. Although US sales taxes were introduced as temporary measures, they have been maintained to date as a reliable revenue source.[771]

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769 Brederode, *Systems of General Sales Taxation*, *supra* n. 765, at ch. 3.1.3.

770 R. de la Feria & R. Krever, *Ending VAT Exemptions: Towards a Post-Modern VAT*, sec. 1.02, in: *VAT Exemptions* (R. de la Feria ed., Wolters Kluwer 2013).

771 R.F. van Brederode, *Introduction to the US State Sales and Use Taxes*, 18 Intl. VAT Mon. 4, sec. 1 (2007).

The theoretical origins of VAT are attributed to Thomas S. Adams and Wilhelm von Siemens. German Industrialist Wilhelm von Siemens proposed the tax under the name "ennobled turnover tax" (*veredelte Umsatzsteuer*) in 1919.[772] American economist Thomas S. Adams suggested VAT in the form of a business tax as a replacement for US corporate income tax in 1921.[773] Initially, the suggestions of both writers yielded little influence. In Europe, France was the first country to adopt VAT in 1954 by gradually modifying its gross receipt tax.[774] The spread of VAT can be credited to the European integration process, which required the establishment of a common market and the harmonization of indirect taxation.[775] At the time the European Economic Community (EEC) was created, all of the six original Member States (except France) levied gross receipts taxes. Shortly after the creation of the EEC, a commission headed by Professor Fritz Neumark was established and charged with determining "whether and to what extent the present differences between the financial systems of the Member States impede, or even render impossible, the establishment of a common market", and "what possibilities exist to eliminate those differences".[776] The Neumark Commission investigated both RST and VAT, and rejected the former in favour of the latter. The RST was not considered a suitable alternative on the practical grounds, especially due to the large number of small retailers, most of whom were thought to be unable to keep adequate books.

In the First VAT Directive of 11 April 1967,[777] the ECC declared that all Member States should adopt VAT. The Second VAT Directive of the same date[778] set out the common VAT system. However, the VAT system based on those Directives permitted Member States such discretion that in practice nine different and separate national systems existed. The Directives prescribed only the general features and left it to the Member States to determine the VAT coverage and the rate structure. On 17 May 1997, the Sixth Directive[779] was enacted with the aim to harmonize various national laws. As this new VAT

772 C. von Siemens, *Veredelte Umsatzsteuer* (Siemensstadt 1919), who cites his brother Wilhelm von Siemens as originator of the proposal.

773 T.S. Adams, *Fundamental Problems of Federal Income Taxation*, 35 Quarterly Journal of Economics, pp. 527-556 (1921).

774 Brederode, *Systems of General Sales Taxation*, *supra* n. 765, at ch. 2.

775 For the history of harmonization of indirect taxation in the European Union, *see* B.J.M. Terra & P.J. Wattel, *European Tax Law*, 6th ed., sec. 4 (Kluwer Law International 2012).

776 Report of the Financial and Fiscal Committee (1963) (the "Neumark Report").

777 *First Council Directive 67/227/EEC of 11 April 1967 on the Harmonization of Legislation of Member States Concerning Turnover Taxes*, OJ 71 of 14 Apr. 1967.

778 *Second Council Directive 67/228/EEC of 11 April 1967 on the Harmonisation of Legislation of Member States Concerning Turnover Taxes – Structure and Procedures for Application of the Common System of Value Added Tax*, OJ 71 of 14 Apr. 1967.

779 *Sixth Council Directive 77/388/EEC of 17 May 1977 on the Harmonization of the Laws of the Member States Relating to Turnover Taxes – Common System of Value Added Tax: Uniform Basis of Assessment*, OJ L145 of 13 June 1977 (hereinafter: the „Sixth Directive").

legislation became part of the *acquis communautaire*, the introduction of a VAT system became pre-condition for accession of any countries subsequently joining the ECC and its successors (the European Community and the European Union). After its implementation, the Sixth Directive underwent many changes, and those amendments were often contained in separate documents. In order to improve the quality of the EU VAT rules and bring together various provisions into one piece of legislation, the VAT Directive (recasting the Sixth Directive) was adopted on 28 November 2006 and entered into force on 1 January 2007. With later modifications and derogations, it still forms the basis of the EU VAT system today.

Despite the large extent of harmonization, the VAT rules applicable in the European Union are far from uniform. It has proved difficult to achieve political consensus among Member States because of countries' resistance to changes in the domestic tax systems. As unanimity is required for indirect tax measures,[780] the policy-making process was driven by the need of compromise to satisfy demands of particular countries. To achieve support for VAT, controversial decisions were pushed into the future, national derogations accepted, and a wide range of exemption and reduced rates introduced.

Attempts to enact VAT outside the European Union revealed some shortcomings of the EU VAT model, especially multiple rates and various exemptions, the administration of which was beyond the capabilities of tax authorities in many countries. In 1985, New Zealand enacted what has become known as the modern VAT – a system that significantly improves the European model by applying a single rate, limited exemptions and a comprehensive base.[781] The modern VAT showed that it was possible to apply VAT to many types of supplies that are classified as too difficult to tax in the European Union. From the mid 1980s onwards, many countries have adapted the modern VAT or the European-style VAT system.

7.4 Rise of electronic commerce

The birth of electronic commerce in the 1990s and the related acceleration of global trade had significant consequences for indirect taxation. As indirect taxes were conceived at the time when commerce meant local traders selling products to consumers in their brick-and-mortar shops, technological advances

780 Article 113 of the Treaty on the Functioning of the European Union (TFEU) of 13 Dec. 2007, OJ C115 (2008), reads as follows: "The Council shall, acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament and the Economic and Social Committee, adopt provisions for the harmonisation of legislation concerning turnover taxes, excise duties and other forms of indirect taxation to the extent that such harmonisation is necessary to ensure the establishment and the functioning of the internal market and to avoid distortion of competition".

781 Goods and Services Tax Act 1985, Public Act 1985 No. 141.

and the emergence of new distribution models did not fit within the existing legal framework any more. Governments and legislators recognized that indirect taxes should be adapted in a coherent manner to the borderless world of global trade and a cooperative approach was required to solve common problems.

The first policy statements on electronic commerce were made in the United States and provided a stimulus for further debates on this new phenomenon. The US Treasury was the first tax administration to set out its views on tax policy implications of global electronic commerce. In its White Paper, published in November 1996, it concluded that the existing tax concepts had to be modified to address the problems raised by this new form of business.[782] As the White Paper was officially labeled a "discussion paper", and given the state of the scholarship on this issue in those days, it provided more questions than answers.[783]

The international debate in respect of taxation issues arising from electronic commerce was largely driven by the OECD's Committee on Fiscal Affairs (CFA). The OECD work can be traced back to November 1997 when a major international conference *Dismantling the Barriers to Global Electronic Commerce* was organized in Turku, Finland. Following the Turku Conference, the OECD prepared a framework for the taxation of electronic commerce that was presented at the Ottawa conference in October 1998.[784] The Ottawa Report (1998) concluded that the same principles that governments apply to the taxation of conventional commerce should apply to electronic commerce. These principles included the well-known tax policy concepts of neutrality, efficiency, certainty, simplicity, effectiveness, fairness and flexibility. New legislative measures were not precluded, provided that they were intended to assist in the application of the existing taxation principles and not to impose a discriminatory tax treatment on electronic commerce transactions.[785] The Ottawa Report (1998) recommended treating the supply of digitized products as a supply of services and to tax it in the country of consumption. International consensus had to be sought on the circumstances under which supplies were held to be consumed in a jurisdiction. Countries were advised to examine the use of reverse charge, self-assessment or other equivalent mechanisms for digital supplies acquired from suppliers outside the country.[786]

Following the Ottawa conference, five Technical Advisory Groups (TAG), consisting of government representatives from both OECD member and non-

782 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996). The White Paper was quite conservative, rejecting the need for any radical rethinking of traditional tax concepts.

783 For a discussion of the White Paper, *see* R.S. Avi-Yonah, *International Taxation of Electronic Commerce*, 52 Tax L. Rev. 507 (1996/1997).

784 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998).

785 Id., at sec. 2.

786 Id., at sec. 5.

member countries and business participants, were established to investigate policy solutions to the challenges raised by electronic commerce.[787] The results of the work undertaken by the OECD and TAGs were published in the Implementation Report (2001).[788] As regards consumption taxation, an important element of this Report was *Guidelines on the Definition of the Place of Consumption of Cross-Border Services and Intangible Property*.[789] These Guidelines acknowledged that although electronic supplies should be taxed at the place of their actual consumption, this place might not be easily identifiable by the supplier. To prevent administrative difficulties and unnecessary compliance burdens, such services should be deemed to be supplied where the recipient had established his business (for B2B transactions) or where the person had his usual residence (for B2C transactions). However, it was recognized that there were no reliable means to verify that place.[790] Another important part of the Implementation Report (2001) was *Guidelines on Tax Collection Mechanisms for Electronic Commerce*.[791] These Guidelines recommended the application of the reverse charge mechanism for cross-border B2B transactions. For B2C trade, it was recognized that no option was without significant difficulty. The registration of non-resident suppliers was suggested as an interim solution. However, countries wishing to apply this option had to ensure simplified registration procedure and the use of electronic VAT returns.

The European Union participated in the electronic commerce debate from the very beginning. In June 1998, the European Commission issued a *Communication on Electronic Commerce and Indirect Taxation*,[792] which intended to be the EU contribution to the Ottawa conference. The Communication concluded that VAT, as opposed to any new form of tax, was appropriate to be applied to electronic commerce. All supplies of goods and services within the European Union should be subject to the same tax, irrespective of the means of communication or commercial mode used to perform transactions. The Communication provided a set of guidelines that were to be used as a starting point for further discussions. The guidelines were as follows:[793]

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787 For the description of the work of other TAGs, *see* section 1.4.3.1. *OECD*.

788 OECD, *Taxation and Electronic Commerce: Implementing the Ottawa Taxation Framework Conditions* (2001).

789 Id., at p. 44.

790 Id., at p. 27. The Technology TAG found credit card-related information to be inaccurate as evidence of jurisdiction of the customer. The use of IP number also had limits in terms of its reliability and capacity to be manipulated. Finally, the Technology TAG pointed out increasing consumer sensitivity about personal privacy and data protection, both of which resulted in businesses being reluctant to seek to collect more information from customers than they needed for their commercial purposes.

791 Id., at p. 46.

792 European Commission, *Communication on Electronic Commerce and Indirect Taxation*, COM(1998)374 final (17 June 1998).

793 Id.

- VAT must be adapted to the developments of electronic commerce. No new or additional taxes are to be considered.
- Supplies of digital products are considered to be supplies of services.
- Digital supplies made for consumption should be taxed in the European Union, irrespective of their origin. Similarly, services provided by EU operators in third countries should be not subject to VAT.
- Compliance should be made as easy as possible, for example, through the use of electronic invoices and VAT returns. At the same time, tax authorities must have sufficient tools for control and prevention of abuse.

In June 2002, the European Council adopted a directive which aimed at the implementation of some of the above-mentioned guidelines.[794] The main features of the Electronic Services Directive (2002/38) were: new place-of-supply rules and a special regime for third-country suppliers of electronic services. Electronic services supplied by non-EU taxable persons to EU customers followed the destination principle. So did services supplied by an EU taxable person to another EU taxable person or a non-EU private person. However, the origin principle was maintained for supplies made by an EU taxable person to an EU private person. To reduce the compliance burden of third-country suppliers who were obliged to charge VAT of their customer's country, the Directive allowed them to register and submit their VAT returns by electronic means in only one Member State (the One Stop Shop scheme).[795]

Although the Electronic Services Directive (2002/38) improved the existing VAT system, it failed to provide a level playing field for taxable persons supplying electronic services to private individuals resident in the European Union. Whereas (until 1 January 2015) an EU taxable person needs to collect and remit VAT in the country where he is established (regardless of where the customer is resident), a non-EU business must charge VAT at the rate of the customer's country (although such VAT can be remitted to only one tax authority). To remove this disparity between EU and non-EU suppliers, new rules have to be implemented by the Member States by 1 January 2015.[796] According to those rules, all providers of electronic services will charge VAT at the rate of the customer's country and apply the One Stop Shop regime.[797]

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794 *Council Directive 2002/38/EC of 7 May 2002 Amending and Amending Temporarily Directive 77/388/EEC as regards the Value Added Tax Arrangements Applicable to Radio and Television Broadcasting Services and Certain Electronically Supplied Services*, OJ L 128 of 15 May 2002 (hereinafter: the "Electronic Services Directive (2002/38)"). Originally the Electronic Services Directive (2002/38) was intended to apply for a period of three years, starting from 1 July 2003. This period was extended many times and, finally, in 2008, the arrangements became permanent.

795 For the description of the One Stop Shop scheme, *see* section 8.1.9. *Administrative obligations*.

796 *Council Directive 2008/8/EC of 12 February 2008 Amending Directive 2006/112/EC as regards the Place of Supply of Services*, OJ L 44 of 20 Feb. 2008.

797 For more information on the rules applicable as from 1 January 2015, *see* section 8.1.4. *Place of taxation*.

Indirect tax issues of electronic commerce are one of the topics covered by the first action item of the OECD Base Erosion and Profit Shifting (BEPS) project.[798] VAT collection on electronic services supplied by non-resident suppliers to final consumers is considered one of the biggest challenges created by the digital economy. The OECD published a discussion draft on taxation of the digital economy on 24 March 2014 and the final report is expected to be published in September 2014. Unfortunately, the OECD work within the BEPS project on VAT challenges of B2C supplies fails to provide new insights and mirrors the contents of the reports prepared by the OECD Consumption Tax TAG. In view of this fact, it is doubtful whether it will result in any significant changes.

The European Union has actively participated in the work underway at the global level within the OECD BEPS project. In order to identify and solve the key problems of taxation of the digital economy from an EU perspective, the European Commission established an Expert Group on Taxation of the Digital Economy. On 28 May 2014, the Expert Group presented its final report with some general conclusions (tax rules applicable to the digital economy should be stable, simple and neutral).[799] The Group is of the view that the Commission and the Member States should commit to apply the destination principle to all supplies of goods and services and welcomes the expansion of the One Stop Shop arrangement as from 1 January 2015. In general, the views of the Expert Group are consistent with those expressed in the OECD BEPS reports.

7.5 THE MODEL TAX SYSTEM

7.5.1 Initial comments

This section describes the features of a model system for taxing transactions involving virtual currencies and items. Those features are identified on the basis of the general principles of taxation: neutrality, equity, certainty and administrative feasibility. Administrative concerns are an important criterion since a tax system must be capable of practical operation. The model indirect tax system is used as a benchmark to evaluate the EU VAT and US sales tax rules that apply to trade in virtual currencies and items. By comparing the model system with the existing legal framework of the two jurisdictions, recommendations for the improvement of the latter are made (*see* Chapter 9).

Section 7.5.2. describes the basic characteristics of the model indirect consumption tax system in terms of its object (consumption versus transactions), tax collection method (direct versus indirect) and place of taxation. Section

798 For more information on the BEPS project, *see* section 1.4.3.1. *OECD*.
799 Expert Group on Taxation of the Digital Economy, *supra* n. 20.

7.5.3. applies the fundamental principles of taxation (equity, neutrality, certainty and administrative feasibility)[800] to determine how various elements of the model tax system (for example, person liable for tax remittance, place of taxation or taxable transactions) should be designed. The principles may overlap or conflict with one another, so that the design of the elements of the model tax system must be the result of a trade-off among them. It is also important to mention that the principles are not clear-cut criteria. For example, Brown and Mintz (2010) consider efficiency, equity and simplicity to be subcategories of neutrality.[801] The features of the model indirect tax system that are identified on the basis of the general principles are listed in section 7.5.4.

The fundamental principles of taxation must be distinguished from the purpose of tax. Taxes are generally used to pursue three different objectives: to raise revenue, to redistribute wealth and to encourage/discourage certain behaviour. As mentioned in section 7.3., consumption taxes were introduced solely with the purpose of raising revenue. They were not designed to meet social or redistributive objectives. Nor did they intend to discourage undesirable behavior. However, the purpose of a tax does not provide much information about the design of a tax system since a revenue-raising objective can be achieved in many different ways. The design of a tax system results from the principles underlying the tax.

7.5.2 Basic characteristics

7.5.2.1 Transaction tax

Indirect consumption taxes intend to cover expenditures made by private persons. Contrary to their name, they are not levied on consumption.[802] The term "consumption" merely indicated who bears the tax burden. The fact that some goods or services can be consumed quickly, whereas others (for example, equipment or the right to use immovable property) are used over a long period is irrelevant. The tax is due as soon as the consumer makes the expenditure, irrespective of when and how the goods and services will be used later on. The object of the tax is transactions performed by businesses, whereas the tax burden rests on consumers.

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800 The same principles are discussed in the chapter describing the model income tax system (*see* section 4.3. *Principles of income taxation*).

801 C. Brown & J. Mintz, *On the Relationship between International Tax Neutrality and Non-Discrimination Clauses under Tax Treaties for Source-Based Taxes* in *Tax Treaties: Building Bridges between Law and Economics* (M. Lang et al. eds. IBFD 2010).

802 Terra & Kajus, *Introduction to European VAT (Recast)*, *supra* n. 766, at sec. 7.2.2.

7.5.2.2 Indirect tax

Consumption tax can be collected directly from consumers or indirectly from businesses supplying goods and services. Although in theory it is possible to designate the consumer as the person liable to remit the tax, such a direct consumption tax has nowhere proven its efficiency. In all countries, taxes on consumption are levied indirectly.[803]

The first reason for using businesses as tax collection points is that consumers are not subject to any registration and supervision mechanisms. Given the absence of system-inherent mechanisms that would ensure tax compliance, consumers would have an incentive not to remit the tax. The second reason is the large number of consumers in a jurisdiction (all citizens are consumers). Extending the tax collection obligation to consumers would cause a tremendous amount of work for the tax authorities and result in high administrative costs. The inefficiency of tax collection from customers is evidenced by the US experience with use taxes.[804] Hellerstein (2003)[805] refers to any tax that is self-assessed by consumers as a "tax on honesty". The OECD stated in its various reports that consumer self-assessment is not an effective tax compliance mechanism.[806]

Taxing C2C transactions would face the same problems as levying income tax on imputed income. Imputed income is the value of benefits derived from non-market transactions.[807] The administrative complexity associated with recording, reporting and auditing such income would make the tax system unworkable. Consequently, neither C2C transactions nor imputed income are taxed anywhere in the world.

Whereas it is acceptable to designate consumers as persons liable to remit the tax on an occasional basis (for example, in the case of cross-border acquisition of new means of transport in the European Union), the imposition of a general tax collection obligation on consumers would not be an efficient solution. Therefore, in the model system, businesses should be used as tax collection points since they are smaller in number and more likely to comply, and C2C transactions should remain outside the scope of tax.

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803 Id., at sec. 7.2.3.

804 *See* section 8.2.4. *Basic characteristics of use taxes*.

805 W. Hellerstein, *Jurisdiction to Tax Income and Consumption in the New Economy: A Theoretical and Comparative Perspective*, 38 Georgia Law Review 1 (2003), available at http://digitalcommons.law.uga.edu/cgi/viewcontent.cgi?article=1125&context=fac_artchop.

806 OECD, *Taxation and Electronic Commerce: Implementing the Ottawa Taxation Framework Conditions*, p. 184 (2001).

807 *See* section 5.1.2.4. *Imputed income*.

7.5.2.3 Place of taxation

Two main principles that govern the inter-jurisdictional application of indirect consumption taxes are the destination principle and the origin principle. Under the former, goods are taxed where they are "consumed" (i.e. exports are exempt and imports are taxed on the same basis and with the same rates as local production). Under the latter, goods are taxed where they are produced (i.e. exports are taxed and imports are exempt).

The destination principle is regarded as the theoretically correct way to tax consumption since it ensures that all consumption within a particular jurisdiction is treated in the same way. Taxation according to the place of consumption is also supported by the benefit principle. Under this principle, the tax burden should be proportional to benefits that taxpayers obtain from the state. Those benefits include the provision of a legal and judicial system that protect the taxpayer's possessions and the economic environment that renders consumption possible.[808]

However, even when the destination principle is applied, tax is not levied at the place of actual consumption. It is usually not possible to indentify such a place at the time of the supply since the person who will "consume" the goods or services may not necessarily be the purchaser or at the time of the supply it may not be sure whether the goods will actually be consumed. All existing indirect tax systems use various proxies to predict the expected place of consumption (for example, the place where services are used and enjoyed, the permanent address or the usual residence of the customer).

7.5.3 Principles of taxation

7.5.3.1 Neutrality

Neutrality is the core principle underlying all tax systems. In both direct and indirect tax systems, this principle is supposed to provide a neutral background when taxpayers make a decision. A neutral tax situation does not have distortive effects on the economy. Taxes should neither influence business decisions nor affect consumer choices. Neutrality can be divided into external neutrality and internal neutrality.[809]

External neutrality is related to cross-border aspects of levying a consumption tax. In a neutral tax system, it should not make any difference whether

808 However, in certain cases (for example, when services are provided and consumed at the location of the service provider), it might not be entirely clear which state facilitates the consumption most.

809 Terra & Kajus, *Introduction to European VAT (Recast)*, *supra* n. 766, at sec. 7.3.

expenditure is related to goods imported or locally produced. Imported products should be treated in the same way as domestic products.[810]

External neutrality is not ensured in cumulative cascade tax systems since the tax burden on a given product cannot be precisely determined. Nor is it guaranteed if goods and services from abroad escape taxation due to deficient tax collection mechanisms. In this regard, a concept of substantive and enforcement jurisdiction developed by Hellerstein (2003) can be useful.[811] Substantive jurisdiction concerns the state's right to levy tax, whereas enforcement jurisdiction is related to the state's power to compel of the tax over which it has "substantive jurisdiction". Ideally, rules should be designed so that a state has either both types of jurisdiction or neither. If a state lacks enforcement jurisdiction, it will have difficulty collecting the right amount of tax and the principle of external neutrality will be violated.

Internal neutrality refers to national aspects of levying an indirect tax. It can be divided into legal, competition and economic neutrality. The concept of legal neutrality is closely connected to the legal character of consumption tax, and requires that the amount of tax payable is certain (i.e. expressed as a percentage of the retail price) and equal for similar (substitutable) products.[812] Legal neutrality is guaranteed if all private expenditure is taxed. Taxes that target only specific types of supplies (for example, only supplies of tangible property) fail to observe that principle. Since services can be used as substitutes of goods and intangibles as substitutes of tangibles, excluding some types of supplies from taxation distorts economic decisions of individuals. For example, if taxes were levied only on printed books, the consumer would prefer to purchase electronic books instead. Tax systems that exclude services or intangibles from the tax base provide their consumers with incentives to use the tax-free products and discriminate against the taxed ones. Therefore, the model indirect tax system should be construed as a general tax that applies to all consumption expenditure.

Economic neutrality means that tax should not interfere with the optimal allocation of means of production and business decisions.[813] Such interference can be caused by different tax rates if, for example, the origin principle is applied and the tax rates are not uniform across countries. In such circumstances, production in low-tax jurisdictions is favoured.[814] In order not to influence business decisions, tax should not be a cost for businesses, but it should be shifted onto the final consumer. This aim can be achieved through

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810 Id.

811 Hellerstein, *supra* n. 805, at. p. 23*; see also* W. Hellerstein, *Jurisdiction to Tax in the Digital Economy: Permanent and Other Establishments*, 68 Bull. Intl. Taxn. 6/7 (2014).

812 Terra & Kajus, *Introduction to European VAT (Recast)*, *supra* n. 766, at sec. 7.3.1.1.

813 Id., at sec. 7.3.1.3.

814 If all countries had identical VAT systems, the origin and destination principles would become equivalent.

the right to deduct input VAT or through exempting B2B supplies from taxation (retail tax).

Competition neutrality means that taxation should not be influenced by the technology and commercial channels used for the supply of goods and services.[815] The tax burden should not be dependent on the degree of horizontal or vertical integration.[816] The market mechanism should determine the means of production and distribution. Competition neutrality is not guaranteed in cumulative cascade systems that favour integrated supply chains.

7.5.3.2 Equity

The principle of equity demands that the equal is treated equally and the unequal – in proportion unequally. There are two dimensions to the notion of equity: vertical and horizontal. Since horizontal equity overlaps with the principle of legal neutrality, reference is made here to section 7.5.3.1. Vertical equity means that people in different circumstances should pay an appropriately different amount of tax since it is fair for a heavier tax burden to fall on people who are better able to bear it.

Consumption taxes are levied irrespective of the personal circumstances of the taxpayer. They are said to be of regressive nature since the tax expenditure forms a larger part of expenditures of poorer households.

One obvious solution to implement the principle of vertical equity in consumption tax systems would be to introduce different tax rates for different people based on the resources available to them. This approach would guarantee that those with a greater ability to pay bear a higher tax burden. Needless to say, such a solution is unlikely to work in practice since suppliers would have to ask their customers about the applicable tax rate and have possibilities to verify that the communicated tax rate is correct.

Another solution to implement the principle of equity could be to apply reduced tax rates or exemptions to the basic necessities and products that are frequently purchased by poorer households. However, a differentiation of rates means that the well-off also pay less tax. Low tax rates on certain products benefit everyone and not only the target group. Another problem with multiple rates is that they tend to complicate the tax system by causing product misclassifications: suppliers of products at the dividing line of definition try to qualify their products as ones subject to the reduced rate. As a result, tax authorities must devote significant amount of time and resources to determine the correct tax rate in borderline cases. The most famous case on product classification is undoubtedly the Jaffa cakes, which made it necessary for the HMRC to issue the following guidance (the text of the guidance is reproduced

815 Westberg, *supra* n. 21, at sec. 4.3.2.1.
816 Terra & Kajus, *Introduction to European VAT (Recast)*, *supra* n. 766, at sec. 7.3.1.2.

in full to show the reader the type of questions that need to be answered to apply to correct tax rate):[817]

> 'The significance of the borderline between cakes and biscuits is that a cake is zero-rated even if it is covered in chocolate, whereas a biscuit is standard-rated if wholly or partly covered in chocolate or some product similar in taste and appearance. As set out in the paragraphs above, there is no generally accepted definition of either cake or biscuit, but the distinction is usually clear in practice.
>
> Customs and Excise had accepted since the start of VAT that Jaffa cakes were zero-rated as cakes, but always had misgivings about whether this was correct. Following a review, the department reversed its view of the liability. Jaffa cakes were then ruled to be biscuits partly covered in chocolate and standard-rated: United Biscuits (as McVities, one of the largest manufacturers of Jaffa cakes) appealed against this decision. The Tribunal listed the factors it considered in coming to a decision as follows.
> - The product's name was a minor consideration.
> - Ingredients: Cake can be made of widely differing ingredients, but Jaffa cakes were made of an egg, flour, and sugar mixture which was aerated on cooking and was the same as a traditional sponge cake. It was a thin batter rather than the thicker dough expected for a biscuit texture.
> - Cake would be expected to be soft and friable; biscuit would be expected to be crisp and able to be snapped. Jaffa cakes had the texture of sponge cake.
> - Size: Jaffa cakes were in size more like biscuits than cakes.
> - Packaging: Jaffa cakes were sold in packages more similar to biscuits than cakes.
> - Marketing: Jaffa cakes were generally displayed for sale with biscuits rather than cakes.
> - On going stale, a Jaffa cake goes hard like a cake rather than soft like a biscuit.
> - Jaffa cakes are presented as a snack, eaten with the fingers, whereas a cake may be more often expected to be eaten with a fork. They also appeal to children, who could eat one in a few mouthfuls rather like a sweet.
> - The sponge part of a Jaffa cake is a substantial part of the product in terms of bulk and texture when eaten.
>
> Taking all these factors into account, Jaffa cakes had characteristics of both cakes and biscuits, but the tribunal thought they had enough characteristics of cakes to be accepted as such, and they were therefore zero-rated.'

If certain goods or services were exempt from tax for social policy reasons, the same problems of classification would arise. Moreover, in indirect tax systems that use the invoice-credit method, the application of exemptions creates difficulty in calculating the proportion of deductible input tax.

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817 HMRC, *VFOOD6260 – Excepted items: Confectionery: The bounds of confectionery, sweets, chocolates, chocolate biscuits, cakes and biscuits: The borderline between cakes and biscuits*, available at: http://www.hmrc.gov.uk/manuals/vfoodmanual/vfood6260.htm.

The above-mentioned arguments show that equity cannot be easily achieved in an indirect tax system. The policy measures to make an indirect tax system equitable would compromise its simplicity (multiple rates causing classification problems) or even jeopardize its operation in general (the application of different tax rates to different taxpayers depending on their ability to pay). It can be concluded that consumption tax is not the appropriate tool to pursue equity objectives and that certain features of the tax system (reduced rates and exemptions) are undesirable.

7.5.3.3 Administrative feasibility and certainty

An administrable tax system is efficient, simple and certain. Efficiency means that compliance costs for taxpayers and administrative costs for the tax authorities are minimized.

Administration costs are frequently determined by the number of taxpayers and the extent of compliance obligations. The use of high registration thresholds reduces the number of taxpayers that must register and fulfill administrative obligations. It means less frequent audits and less work for the tax administration. The main reason for excluding businesses with low turnover from the tax scope is that tax revenue from their activity is not likely to exceed the related administrative and compliance costs. On the other hand, a high threshold may be regarded as giving an advantage to small enterprises and creating distortion of competition with larger ones. Thus, the level of the threshold is often a compromise between the desire to reduce compliance and collection costs and the desire not to jeopardize tax revenue and not to distort competition.[818]

In an efficient tax system, the key role of businesses in tax collection must be properly is recognized since indirect taxes are intended to be borne by consumers and not by businesses. As taxation of B2B supplies does not generate any revenue for the state (except if the business customer cannot deduct input VAT), the least burdensome rules should be applied for B2B transactions.

Tax rules are simple and certain when taxpayers can easily determine in advance who, when and how has to pay the tax. Taxpayers must understand and anticipate the tax consequences of their actions. In indirect consumption tax systems, certainty should be reflected in the rules determining the personal scope of tax, the types of taxable transactions and the place of supply.

First, taxpayers must be sure when they become obliged to charge and remit tax. Some countries require a case-by-case analysis to identify whether a person is engaged in business activity that triggers the obligation to account for consumption tax. Others impose a tax collection obligation if certain turnover thresholds are met. The latter approach provides taxpayers with legal certainty since the sales volume is an objective fact, whereas the outcome of

818 OECD, *Consumption Tax Trends,* ch. 3 (2008).

a case-by-case analysis depends on the person who performs it. On the other hand, a threshold may be perceived as unfair by taxpayers whose turnover has just exceeded it.

Second, the types of taxable transactions should be clearly defined. If an indirect tax covers all transactions, taxpayers do not need to consider whether their supplies are taxable. However, if only certain supplies are taxed (for example, supplies of tangible property and selected intangibles), it is necessary to determine the exact nature of each supply. It may occur that the characterizations chosen by the taxpayer and the tax authorities diverge.

Finally, the application of the destination principle makes it necessary to establish the place of consumption on a case-by-case basis. To keep the compliance burden related to this task manageable and prevent uncertainty, tax legislation should establish proxies for the place of consumption that are clear and available to suppliers at the time of the transaction (for example, it is easier for the supplier to identify the shipping address that the place when a service is actually used and enjoyed).

7.5.4 Interim conclusions

To sum up, the characteristics of the model system for taxing virtual currencies and items that have been identified in this chapter on the basis on the principles of taxation are as follows:

- The personal scope is clearly defined, so that there is no uncertainty regarding who has to remit the tax.
- All supplies of goods and services are taxable (i.e. within the scope of tax) and taxed (i.e. not exempt) to eliminate classification issues that may unnecessarily complicate the tax system.
- The destination principle applies to determine the place of taxation. The place of consumption is identified of the basis of clear proxies that are available to the supplier at the time of the transaction. The effective-use-and-enjoyment criterion is avoided.
- Multiple rates are avoided. One rate applies to all digital products.
- Tax burden rests exclusively on consumers, whereas B2B supplies are excluded from the scope of tax or input tax deductions are available.
- Tax collection system is effective and efficient. Non-compliance risks prevalent in certain sectors or among certain groups of taxpayers are eliminated. There are mechanisms in place to ensure that all suppliers comply with their tax obligations.

These characteristics are used as a benchmark in the evaluation of the indirect tax systems of the European Union and the United States. Both systems are described in Chapter Eight (*see* section 8.1. for EU VAT and section 8.2. for US sales tax). To ensure their comparability and consistency, both sections have

a parallel structure and are organized according to the elements of the tax system. Chapter Nine identifies discrepancies and mismatches between the model tax system described in this chapter and the actual tax systems described in Chapter Eight and makes recommendations to remedy them.

8 Indirect tax: country-specific considerations

8.1 The European Union

8.1.1 Sources of EU VAT law

VAT is an important pillar in the tax and economic system of the European Union. Apart from being a significant revenue source, it contributes to a non-distortive trade policy and respects the fundamental freedoms. VAT legislation in the European Union has been harmonized to a large extent to ensure the proper functioning of the internal market. This process started in 1967, when the First and the Second VAT Directive were enacted.[819] Currently, the VAT Directive[820] lays down the fundamental concepts of the VAT system. The majority of its provisions is straightforward and leaves no discretion with regard to their implementation; however, some allow certain leeway in adopting national rules.[821] To ensure uniform application of the VAT Directive, the VAT Implementing Regulation[822] was enacted.[823] However, the large number of VAT cases referred to the Court of Justice of the European Union (ECJ) indicates that the EU VAT system is far from being clear and uniform.

Decisions of the Court of Justice of the European Union play a fundamental role in the application of the EU VAT rules. The ECJ is "the supreme court" in

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819 *First Council Directive 67/227/EEC of 11 April 1967 on the Harmonization of Legislation of Member States Concerning Turnover Taxes* and *Second Council Directive 67/228/EEC of 11 April 1967 on the Harmonisation of Legislation of Member States Concerning Turnover Taxes – Structure and Procedures for Application of the Common System of Value Added Tax*, OJ 71 of 14 Apr. 1967.

820 *Council Directive 2006/112/EC of 28 November 2006 on the Common System of Value Added Tax*, OJ L 347 of 11 Dec. 2006 (hereinafter: the „VAT Directive").

821 For example, Member States may decide about the applicable VAT rates. The VAT Directive only lays down the minimum standard rate (15%) and the minimum reduced rate (5%).

822 *Council Implementing Regulation (EU) No 282/2011 of 15 March 2011 Laying Down Implementing Measures for Directive 2006/112/EC on the Common System of Value Added Tax*, OJ L77 of 23 Mar. 2011 (hereinafter: the „VAT Implementing Regulation"). In 2013, the VAT Implementing Regulation was amended by *Council Implementing Regulation (EU) No 1042/2013 of 7 October 2013 amending Implementing Regulation (EU) No 282/2011 as regards the place of supply of services*, OJ L 284/1 of 26 Oct. 2013. When this thesis mentions the VAT Implementing Regulation, it refers to the amended version.

823 Regulations are binding in their entirety and are directly applicable in all Member States. In contrast, a directive is binding as to the result to be achieved, allowing each Member State to choose the method and form of its implementation.

EU VAT matters, since it has the main responsibility for ensuring that VAT law is interpreted and applied in the same way in all EU countries. The ECJ makes sure that national courts do not give different rulings on the same issue and that Member States and EU institutions do what the law requires. Most matters brought before the Court are either references for preliminary rulings or direct actions. Preliminary rulings result from requests by Member States' national courts for the ECJ to give guidance on the interpretation of EU law. Direct actions are usually brought by the European Commission against Member States that have failed to fulfill their obligations under EU law. The ECJ is acknowledged to have been the driving force in the emergence of a distinctive "European Union law", separate from both national and traditional international law. The ECJ proclaimed this law to be "a new legal order" in *NV Algemene Transporten Expeditie Onderneming van Gend en Loos v. Nederlandse Administratie der Belastingen* (26/62).[824] Moreover, this new legal order was accorded supremacy over the national laws of the Member States in *Flaminio Costa v. ENEL* (6/64).[825]

In simple terms, the functioning of the VAT system can be described as follows. All supplies of goods and services carried out for consideration by a taxable person in the EU territory are subject to VAT, unless a specific exemption applies. VAT charged by the supplier to his customers is known as "output VAT". The supplier is generally responsible for the remittance of output VAT to the tax authorities. VAT paid by the supplier to other businesses on goods and services that he receives is known as "input VAT". A taxable person is generally able to recover input VAT attributable to his taxable transactions by setting it off against the output VAT in his VAT return, provided that all the requirements for an input VAT deduction are met.

8.1.2 Taxable person

In order to determine the personal scope of VAT, it is necessary to establish who may be regarded as a taxable person. "Taxable person" is an autonomous VAT concept. It does not exist in civil or trade law. Under article 9 of the VAT Directive, a taxable person is anyone who independently carries out in any place any economic activity, whatever the purpose or result of that activity. Article 9(2) provides a non-exhaustive list of economic activities ("any activity of producers, traders, person supplying services, including mining and agricultural activities and activities of the professions"), and notes that "exploitation of tangible or intangible property for the purposes of obtaining income therefrom on a continuing basis" should also be taxable.

824 ECJ, 5 Feb. 1963, 26/62, *NV Algemene Transport- en Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration*.

825 ECJ, 15 July 1964, 6/64, *Flaminio Costa v. ENEL*.

Thus, the definition of the taxable person is very broad: it is not limited to EU residents ("any person in any place") or to persons acting for profit motives ("whatever the purpose"). This is in line with the objective of VAT as a general consumption tax. The characterization as a taxable person depends on two factors: the existence of economic activities and the independent pursuit of such activities. The former requirement is examined in the next sections. The latter is not discussed further as persons trading in virtual items and currencies do not perform these activities in an employment relationship.[826] Thus, they act independently.

8.1.2.1 Beginning of economic activities

A person may acquire the status of a taxable person long before he first performs a taxable transaction. The ECJ ruled in *Rompelman* (C-268/83) that the exploitation of property generally begins "with the first preparatory act, i.e. with the first transaction on which input tax may be charged".[827] Any other view would be contrary to the purpose of the VAT system since in the period between the remittance of VAT which is payable on the first transaction and the refund of that VAT, the person would bear the tax burden; however, the intention of the VAT system is precisely to relieve the trader entirely of that burden.[828] Thus, preparatory activities, such as the acquisition of operating assets, must be treated as economic activities. Nevertheless, the tax authorities may require that the declared intention to perform taxable supplies is supported by objective evidence.[829]

It is not relevant whether the acquired assets are immediately used for taxable transactions.[830] The immediate use of goods for taxable supplies does not constitute a condition for the existence of an economic activity. As the ECJ observed in *Lennartz* (C-97/90), the use to which the goods are put, or intended to be put, merely determines the extent of the initial deduction to which the taxable person is entitled. However, it is the acquisition of the goods by a taxable person acting as such that gives rise to the application of the VAT system and the deduction mechanism.[831] To determine whether a person acquires goods in his capacity as a taxable person, all relevant circumstances,

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826 Under article 11 of the VAT Directive, "the condition in Article 9(1) that the economic activity be conducted 'independently' shall exclude employed and other persons from VAT in so far as they are bound to an employer by a contract of employment or by any other legal ties creating the relationship of employer and employee as regards working conditions, remuneration and the employer's liability".

827 ECJ, 14 Feb. 1985, C-268/83, *D. A. Rompelman and E. A. Rompelman-Van Deelen v. Minister van Financiën*, para. 13.

828 Id.

829 Id., at para. 25.

830 ECJ, 11 July 1991, C-97/90, *H. Lennartz v. Finanzamt München III*, para. 14.

831 Id., at para. 15.

such as the nature of the goods concerned and the period which elapsed between their acquisition and their use for the taxable person's economic activities, must be taken into account.[832]

Trade in virtual items and currencies usually starts as a hobby: people explore virtual worlds for fun. The first sales of virtual items are made on an occasional basis, whenever a favourable opportunity occurs. As players become more experienced, they are able to find more good sales opportunities and to increase their trade volume. It is difficult to establish when play ceases and taxation may begin: the transition from non-taxable hobby to business activity may take a long period.

According to the settled ECJ case law, the intention to perform taxable transactions must be confirmed by objective evidence. What kind of evidence can qualify as sufficient is unclear. Some preparatory activities, such as the purchase of gaming software, may be considered to be part of both an economic activity and a new hobby. In general, creating a game account or a virtual wallet should not be sufficient evidence that taxable transitions will be carried out in the future. However, the registration as a seller with an exchange platform where virtual items can be traded, the opening of a virtual shop in *Second Life* or the installation of bitcoin mining software may indicate that a person prepares to carry out economic activity.[833]

To sum up, in the case of activities that may be performed for both private and business purposes, it is very difficult to establish when the business element prevails. The term "objective evidence" is actually of subjective nature since every person may have different opinion on what is "objective enough". It is clear that some activity must be carried out: the mere intention to make a virtual business out of a virtual presence is not sufficient. Although some indicators can be found, it is not possible to consider their existence to be an unequivocal sign that taxable activities are likely to occur.

8.1.2.2 Purpose and result of economic activities

Under article 9 of the VAT Directive, an activity may be considered an economic one, irrespective of its purpose or result. According to the Advocate General (AG) opinion in *Hong Kong Trade Development* (C-89/81), the expression "whatever the purpose or result" ("whether or not for gain")[834] is only explanatory

832 Id., at para. 20.

833 It is assumed here that a person does not already qualify as a taxable person due to other circumstances.

834 The case was decided on the basis of the Second VAT Directive. Article 4 of that Directive defined the taxable person as "any person who independently and habitually engages in transactions pertaining to the activities of producers, traders or persons providing services, whether or not for gain".

and of secondary importance. It merely intends to clarify that not the aim but the nature of the activities in question is relevant.[835]

An activity does not cease to be an economic one because it is loss-making or carried out for a charitable or philanthropic purpose. The ECJ held in *Hotel Scandic Gåsabäck AB* (C-412/03) that the fact that the price paid for an economic transaction is higher or lower than the cost price is irrelevant.[836] In *Enkler* (C-230/94), the ECJ stated that the hiring out of the caravan could be an economic activity despite that fact that it resulted in losses.[837] The indifference towards profit making is consistent with the nature of VAT: whether a profit is made is irrelevant, it is private expenditure made for consumption what counts.

In *SPÖ Landesorganisation Kärnten* (C-267/08), the question was whether public relation activities and supply of advertising material carried out by a section of a political party could be viewed as economic activities. The ECJ answered the question in the negative. In the judgment, it referred to the fact that "the exploitation does not allow the generation of revenue on a continuing basis" and income from other sources (party members' contributions and public funding) had to be raised "to cover losses made by the activity at issue".[838] However, this statement cannot be used to conclude that a loss-making activity cannot be an economic activity. The decisive argument for the ECJ was that SPÖ did not participate in any market. Its task was to spread ideas as a political organization. The fact that it was financed by subsidies from public funds was in accordance with the Austrian legislation on the financing of political parties.

In contrast to the income tax legislation of many European countries, VAT does not require a profit motive. The argument that no profits are or will be made cannot be used to deny the status of a "taxable person". However, the statement "whatever purpose or result" cannot be interpreted as meaning that a hobby purpose is sufficient. According the settled ECJ case law, the economic nature of the activities is decisive. The next sections try to shed more light on the interpretation of this concept.

8.1.2.3 Duration of economic activities

It is apparent from the settled case law that the term "economic activities" is very broad and objective in character.[839] From article 12 of the VAT Directive, it may be deduced that economic activities should be carried out on more

835 AG Opinion, 2 Mar. 1982, C-89/81, *Staatssecretaris van Financiën v. Hong Kong Trade Development Council*, para. 33.
836 ECJ, 20 Jan. 2005, C-412/03, *Hotel Scandic Gåsabäck AB v. Riksskatteverket*, para. 22.
837 ECJ, 26 Sep. 1996, C-230/94, *R. Enkler v. Finanzamt Homburg*.
838 ECJ, 6 Oct. 2009, C-267/08, *SPÖ Landesorganisation Kärnten*, paras. 21 and 25.
839 Id., para. 17 with further references.

than an occasional basis since occasional transactions *may* be included in the concept of a taxable person if Member States decide so. This same continuity requirement is found in article 9(2) of the VAT Directive regarding the exploitation of tangible and intangible property.

However, this should not be understood as meaning that one needs to enter into several transactions to qualify as a taxable person. The Advocate General clarified this matter in the case *Wellcome Trust* (C-155/94). The Wellcome Trust Ltd was the sole trustee of a charitable trust. It sold a large amount of shares that it had held for several years and reclaimed input tax on expenses incurred in relation to that sale. The transaction took place on one day; however, it required extensive preparatory work and assistance of investment advisors. The question was whether the company's investment activities constituted economic activities. The AG observed that the fact that the shares were sold during one day had no bearing on the assessment of that sale. If an activity is treated as an economic activity within the meaning of the VAT Directive, it will remain so even if completed in a single day. The AG concluded that "it is neither the scope nor the duration which is conclusive, but solely the question whether that activity is an economic activity".[840] The ECJ followed the AG's reasoning in its judgment.

There seems to be some inconsistency between the ECJ case law and the wording of the VAT Directive. Under the former, a one-time transaction is sufficient, whereas under the latter, occasional activities may be regarded as economic ones only if a Member State decides so.

The decisive element for the characterization as a taxable person is the economic nature of activities. The term "economic" literally means "considered in relation to trade, industry" or "justified in terms of profitability".[841] Thus, a literal interpretation of this concept suggests that several transactions must be carried out. A person is not considered to be a trader by making a single sale. The fact that there are no guidelines on what number of transactions is required or during what period they must occur to qualify as economic ones creates significant legal uncertainty. What if the activities are related but there is a large time break between them? For example, a person sells five virtual items in his virtual shop during one week and then makes another five sales during another week in four months. As continuity is not required, such time breaks should be irrelevant. However, adding up several occasional sales seems to contradict the wording of the VAT Directive, which excludes such transactions from the VAT scope.

840 AG Opinion, 7 Dec. 1995, C-155/94, *Wellcome Trust Ltd v. Commissioners of Customs & Excise*.
841 Oxford Dictionary, http://oxforddictionaries.com/definition/english/economic?q=economic.

8.1.2.4 Exploitation of property

Under article 9 of the VAT Directive, a person exploiting tangible or intangible property must act with the purpose of obtaining income from such activities on a continuing basis. The term "exploitation" refers to all transactions, irrespective their legal form.[842] However, to be subject to VAT, the exploitation must meet two requirements: its purpose must be to obtain income (condition one) on a continuing basis (condition two).[843] The ECJ shed more light on the interpretation of those requirements in *Ainārs Rēdlihs* (C-263/11),[844] *Enkler* (C-230/94), *Słaby* (C-180/10) and *Kuć* (C-181/10).[845]

Mr. Rēdlihs carried out 12 supplies of timber in April 2005 and 25 transactions of the same type between May 2005 and December 2006. He was not as registered as a taxable person and did not declare any economic activity to the tax authorities, as, in his view, his transactions were non- systematic, of an exceptional nature and not made for profit (he supplied timber to alleviate the damage caused by a storm).

Mrs. Enkler was employed in her husband's tax consultancy firm. She notified her local tax authorities that she was also carrying on the business of hiring out motor caravans. During three fiscal years, she hired out the vehicle, which was mainly used for private purposes, only twice to third parties. Mrs. Enkler did not advertise that the motor caravan was available for hire. When it was not out on hire, the vehicle was kept in a covered parking area near the building where the Enklers lived.

Mr. Słaby purchased, as a natural person not carrying out any economic activity, land designated under the urban management plan for agricultural purposes. He used that land accordingly. When the plan was changed and the land in question was earmarked for a holiday home development. Mr. Słaby divided the land into 64 plots and began to sell them to private individuals. Mr. and Mrs. Kuć purchased land not permitted for development and used it for agricultural purposes. Following a change to the urban management plan, according to which the land in question was henceforth earmarked for residential and service development, they began to sell plots on an occasional and non-organized basis. In both cases, the question was whether the sale of land plots could be regarded as an economic activity or whether it was merely a non-taxable sale of private property.

In all the cases, the ECJ held that the question of whether an activity (the exploitation of a private forest, land or hiring out of a caravan) is designed

842 ECJ, 4 Dec. 1990, C-186/89, *W.M. van Tiem v. Staatssecretaris van Financiën*, para. 18.

843 If the latter requirement is not fulfilled, the exploitation of property on an occasional basis may nevertheless qualify the person as a taxable person based on article 12 of the VAT Directive.

844 ECJ, 19 July 2012, C-263/11, *Ainārs Rēdlihs v. Valsts ieņēmumu dienests*.

845 ECJ, 15 Sep. 2011, joined cases C-180/10 *Jarosław Słaby v. Minister Finansów* and C-181/10 *Emilian Kuć and Halina Jeziorska-Kuć v. Dyrektor Izby Skarbowej w Warszawie*.

to obtain income on a continuing basis is an issue of fact which must be assessed having regard to all the circumstances of the case, including, inter alia, the nature of the property concerned. The fact that property is suitable only for economic exploitation will normally be sufficient for a finding that its owner is exploiting it for the purposes of economic activities. However, if property is capable of being used for both economic and private purposes, all the circumstances in which it is used must be examined in order to determine whether it is actually being used for the purpose of obtaining income on a continuing basis. One way of ascertaining that is to compare circumstances in which the person concerned actually uses the property with the circumstances in which the corresponding economic activity is usually carried out.

The ECJ repeated that the mere exercise of the right of ownership by its holder cannot, in itself, be regarded as an economic activity. The number and scale of the sales are not decisive for distinguishing between activities in a private capacity and those of a taxable person. A large volume of sales may also be carried out by private individuals. Similarly, the fact that, prior to the disposal, the party concerned proceeded to divide the land into plots in order to obtain a higher overall price from that land, the period of time over which those transactions took place and the level of income derived therefrom are not decisive for the existence an economic activity as all those circumstances could also fall within the scope of the management of the personal property. The occurrence of such activities may only be a useful indication that one is acting a taxable person.

However, a person may be assumed to carry out economic activities in the situation where he takes active steps to market property by mobilizing resources similar to those deployed by a producer or trader. Since those initiatives do not normally fall within the scope of the management of personal property, they cannot be regarded as the mere exercise of the right of ownership by its holder.

In *Wellcome Trust* (C-155/94), the ECJ concluded that the activity of the trust was similar to that of a private individual managing its own assets. Neither the scale of the sale of shares nor support from consultancy firms could change that. Whether an investor is in a position to carry out his investment activity himself or whether he requires the assistance of one or more advisers in that regard is not relevant. Otherwise, the characteristics and skills of the investor would determine whether an economic activity ought to be assumed.

Form the above-mentioned case law, it can be concluded that also in the case of exploitation of property there are no clear-cut criteria for identifying the taxable person: the scope and volume of transactions are not decisive. Instead, the vague requirement of economic nature, which should be established on a case-by-case basis, is used. This approach will inevitably result in divergent interpretations of “economic nature”, which will finally lead to

turning this (intended as objective) concept into a subjective one.[846] "Objective" means "not influenced by personal feelings or opinions in considering and representing facts".[847] By definition, an objective outcome should not result from an individual case-by-case approach by judges and tax administrators.

8.1.2.5 Acting as such

It is clear from the wording of article 2(1) of the VAT Directive that a taxable person must act "as such" for a transaction to be subject to VAT. When a taxable person makes a supply which is not part of his economic activity, the supply is not taxable. The taxable person may choose whether to retain an item among his private assets, excluding it from the VAT system or to integrate it into his business.[848] However, the taxable person must, throughout his period of ownership of the property in question, demonstrate an intention to retain it amongst his private assets.[849] The ECJ declared in *Galin Kostov* (C-62/12)[850] that a natural person who already qualifies as a taxable person for his normal activities (as a self-employed bailiff) may also qualify as such in respect of any other economic activity carried out occasionally.

Since many people visit more than one virtual world, it is possible that they use one virtual world for taxable activities and another as a hobby. An even more extreme scenario is when a person splits his virtual presence into a business and private component. For example, he may have a virtual shop which is used to carry out taxable sales and, in addition to that, sell his virtual personal items from time to time. Drawing a line between the business and private sphere is extremely difficult in such a case and cannot be done without a careful examination of all the relevant facts. It is doubtful whether tax authorities would agree with such split of the virtual presence. More likely, they would treat all income derived from online environments as taxable once it is established that a part of it is taxable.

8.1.2.6 National case law

The term "taxable person", as the fundamental VAT concept existing since the introduction of the common EU VAT legislation, should be sufficiently clear

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846 The ECJ held on various occasions that the terms "taxable person" and "economic activities" must be objective in character. ECJ, 21 Feb. 2006, C-255/02, *Halifax plc, Leeds Permanent Development Services Ltd and County Wide Property Investments Ltd v Commissioners of Customs & Excise*, para. 55.

847 Oxford Dictionary, http://oxforddictionaries.com/definition/english/objective?q=objective.

848 ECJ, 4 Oct. 1995, C-291/92, *Finanzamt Uelzen v. Dieter Ambrecht*, paras. 16-20.

849 Id. at para. 21.

850 ECJ, 13 June 2013, C-62/12, *Galin Kostov v. Direktor na Direktsia 'Obzhalvane i upravlenie na izpalnenieto' – Varna pri Tsentralno upravlenie na Natsionalnata agentsia za prihodite*.

and unambiguous. However, it is far from that. Numerous ECJ judgments have not helped to clarify this concept either. The lack of precision in the definition of the taxable person at EU level translates into uncertainty at national level and to unexpected consequences for taxpayers. Three German cases (car collector, eBay seller and card player), which involve making a distinction between a hobby and an economic activity, illustrate this.

Car collector

A car enthusiast established a limited liability company, the aim of which was the purchase of classic automobiles and their resale after 20 years (to profit from their increase in value). From 1986 to 1991, the company purchased 126 cars and stored them in an underground garage. Two of the cars were sold during that time. The company also planned to develop a roadster. For this purpose, it hired an engineer and had the model name protected by intellectual property rights. When it turned out that the use of the roadster would not be allowed under road traffic regulations, only one copy of the car was produced.

The contentious issue was the right to input VAT deduction. The tax authorities claimed that the company did not carry out any economic activity, but was used to create a private car museum.[851] They pointed out that neither a sound business plan (showing the expected profits or turnover) was developed nor the market investigated. The Tax Court of Hessen (*Finanzgericht Hessen*) rejected the claim of the tax authorities and confirmed the existence of economic activities.[852] Based on the examinations of all the relevant circumstances of the case, it concluded that the company had developed a unique business concept and followed it consequently.

The Federal Tax Court (*Bundesfinanzhof*, BFH) reversed the decision of the Tax Court.[853] To determine whether the activity in question was designed to obtain income on a continuing basis, the Court referred to the *Enkler* (C-230/94) case, in which the ECJ stated that this issue must be assessed having regard to all the circumstances of the case including, inter alia, the nature of the property concerned. The Federal Tax Court concluded that the concept of economic activities required that the taxpayer acted as an entrepreneur (taxable person) while building up his car collection. In the case in question, the company planned to sell the cars after 20 years. Thus, during those years, it did not act as an entrepreneur but as a private person. The idea to construct a roadster was, according to the Court, very risky and of speculative nature and, for that reason, it was not likely to constitute economic activities either. More-

851 Under sec. 2 of the German VAT Act, each activity carried out on a continuing basis for the purposes of generating income therefrom shall be regarded as an economic activity, even where the intention of generating a profit is absent.

852 FG Hessen, 22 Apr. 2009, 6 K 2821/02.

853 BFH, 27 Jan. 2011, V R 21/09.

over, no detailed calculations of production costs and revenues were made. Another fact that was used to deny the performance of economic activities was that the company did not have business premises. The underground garage was not considered as such as it was merely used to store the cars and not to perform sales and marketing activities. No sign with the company name was present there either. Thus, the intention of the company to perform taxable activities in the future could not be confirmed by objective evidence.

In the car collector case, two courts reached a different conclusion based on the examination of the same facts and following the same ECJ guidelines of the *Enkler* (C-230/94) case. The Federal Tax Court denied the existence of economic activities as "no resources similar to those deployed by a trader" were used. It was not important that: there were sound reasons for the sale to occur after 20 years, the cars were acquired and properly stored, the name of the roadster was registered as a trade mark and professionals were hired to assist with its development. Instead, the Court focused on the existence of business premises and the risky nature of the enterprise (criteria not directly mentioned by the ECJ). Surprisingly, it did not refer to the ECJ judgment in *Lennartz* (C-97/90), according to which the acquired assets do not have to be immediately used for taxable transactions. Nor did it comment how the findings from the *Rompelman* (C-268/83) case would impact the case in question.

EBay seller

In 2012, the German Federal Tax Court had to answer the question when a private individual selling goods on eBay becomes a taxable person.[854] The facts of the case were as follows: from November 2001 to June 2005, a married couple sold 1,200 goods (stamps, coins, carpets and cutlery) on eBay and achieved total revenue of more than EUR 110,000.[855] The tax authorities considered this an economic activity as the transactions were carried out to obtain income on a continuing basis. The couple claimed that they just wanted to get rid of some items that they did not need any more. Those items were acquired without the intention of resale. The sales did not require any organizational effort: items were simply put on eBay without being advertised or marketed in any way. The couple used their private eBay account and did not register any commercial activity.

The Federal Tax Court held that the transactions in question constituted taxable economic activities. First, the Court pointed out that the concept of economic activities is very broad. Second, it recalled that under the settled

854 BFH, 26 June 2012, V R 2/11.

855 The amounts of revenue were as follows: DM 2,600 (2001), EUR 25,000 (2002), EUR 28,000 (2003), EUR 21,000 (2004) and EUR 35,000 (2005). In Germany, the special regime for small enterprises applies if the total turnover did not exceed EUR 17,500 in the preceding calendar year and will not be higher than EUR 50,000 in the current year (sec. 19 of the German VAT Act).

ECJ case law, a person may be assumed to carry out economic activities in the situation where he takes active steps to market property by mobilizing resources similar to those deployed by a producer or trader. Those initiatives do not normally fall within the scope of the management of personal property, so they cannot be regarded as the mere exercise of the right of ownership by its holder. The Court ruled that the assessment of the activity in question must be made on the basis of the overall circumstances of the case. To distinguish private asset management from economic activity, the following factors are of vital importance: duration and frequency of the transactions, turnover, market participation, structured and planned performance of the activity. However, it is not possible to set a monetary threshold below which transactions are considered to be private asset management. The fact that the items were not purchased for resale cannot be decisive for denying economic activities. The Court pointed out that the couple used a commercial distribution system (eBay) and that the activities required considerable organizational effort: the couple had to describe each item, put it in the correct category and provide a photo of it. Moreover, the sellers had to monitor the website to respond to any enquiries of potential customers. When an item was sold, it had to be packed and sent to the recipient.

The reasoning of the Federal Tax Court in the eBay case can be criticized on several grounds. The sale of items on eBay was motivated by private needs (to give away obsolete personal items). The decisions on which item to sell were made spontaneously, without prior plan and irrespective of the situation on the market. It must be recalled from the *Wellcome Trust* (C-155/94) case that "neither the scope nor the duration" is decisive for the presence of economic activities.

In the car collector case, the lack of a detailed business plan and business premises was an indication that no economic activities took place. However, it did prevent the Federal Tax Court from concluding that eBay sellers acted as taxable persons. For the Federal Tax Court, spontaneous sales of old personal items on eBay apparently require more effort than the purchase and storage of 126 cars since it held that only in the eBay case "resources similar to those deployed by a producer or trader" were mobilized. This reasoning is hard to follow.

Card player

The Federal Tax Court had to answer the question whether a card player was a taxable person.[856] The case concerned a person who frequently visited casinos during the period 1982-1985 and played different card games there. The player was present at the casino during fixed times which were known to people who were interested in playing cards with him. He usually played

856 BFH, 26 Aug. 1993, V R 20/91.

with the same group of people. The tax authorities considered his activity to be an economic one and required him to remit VAT on the services he provided. They estimated the player's turnover to be DM 49,500 (1984) and DM 54,000 (other years).[857]

The Federal Tax Court first observed that the player provided services consisting of playing cards with others according to the agreed rules. The consideration was performance-dependent and consisted of money that was at stake. Based on the duration and frequency of the activity, the Court concluded that the player was a taxable person.

This decision shows that for the Federal Tax Court, the fact that an activity is generally regarded as a hobby does not have any influence on its VAT treatment. A hobby card player may turn into a professional player (taxable person) if his activity has certain intensity and frequency. Unlike in the car collector case, the Court did not pay any attention to the nature of the activities and to the fact that the outcome of card games could be speculative and dependent on factors beyond the player's control. From the analysis of the three German cases, it can be concluded that turnover and frequency of transactions are the decisive criteria in determining whether a person becomes a taxable person.

Given the importance of turnover, it is surprising that there are still no definite turnover thresholds below which a person will neither be considered as a taxable person nor have to fulfill any VAT obligations. Many Member States (including Germany) apply "registration thresholds" which mean that persons whose turnover is below a certain amount do not have to charge VAT ("small enterprises"). However, small enterprises do have to register if they render services to taxable persons established in other Member States and those services are deemed to be supplied in the customer's country or receive services from abroad that are subject to VAT under article 44 of the VAT Directive (for example, electronically supplied services).[858] No turnover threshold applies to supplies of those cross-border services. In some Member States (Belgium, France, Greece), small businesses must be registered for VAT, irrespective of whether their turnover remains below the "registration threshold".[859]

8.1.2.7 Interim conclusions

Giving the wrong answer to the question of whether or not a natural or legal person acts as a taxable person for VAT purposes, i.e. whether or not that person is engaged in economic activities, may have dramatic financial consequences because the tax authorities normally check a person's VAT liability

857 Approximately EUR 25,000.
858 Art. 283 of the VAT Directive.
859 W. van der Corput & F. Annacondia, *EU VAT Compass 2012/2013*, sec. 2.3 (IBFD 2013).

retrospectively over a period of several years and, if it exists, the VAT liability is a substantial percentage of the person's total gross proceeds. Where a person registers for VAT under the assumption that he is engaged in economic activities but the tax authorities (and the national courts) take a different position, that person will be liable for repayment of the amount of VAT that he has claimed as refundable input tax, especially where the initial output tax liability is nil or relatively low. On top of having to repay to the tax authorities the incorrectly claimed input tax, the person may incur a penalty for having fraudulently reclaimed tax. By contrast, where a person does not register for VAT under the assumption that he is not engaged in economic activities but the tax authorities take a different position, that person will be liable for payment of the VAT that he has not declared and remitted on the output transactions, especially where the initial input tax claim is nil or relatively low. On top of having to pay the unpaid tax, without having the possibility to recharge the tax to his customers, the person may incur a penalty for having committed tax fraud. To a certain extent, the VAT registration threshold should prevent unexpected VAT assessments in a large number of situations but it does not solve all problems since small businesses are required to register irrespective of their turnover if they supply cross-border services.

It is not possible to give a clear answer to the question when a person trading in virtual currency becomes a taxable person. The definition contained in the VAT Directive is very broad. The ECJ gives general guidance and recommends a case-by-case analysis. Thus, an individual case may be interpreted differently by tax authorities and courts. The virtual and informal character of the activities aggravates the existing characterization problems. Although, as shown in the sections above, some indicators of economic activity can be found, it is not possible to consider their existence to be an unequivocal sign that taxable activities are likely to occur. The issue of the unclear concept of taxable person implies lack of certainty in the EU VAT system. As an example of deviations from the prescriptions of the model tax system, it is further discussed in Chapter Nine.

8.1.3 Taxable transaction

8.1.3.1 Supplies of goods and services

Taxable transactions are defined in articles 14 to 30 of the VAT Directive and include: supplies of goods and services, intra-Community acquisitions and

importation.[860] A supply of goods is defined as the transfer of the right to dispose of tangible property as owner.[861] The transfer does not have to take place in accordance with the procedures prescribed by the applicable national private law. It is sufficient that the transaction empowers the other party to actually dispose of the goods as if he were the owner of the property.[862] This view is in accordance with the purpose of the VAT Directive, which is designed to base the common system of VAT on a uniform definition of taxable transactions. This objective might be jeopardized if the preconditions for a supply of goods varied from one Member State to another, as do the conditions governing the transfer of ownership under private law.[863]

The supply of services is defined residually as any transaction which is not a supply of goods.[864] Under article 25 of the VAT Directive, the supply of services may include: assignments of intangible property, obligations to refrain from an act or to tolerate an act or situation, and performances of services in pursuance of an order made in the name of a public authority or in pursuance of the law. This list is not meant to be exhaustive. The characterization as goods or services is important in terms of the applicable rates, exemptions and place-of-supply rules. Moreover, services cannot be imported or subject to an intra-Community acquisition.

An important category of services are electronically supplied services (commonly referred to as "digital supplies" or "online services").[865] They are defined as services delivered over the Internet or an electronic network, the nature of which renders their supply essentially automated, involving minimum human intervention and impossible in the absence of information technology.[866] A non-exhaustive list of those services provided in the VAT Implementing Regulation includes: website hosting, distance maintenance of programmes, as well as supplies of software and other digitalized products (text, images, music, information and games).[867] The fact that the list is not exhaustive offers flexibility necessary to take into account future technological developments.

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860 Since importation and intra-Community acquisitions involve goods, they are not discussed further due to their irrelevance to the exchange of virtual items and currencies. All transactions in virtual currencies and items are characterized as supplies of services for EU VAT purposes.

861 Art. 14(1) of the VAT Directive.

862 ECJ, 8 Feb. 1990, C-320/88, *Staatssecretaris van Financiën v Shipping and Forwarding Enterprise Safe BV*, para. 7.

863 Id., para. 8.

864 Art. 24 of the VAT Directive.

865 Sometimes the term "digital supplies" (or "digital services") is used to refer to telecommunications, broadcasting and electronic services. When this thesis refers to those three categories, it uses the term "TBE services".

866 Art. 7(1) of the VAT Implementing Regulation.

867 Art. 7(2) and Annex 1 of the VAT Implementing Regulation.

Whether the transfer of a standard computer program (for example, a game) constitutes a supply of goods or services depends on how it is executed. The channel of distribution decides about the characterization of a transaction for VAT purposes. The sale of a game on a physical carrier is a supply of goods, whereas downloading the same game is a supply of services.[868] The distinction between traditional goods and digital items (treated as services), both of which provide the same content, seems to contradict the principle of fiscal neutrality and equal treatment. However, in the view of the European Commission:[869]

> 'it is by no means clear that digital information services are the direct equivalent of traditional printed products – even where the content is similar, the additional functionality (e.g. search facilities, hyperlinks, archives) increasingly associated with electronic content produces a fundamentally different product.

In December 2011, the European Commission issued a communication on the future of VAT, in which it took a different approach:[870]

> 'Similar goods and services should be subject to the same VAT rate and progress in technology should be taken into account in this respect, so that the challenge of convergence between the on-line and the physical environment is addressed.'

Virtual currencies and items are intangible by nature and their transfers occur only via the Internet. The fact that some virtual items require a lot of effort by the user to be created (for example, *Second Life* objects programmed by him

868 This distinction is particularly relevant in the case of books: printed books may be subject to the reduced rate, whereas electronic books are standard rated.

869 European Commission, *Taxation and Customs Union, Frequently Asked Questions: How VAT Works*, available at http://ec.europa.eu/taxation_customs/taxation/vat/how_vat_works/e-services/article_1610_en.htm#a7.

870 European Commission, *Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on the Future of VAT: Towards a Simpler, More Robust and Efficient VAT System Tailored to The Single Market*, COM(2011) 851 final (6 Dec. 2011), para. 5.2.2. In response to the Commission's communication, the European Parliament adopted a resolution advocating the equalization of VAT treatment between books and e-books: "all books, newspapers and magazines regardless of format should be treated in exactly the same way, which means that downloadable and streamed books, newspapers and magazines should be subject to the same VAT treatment as books, newspapers and magazines on physical means of support". *See* European Parliament, Resolution 2011/2082(INI) of 13 Oct. 2011. In the case *K Oy* (C-219/13), the ECJ is requested to examine whether the application of a different VAT rate for printed books and books stored on other physical data storage systems is in line with the EU law. According to the opinion of the Advocate General, books stored on other physical data storage systems qualify as a specific and independent product group and it has to be examined from the point of view of customers in a particular country whether printed books and books stored on other physical data storage systems are competitors and similar to each other. At the time of the writing of this thesis (June 2014), the ECJ has not delivered its judgment yet.

or bitcoin mining) does not preclude their characterization as electronically supplied services. The definition of such services refers only to minimum human effort in the transfer of digital objects but in not their creation. As the transfer of all virtual items and currencies can easily occur with a few clicks, all transactions involving them are regarded as supplies of electronic services under the EU VAT system.[871]

8.1.3.2 Consideration

To fall within the scope of VAT, the supply must be carried out for consideration. In *Hong Kong Trade Development Council* (C-89/81), the ECJ held that that a person who habitually provides services free of charge is not a taxable person at all. Such a person must be assimilated to a final consumer.[872]

The consideration is a subjective concept. It does not have to reflect the actual value of the supply or a value estimated according to objective criteria. Moreover, it must be capable of being expressed in money.[873]

There must be a direct link between the service provided and the consideration received.[874] A supply is taxable only if there is a legal relationship between the service provider and the recipient (a reciprocal performance).[875] However, VAT liability does not depend on the existence of an enforceable and binding obligation according to domestic law of a Member State. This would be contrary to the principle of VAT neutrality. Decisive is the mutual agreement, i.e. that the parties agree to exchange some items and not a valid legal relationship between them.[876]

It cannot be disputed that a bilateral legal relationship exists between the parties who exchange virtual items and currencies. The transaction is performed in order to obtain consideration from the other party. However, a link between the services provided and consideration received cannot be assumed in the case of bitcoin mining or objects found in virtual worlds (drops).

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871 The question of whether exchanges of virtual currency into traditional currency can be classified as services for EU VAT purposes is currently pending before the ECJ. On 2 June 2014, a Swedish court asked the ECJ to clarify the VAT treatment of bitcoins. *See* Case C-264/14, *Skatteverket v. David Hedqvist*.

872 ECJ, 1 Apr. 1982, C-89/81, *Staatssecretaris van Financiën v. Hong Kong Trade Development Council*, para. 10.

873 ECJ, 5. Feb. 1981, C-154/80, *Staatssecretaris van Financiën v Association coopérative "Coöperatieve Aardappelenbewaarplaats GA"*, para. 13; ECJ, 16 Oct. 1997, C-258/95, *Julius Fillibeck Söhne GmbH & Co. KG v. Finanzamt Neustadt*, para. 13; ECJ, 23 Nov. 1988, C-230/87, *Naturally Yours Cosmetics Limited v. Commissioners of Customs and Excise*, para. 16.

874 ECJ, 8 Mar. 1988, C-102/86, *Apple and Pear Development Council v. Commissioners of Customs and Excise*, paras. 11 and 12; ECJ, 3 Mar. 1994, C-16/93, *R. J. Tolsma v Inspecteur der Omzetbelasting Leeuwarden*, para. 13.

875 ECJ, 6 Oct. 2009, C-267/08, *SPÖ Landesorganisation Kärnten*, para. 19 with further references.

876 ECJ, 17. Sep. 2002, C-498/99, *Town & County Factors Ltd v Commissioners of Customs & Excise*, para. 24.

Although it may appear that bitcoin miners perform a service (solving cryptographic algorithms to verify bitcoin transactions) for which they get paid in bitcoins, not every mining service is rewarded. As more and more miners compete for a limited supply of blocks to verify, they cannot be certain that they receive a reward for their mining efforts. Similarly, a MMORPG player cannot be sure that he will find virtual objects in the game. Thus, mining activities and drops are outside the scope of VAT.[877]

When virtual items are exchanged for real money, the consideration is easily identifiable. However, within a virtual world, items are exchanged for other items (or virtual currency). Sales of goods and services for bitcoins involve no monetary element either (i.e. no money in the legal sense is transferred). Both types of exchanges represent barter transactions. Every barter transaction consists of two separate transactions whose VAT treatment depends on whether they are performed between two taxable persons or whether there is a private person involved. In a B2B case, VAT applies to both transactions. In a B2C case, the B2C part is subject to VAT but the C2B part is not. The main problem presented by barter transactions is how to determine the value of the consideration. In *Empire Stores* (C-33/93), the ECJ held that consideration may consist in a provision of services and, in such a case, the value of consideration must correspond to the value which the recipient attributes to the services which he is seeking to obtain and to the amount which he is prepared to spend for that purpose. In *First National Bank of Chicago* (C-172/96), the ECJ observed that any technical difficulties which exist in determining the amount of consideration cannot by themselves justify the conclusion that no consideration exists.[878]

Although the majority of virtual transactions consists in a digital barter, the valuation problems identified while discussing the income tax consequences of virtual transactions are not equally relevant in the VAT context. It is not necessary to establish the objective value of an item since the consideration is a subjective concept. It is decisive what value is attributed to the transaction by the individual person.

Since VAT is a tax on private expenditure, the value that the consumer has to sacrifice (i.e. the value of the object disposed of by him) should be relevant. However, this theoretically correct result cannot be applied in practice, since the supplier must account for VAT. If the value determined by the customer was decisive, the taxable person would have to ask the other party about that value in order to calculate the VAT due, which would be rather impractical. Thus, the subjective value that the supplier attaches to the supply should be

877 The same view is expressed in HMRC, *Brief 09/14, supra* n. 44.

878 ECJ, 14 July 1998, C-172/96, *Commissioners of Customs & Excise v First National Bank of Chicago*, para. 31.

the basis of assessment.[879] In barter transactions between two taxable persons that have the full right to input VAT deduction the value of the consideration is irrelevant.

8.1.3.3 Unlawful activities

Based on the wording of article 9(1) of the VAT Directive ("whatever the purpose or result of that activity"), the illegality or even immorality of certain activities should not play any role in a tax that aims to apply to private expenditure. However, certain illegal transactions fall outside the scope of VAT. It is necessary to examine whether the fact that trade in virtual items from some MMORPGs is forbidden by the world operator could have an impact on the VAT treatment of the transaction.

The VAT Directive does not explicitly mention unlawful activities. The ECJ has established rules for the VAT treatment of such activities on basis of the principle of neutrality. According to the settled ECJ case law, import and supplies of goods which are totally prohibited in the European Union are outside the VAT scope.[880] However, illegal supplies that may compete with lawful ones should be taxed according to the general rules.[881] If the corresponding lawful supplies are exempt, the unlawful supplies should be exempt too. Such treatment is in line with the principle of fiscal neutrality, which would be violated if unlawful supplies were treated more favourably than lawful ones.

Supplies of certain virtual items could be deemed unlawful since they are performed without the permission of the copyright holder. However, virtual items are not prohibited from entering economic channels due to their characteristics. They can be sold and marketed by the world operators or any other persons (with the creator's permission). A ban on marketing and selling activities does not exclude competition between the legal and illegal market. Thus, forbidden trade in virtual items cannot be removed from the scope of the VAT Directive.

Another question that must be discussed in connection with unlawful activities is whether VAT liability may exist in the case of stolen virtual objects. The ECJ shed more light on this issue in *Newman Shipping* (C-435/03).[882] It held that a theft of goods does not give rise to any financial counterpart for

879 B. Terra & J. Kajus, *A Guide to the Recast VAT Directive,* sec. 7.3.1.3 (2012), Online Books IBFD.

880 ECJ, 28 Feb. 1984, 294/82, *Senta Einberger v. Hauptzollamt Freiburg* (illegal import of drugs (morphine) into Germany), ECJ, 5 July 1988, 269/86, *W.J.R. Mol v. Inspecteur der Invoerrechten en Accijnzen* (sale of amphetamines).

881 ECJ, 2 Aug. 1993, C-111/92, *Wilfried Lange v. Finanzamt Fürstenfeldbruck*. Later ECJ case law follows the same line of argumentation.

882 ECJ, 14 July 2005, C-435/03, *British American Tobacco International Ltd, Newman Shipping & Agency Company NV v. Belgian State.*

the victim of the theft, and, following the reasoning in *Tolsma* (C-16/93), it cannot be considered a supply of goods for consideration.[883] The ECJ also observed that, as a result of the supply of goods, the recipient should be empowered to actually dispose of the property as if he were its owner. A theft of goods does not fulfill these criteria since it merely sets the thief as the possessor of the goods and does not empower him to dispose of the goods as if he were their owner.[884]

Digital items are characterized as services for VAT purposes. For services, the criterion of empowering the purchaser with the right to dispose over the received content as if he was its owner is not required (just as it is in the case of goods). A thief or other unlawful possessor of virtual items can transfer them in competition with legal transfers. Therefore, theft of virtual items meets the criteria of a supply of services; however, it is not taxable due to the lack of consideration.

8.1.4 Place of taxation

8.1.4.1 Initial comments

EU VAT rules are based on the concept of territoriality: only transactions taking place within the territory of the Member States are subject to VAT. The VAT Directive contains a number of rules that determine where transactions are deemed to occur (these provisions are commonly referred to as "place-of-supply rules"). Originally, many supplies of services were subject to VAT at origin, i.e. in the Member State where the service provider was established. This was a logical solution at the time when most services were provided domestically. However, due to the rapid increase in the volume of cross-border services, it was recognized that the origin–based approach distorted competition in favour of business activity in low-tax countries.[885] To increase the application of the destination principle, which is regarded as the conceptually ideal approach to taxing consumption, the European Union introduced a major amendment to the place-of-supply rules in 2008.[886] This reform, commonly referred to as the "VAT Package", phased in changes to the rules on the place of taxation of services between 2010 and 2015. Since 2010, the general rule for B2B services is that they take place where the customer has established his business (or has a fixed establishment if that establishment is the recipient

883 Id., at para. 32.
884 Id., at paras. 35-36.
885 Suppliers of electronic services choose to provide such services from Luxembourg to benefit from the lowest VAT rate of the European Union (15%). This will no longer be possible once the new rules become applicable (1 January 2015).
886 *Council Directive 2008/8/EC of 12 February 2008 Amending Directive 2006/112/EC as regards the place of supply of services*, OJ L 44 of 20 Feb. 2008.

of the services), whereas B2C supplies still follow the origin principle.[887] There are, however, many exceptions to those general rules.[888] The last stage of the "VAT Package" will take effect on 1 January 2015. It will affect supplies of telecommunications, broadcasting and electronic (TBE) services by EU service providers to EU final consumers.[889] Such services will be deemed to be supplied where the non-taxable customer is established, has his permanent address or usually resides.

Since virtual currency is classified as electronically supplied services for VAT purposes, the following sections discuss the current and new place-of-supply rules applicable to this type of supplies.

8.1.4.2 Rules until 1 January 2015

Until 1 January 2015, the place of supply of cross-border electronic services depends on four factors:

- the status of the customer (taxable or non-taxable person);[890]
- the location of the customer;[891]
- the location of the supplier; and
- the place of effective use and enjoyment of the service.

Electronic services supplied to a taxable person (B2B supplies) are deemed to be performed at the place where the customer has established his business (or has a fixed establishment if that establishment is the recipient of the services).[892] Cross-border B2B supplies are subject to the reverse charge mechanism.[893] This means that the VAT liability is shifted to the customer, i.e. the supplier issues an invoice without VAT and the customer accounts for VAT on the supply in his VAT return.

Supplies of electronic services to non-taxable customers (B2C supplies) are deemed to be made where the service provider is established. However, there are two exceptions to this rule. First, electronic services supplied to customers located outside the European Union follow the destination principle and are

887 Arts. 44 and 45 of the VAT Directive.

888 For example, there are special rules for services related to immovable property, transport services, cultural, artistic, sporting and entertainment activities. *See* arts. 46 to 59b of the VAT Directive.

889 For a detailed description of the new rules, *see* A. Bal, EU VAT: New Rules on B2C Supplies of Digital Services from 2015, 54 Eur. Taxn. 7 (2014).

890 The question of how to determine the status of the customer is explained in section 8.1.4.3.2. *Status of the customer*.

891 The question of how to determine the status of the customer is explained in section 8.1.4.3.3. *Location of the customer*.

892 Art. 44 of the VAT Directive (the default place-of-supply rule for B2B services).

893 Art. 196 of the VAT Directive. The reverse charge mechanism does not apply if the recipient of the services is the customer's fixed establishment that is located in the same Member State as the supplier. In such circumstances, the supplier has to charge VAT.

outside the scope of EU VAT.[894] Second, electronic services supplied to EU customers by non-EU service providers take place in the Member State where the customer is located.[895] Non-EU suppliers of such services can register and account for VAT in a single Member State, using an electronic registration, declaration and payment system (the One Stop Shop scheme).[896] This procedure has been implemented to facilitate VAT compliance and avoid multiple registrations.

Finally, Member States may exercise the option and levy VAT where consumption actually occurs.[897] A "use and enjoyment" clause may be applied by Member States to electronic services supplied by EU suppliers to both private and business customers. It allows Member States to consider that services supplied within their territory or in third countries are supplied, respectively, outside the European Union or within their territory if this is where those services are effectively used and enjoyed. The use-and-enjoyment criterion is not uniformly applied across the European Union.

Therefore, until 31 December 2014, suppliers of virtual currency must pay careful attention to both the status and the location of their customers since both concepts are required for the correct determination of the place of taxation. Once it is established that the customer is a taxable person (in EU scenarios) or an entrepreneur (in non-EU scenarios), the supplier simply does charge VAT. If the customer is a non-taxable person resident outside the European Union, no EU VAT is charged either. All supplies of virtual currency by EU taxable persons to EU private individuals are taxed at origin. Taxation at origin means that the VAT legislation of the supplier's country governs the supply. Suppliers can apply their own familiar rules instead of being confronted with unfamiliar legislation of the customer's country. Finally, non-EU entrepreneurs who supply virtual currency to EU private individuals must register in a Member State of their choice and identify the location of their customers on a transaction-by-transaction basis since the supply is governed by the legislation of their customer's country.

8.1.4.3 Rules from 1 January 2015

Initial comments

As from 1 January 2015, the place of supply of TBE services to non-taxable persons (B2C supplies) is deemed to be the place where the customer is estab-

894 Art. 59(k) of the VAT Directive.

895 Art. 58 of the VAT Directive.

896 For more information on the One Stop Shop scheme, *see* section 8.1.9. *Administrative obligations*.

897 Art. 59a of the VAT Directive. This provision will continue to apply after 1 January 2015.

lished, has a permanent address or usually resides.[898] The place-of-supply rules for B2B transactions will remain unchanged.

To provide a better understanding of the new rules and ensure uniformity in their application, the European Commission issued two sets of informal non-binding guidance: Explanatory Notes and Guide to the Mini One Stop Shop.[899] The Guide provides additional information on the registration process, submission of VAT returns, VAT remittance and record keeping, whereas the Explanatory Notes intend to clarify the practical application of the new place-of-supply rules, especially how to determine the status and location of the customer.

Status of the customer

Since all supplies of TBE services (both B2B and B2C transactions) will be deemed to be made at the location of the customer, the status of the customer will only be relevant to establish who has to remit VAT to the tax authorities. Cross-border B2B supplies are subject to the reverse charge mechanism and the recipient of such supplies is responsible for VAT remittance, whereas in a B2C situation the supplier will remit VAT under the One Stop Shop scheme.

Within the European Union, the supplier may regard his customer as a taxable person if the customer has communicated his VAT identification number to him and the supplier has checked its validity or if the customer has demonstrated that he is in the process of registering for VAT.[900] Once in receipt of a valid VAT identification number, the supplier will not have to deal with the VAT law of a foreign country, as the liability to remit VAT is shifted to the customer. The supplier will only have to report the service in his VAT return and recapitulative statement.

According to article 18(2) of the VAT Implementing Regulation, if no VAT identification number has been communicated, the supplier *may* regard his customer as a non-taxable person, irrespective of any information to the contrary. The purpose of this provision is to provide certainty for the supplier as to the status of the customer by disregarding information other than the VAT identification number. However, the use of "may" makes it optional for the supplier to use this provision. If the supplier does not know the VAT identification number of the customer but has other evidence to substantiate his status as a taxable person, the supplier may issue an invoice without VAT and apply the reverse charge mechanism. In such a scenario, he assumes the risk for the incorrect status determination and will be held liable for VAT payment if his determination turns out to be wrong.

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898 Art. 58 of the VAT Directive (as applicable from 1 January 2015).

899 European Commission, *Explanatory Notes on the EU VAT Changes to the Place of Supply of Telecommunications, Broadcasting and Electronic Services That Enter into Force in 2015* (3 April 2014); and *Guide to the VAT Mini One Stop Shop* (23 Oct. 2013).

900 Art. 18(1) of the VAT Implementing Regulation.

In non-EU scenarios, the status of the customer is not relevant. Since all TBE services supplied to non-EU customers are generally deemed to take place at destination, they are outside the scope of EU VAT.

Location of the customer

As from 1 January 2015, EU suppliers of B2C TBE services have to determine in which Member State their non-taxable customers are established, have their permanent address or usually reside.[901] The VAT Implementing Regulation provides guidance on how to interpret those concepts.

A permanent address of a natural person is the address entered in the population or similar register, or the address indicated by that person to the relevant tax authorities, unless there is evidence that this address does not reflect reality.[902] The place where a natural person usually resides is the place where that natural person usually lives as a result of personal and occupational ties. Where the occupational ties are in a country different from that of the personal ties, or where no occupational ties exist, the place of usual residence shall be determined by personal ties which show close links between the natural person and a place where he is living.[903] If a non-taxable person is established in more than one country or has his permanent address in one country and his usual residence in another, priority must be given to the place where he usually resides, unless there is evidence that the service is used at his permanent address.[904]

Suppliers of electronic services will have difficulty identifying and verifying the customer's permanent address or usual residence as any registers containing taxpayers' addresses are only available to the public authorities and the fact where a person has personal and occupational ties is not easily recognizable when a transaction takes place. The VAT Implementing Regulation establishes a number of rebuttable presumptions that should assist in identifying the customer's location. The rebuttable presumptions are as follows:

- If for the provision of TBE services the physical presence of the recipient is required (for example, a telephone box, a Wi-Fi hot spot or an Internet café), such services will be taxable at the location where the recipient effectively uses and enjoys them.[905]
- If TBE services are provided on board a ship, aircraft or train during an intra-Community passenger transport operation, the customer is presumed

901 The term "established" refers to non-registered legal persons and is not further discussed here. The expressions "permanent address" and "usual residence" to non-taxable natural persons.
902 Art. 12 of the VAT Implementing Regulation.
903 Art. 13 of the VAT Implementing Regulation.
904 Art. 24 of the VAT Implementing Regulation.
905 Art. 24a(1) of the VAT Implementing Regulation.

to be resident in the Member State of departure of the passenger transport.[906]

- If TBE services are provided to a customer through a fixed land line connected with a residential building, the customer is presumed to be located at the place where the fixed land line is located.[907]
- For services supplied via mobile networks, the customer is presumed to be established in the country identified by the mobile country code of the SIM card used for receiving such services.[908]
- For TBE services consisting of the transmission of signals for which a device or viewing card is needed, the customer is presumed to be located at the place where the device is installed or, if that place is not known, the place to which the viewing card is sent with the purpose of being used there.[909]

The service provider can rebut the above-mentioned presumptions on the basis of three items of non-contradictory evidence indicating that the customer is resident elsewhere.[910] Tax authorities may rebut the presumptions if there are indications of misuse or abuse by the supplier,[911] for example, if a supplier adopts a practice that would see the place of supply incorrectly determined in relation to a non-negligible proportion of his customers.[912]

If none of the rebuttable presumptions is applicable, it is assumed that the customer is established at the place identified on the basis of two of the following items of non-contradictory evidence (the "evidence rule"):[913]

- customer details, such as the customer' s billing address;
- the customer's Internet protocol (IP) address or any method of geolocation;
- bank details, such as the place where the bank account used for payment is and the billing address of the customer held by that bank;
- the mobile country code (MCC) of the international mobile subscriber identity (IMSI) stored on the subscriber identity module (SIM) card used by the customer;
- the location of the residential fixed land line through which the service is supplied to the customer; and
- other commercially relevant information obtained by the supplier.

The reference to "other commercially relevant information" takes into account that taxable persons use different business models and allows for other items of information, not specifically included in the list, to be used as evidence for

906 Art. 24a(2) of the VAT Implementing Regulation.
907 Art. 24b(a) of the VAT Implementing Regulation.
908 Art. 24b(b) of the VAT Implementing Regulation.
909 Art. 24b(c) of the VAT Implementing Regulation.
910 Art. 24d(1) of the VAT Implementing Regulation.
911 Art. 24d(2) of the VAT Implementing Regulation.
912 *Explanatory Notes*, *supra* n. 899, at sec. 8.4.2.
913 Arts. 24b(d) and 24f of the VAT Implementing Regulation.

the identification of the place where the customer is located. The supplier must evaluate the reliability of other items of information and be able to justify why they are relevant to him.[914]

The items of evidence used to identify the location of the customer must be different and should not duplicate each other. For example, the fact that the customer gives his bank details and those details are confirmed by a payment service provider is considered one piece of evidence.[915]

If each piece of evidence points to a different country, the supplier must decide which item of evidence is more reliable in determining the customer's location. Priority should be given to the country that best ensures taxation at the place of actual consumption.[916]

The supplier must verify the evidence items collected by normal commercial security measures, such as those relating to identity or payment checks.[917] Since the correct determination of the place of supply remains with the supplier, verification by third parties (for example, payment service providers) does not relieve the supplier of his responsibility in situations of abuse or misuse.[918]

Trade in virtual currencies involves a large number of relatively low-value transactions. In view of this fact, it may be impractical for suppliers of virtual currency to establish the location of the customer on a transaction-by-transaction basis, especially if they have to apply the evidence rule. The evidence items suggested by the VAT Implementing Regulation may not available for traders with low turnover who do not apply sophisticated verification mechanisms. Since too complex compliance requirements may compromise the principle of simplicity and efficiency, the difficulty in identifying the customer's location could be an example of how the EU VAT deviates from the characteristics of the model tax system. This issue and potential solutions to remedy it are discussed in Chapter Nine.

8.1.5 Chargeable event and tax liability

It is important to distinguish between the concepts "tax chargeable" and "tax due". VAT becomes chargeable when tax authorities become entitled to claim it from the person liable to pay it although the time of payment may be deferred.[919] VAT becomes due when it must be remitted to the tax authorities.

914 *Explanatory Notes*, *supra* n. 899, at sec. 9.5.1.
915 Id., at sec. 9.5.5.
916 Id., at sec. 9.5.6.
917 Art. 23 VAT of the Implementing Regulation.
918 *Explanatory Notes*, *supra* n. 899, at sec. 9.5.9.
919 Art. 62 (2) of the VAT Directive.

VAT liability arises as soon as an item is supplied by electronic means.[920] However, it does not have to be settled immediately but by the deadline provided by the domestic legislation. This deadline usually coincides with the deadline for the submission of the VAT return.

Under the general rules, VAT must be remitted by the taxable person carrying out the supply.[921] However, to simplify the collection process, the reverse charge system has been introduced for certain B2B supplies. It means that the obligation to remit VAT is shifted to the recipient of the supply, provided that he is a taxable person. If the recipient uses the services or goods for carrying out taxable transactions, the amount of tax to be paid is immediately deductible, so there is no actual payment to the tax authorities. The main benefit of the reverse charge mechanism is that foreign suppliers do not have to register and account for VAT in the customer's country. Apart from the simplification objective, the reverse charge is also used as a means of combating VAT fraud. The reverse charge rule applies to all supplies of electronic services to taxable persons.

8.1.6 Exemptions

The term "exempt supplies" describes supplies that do not bear output VAT: the supplier does not have to collect and remit any tax in respect of the supply and the recipient is not entitled to any input tax deduction. However, this terminology is misleading: from the point of view of taxable persons, exempt supplies are actually "taxable" and taxable supplies are actually "exempt". In the case of a taxable supply, the taxable person can recover input VAT. As there is no recovery of input tax embedded in the price of exempt supplies, the cost of the tax included in the price must be borne by businesses that acquires the exempt supply and can only be recovered if the tax is passed onto consumers in the price. Both taxable and exempt supplies are taxed from the perspective of consumers, either with an explicit tax levied on the supply or an embedded tax included in the supply cost.[922]

There is an extensive use of VAT exemptions across the European Union.[923] Member States exempt some categories of goods and services considered as essential for social reasons: healthcare, education and supplies by charities. In addition, they also use exemptions for practical reasons (for example, in the case of financial and insurance services due to the difficulties in assessing the taxable amount). Exemptions beyond these core items cover a wide variety of sectors, such as culture, legal aid, passenger transport, public cemeteries,

920 Art. 63 of the VAT Directive.
921 Art. 193 of the VAT Directive.
922 De la Feria & Krever, *supra* n. 770, at sec. 1.02.
923 Arts. 131-166 of the VAT Directive.

waste and recyclable material, water supply, precious metals and certain agricultural inputs.

Article 135(1)(e) of the VAT Directive provides for an exemption from VAT for:

> 'transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest.'

The wording of the provision clearly indicates that the term "currency" refers to money used as legal tender. As shown in Chapter Three, although virtual community-related and universal currencies share a lot of characteristics with traditional currencies, they cannot be regarded as such but they are properly classified as digital commodities. For VAT purposes, transactions involving virtual currencies are characterized as supplies of electronic services and not as financial or payment transactions. Thus, the exemption of article 135(1)(e) of the VAT Directive cannot be applied.[924] None of other exemptions seems to cover transactions in virtual items either.[925]

8.1.7 Taxable amount

VAT liability is calculated by applying the VAT rates to the taxable amount. The taxable amount includes everything that constitutes consideration obtained or to be obtained for the supply from the supplier or a third party.[926]

Member States are bound by the common rules regarding VAT rates. These rules provide that supplies of goods and services are generally subject to a standard rate of at least 15%. There are differences in the standard rates between the Member States, with rates ranging from 15% (Luxembourg) to 27% (Hungary).

Reduced rates of no less than 5% may be applied to goods and services enumerated in Annex III of the VAT Directive. They usually apply to basic essentials, such as medical and hospital care, food and water supplies, and to activities that are considered socially desirable. One of the reasons for the

924 The Norwegian Directorate of Taxation and the Estonian Tax and Customs Board are of the same opinion (*see supra* ns. 43 and 46). A different view is expressed in HMRC, *Brief 09/14, supra* n. 44.

925 The question of whether transactions between virtual and traditional currencies can be classified as services for EU VAT purposes is currently pending before the ECJ. On 2 June 2014, a Swedish court asked the ECJ to clarify the VAT treatment of bitcoins. *See* Case C-264/14, *Skatteverket v. David Hedqvist*.

926 Art. 73 of the VAT Directive. A list of the items included into and excluded from the taxable amount is provided in arts. 78 and 79 of the VAT Directive.

introduction of a differentiated rate structure is the promotion of equity. It is considered desirable to alleviate the tax on goods and services that form a larger share of expenditure of the poorest households. Such a policy is partly based on the assumption that consumption taxes have a regressive impact on the income distribution. However, the effectiveness of the reduced VAT rates to achieve distributional objectives is questionable in that the wealthier members of the population also benefit from them. Moreover, rate differentiation increases administrative and compliance costs, legal uncertainty and opportunities for fraud through deliberate misclassification of items.[927]

Article 98(2) and Annex III of the VAT Directive allow applying the reduced rate to supplies of services by writers (i.e. the transfer of copyright). The developers of computer programs (for example, *Second Life* items) could fall into that category as a computer program is a literary work protected by copyright.[928] However, the VAT Directive clearly excludes the application of the reduced rates to electronically supplied services. The European Commission has taken the position that information supplied online is not equivalent to information supplied as part of tangible products since the former offer additional features.[929] Although the content purchased is the same, the supply of goods in a digital format should not bear the same rate as the sale of similar tangible goods.

8.1.8 Tax deduction

The right to deduct input VAT is what mainly distinguishes an all-stage consumption tax from a single stage retail sales tax. Under the EU VAT system, VAT is charged on all transactions, irrespective of the status of the customer. However, taxable persons who perform taxable transactions are relieved from the tax burden by deducting, from their VAT liability, VAT invoiced to them by other taxable persons.[930] In its numerous judgments, the ECJ stressed that the right to deduct is a fundamental part of the VAT scheme and may not be limited.[931] The right to deduct input VAT arises as soon as the deductible

927 OECD, *Consumption Tax Trends,* ch. 3 (2008).

928 Art. 1 of *Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the Legal Protection of Computer Programs*, OJ L 111/16.

929 European Commission, *Taxation and Customs Union, Frequently Asked Questions: How VAT Works*, available at http://ec.europa.eu/taxation_customs/taxation/vat/how_vat_works/e-services/article_1610_en.htm#a7.

930 Arts. 167-192 of the VAT Directive.

931 For example, ECJ, 1 Mar. 2012, C-280/10, *Kopalnia Odkrywkowa Polski Trawertyn P. Granatowicz, M. W¹siewicz spółka jawna v. Dyrektor Izby Skarbowej w Poznaniu*, para. 40.

tax becomes chargeable.[932] To exercise it, the taxable person must hold an invoice drawn up in accordance with the applicable rules.[933]

Taxable persons who incur VAT in connection with their business activities in a Member State in which they do not make taxable supplies of goods or services are also entitled to deduct the VAT charged in that Member State. This "deduction" occurs by means of a refund of VAT from the Member State in which the VAT was paid. EU taxable persons may use an electronic procedure by submitting a refund application to the tax authorities in their country of residence.[934] Third-country suppliers have to contact the Member State in which input VAT was incurred.[935] They must provide the competent tax authorities with a certificate of entrepreneurial status and original invoices.

8.1.9 Administrative obligations

8.1.9.1 Registration

Taxable persons face numerous administrative obligations. First, they must register their economic activity with the competent tax authorities. Under article 213 of the VAT Directive, every taxable person shall state when his economic activity commences, changes or ceases. Detailed rules on the registration of taxable persons are laid down in the domestic legislation of the Member States. In most countries, registration thresholds are used to relieve taxpayers with low turnover ("small enterprises")[936] from levying and collecting tax.[937] If the turnover is equal to, or higher than, the threshold, VAT registration is required. Taxable persons with a turnover below the threshold can opt for registration. The registration thresholds vary significantly among Member States. They can be as low as EUR 1,450 (the Netherlands) or reach EUR 93,300 (the United Kingdom).[938] However, it is important to keep in mind that small enterprises have to register irrespective their turnover if they render services to taxable persons established in other Member States and those services are

932 Art. 167 of the VAT Directive.
933 Art. 178(a) of the VAT Directive.
934 *Council Directive 2008/9/EC of 12 February 2008 Laying Down Detailed Rules for the Refund of Value Added Tax, Provided for in Directive 2006/112/EC, to Taxable Persons Not Established in The Member State of Refund but Established in Another Member State*, OJ L 44/23 of 20 Feb. 2008.
935 *Thirteenth Council Directive 86/560/EEC of 17 November 1986 on the Harmonization of the Laws of the Member States relating to Turnover Taxes – Arrangements for the Refund of Value Added tax to Taxable Persons Not Established in Community Territory*, OJ L 326 of 21 Nov. 1986.
936 Arts. 281-292 of the VAT Directive.
937 Some countries use only collection thresholds: all taxable persons are required to register for VAT, but those with supplies below the threshold are relieved from collecting the tax.
938 For an overview of the registration thresholds in Europe, *see* F. Annacondia & W. van der Corput, *VAT Registration Thresholds in Europe*, 24 Intl. VAT Mon. 6 (2013).

deemed to be supplied in the customer's country or if they receive services from abroad that are subject to VAT under article 44 of the VAT Directive. No monetary threshold applies to supplies of those cross-border services. Supplies of virtual currency fall into that category, and this means that persons selling virtual currency have to register no matter how low their turnover from such transactions is. A failure to observe the obligation to register may result in penalties. According to the ECJ, those penalties must not go further than is necessary to attain the objectives of the correct tax levying, tax collection and fraud prevention. In order to assess whether the penalty at issue is consistent with the principle of proportionality, the nature and the degree of seriousness of the infringement which that penalty seeks to sanction must be taken into account.[939] As the registration obligation constitutes only a formal requirement, the penalty must not seek to ensure recovery of the tax from the party liable for it.[940]

8.1.9.2 One Stop Shop scheme

Electronic services supplied by non-EU service providers to EU final consumers are deemed to take place where the non-taxable customer is established, has his permanent address or usually resides.

In order to avoid that, for the purpose of having to account for VAT on B2C electronic services in a maximum of 28 Member States, non-EU suppliers must be registered in all of those Member States, the One Stop Shop scheme (OSS) was introduced on 1 July 2003. Under this scheme, the non-EU supplier can register and account for VAT in a single Member State, albeit at the VAT rate of the customer's Member State. The Member State of registration forwards the amounts of VAT to the respective Member State of consumption. The One Stop Shop Scheme cannot be used by non-EU suppliers that are already registered in the European Union (for example, because they receive services that are effectively used and enjoyed in a Member State or perform intra-Community supplies of goods).[941]

In order to facilitate compliance with the new place-of-supply rules that will enter into force on 1 January 2015, EU suppliers of electronic services to EU final consumers will have the option to account for VAT under a similar arrangement (the Mini One Stop Shop scheme). They will be able to register in the Member State of establishment, account for and remit VAT there. The Mini One Stop Shop regime is optional; however, a taxable person that chooses to use the scheme must apply it in all relevant Member States. The scheme cannot be applied to supplies of electronic services in the Member State where

939 ECJ, 19 July 2012, Case C-263/11, *Ainārs Rēdlihs v Valsts ieņēmumu dienests*.

940 ECJ, 21 Oct. 2010, C-385/09, *Nidera Handelscompagnie BV v Valstybinë mokesèiø inspekcija prie Lietuvos Respublikos finansø ministerijos*, para. 50.

941 Art. 358a of the VAT Directive.

the taxable person is established; such supplies must be declared in the domestic VAT return.

The records that should be kept by the person applying the Mini One Stop Shop scheme are laid down in article 63c of the VAT Implementing Regulation. They include: general information, such as the Member State of consumption of the supply, the type of supply, the date of the supply and the VAT payable, but also more specific information, such as information used to determine the place where the customer is established, has his permanent address or usually resides. The records must be kept for ten years from the end of the year in which the transaction took place, regardless of whether or not the supplier has stopped using the scheme. They have to be made electronically available on request to the Member State of identification or any Member State of consumption without delay. A failure to make these records available will result in exclusion from the scheme.[942]

A successful example of the application of the One Stop Shop arrangement is the case of *Second Life*.[943] All EU residents are charged VAT on their transactions (purchase of virtual land and currency) with the world operator, Linden Lab. When opening an account, users must mention their country of residence. Linden Lab has a risk detection system that may identify discrepancies between the actual IP address and the declared country. If a discrepancy is detected, the account is flagged for review or even suspended. Taxable persons have the possibility to enter their VAT identification number to avoid being charged VAT. However, Linden Lab neither acts as a tax collector nor has incorporated a VAT system within its online environment: transactions between individual residents in Linden Dollars remain tax free.

8.1.9.3 Other compliance obligations

Taxable persons must issue VAT invoices to their customers. The detailed rules on the invoice content and form are laid down in the VAT Directive.[944] For a long time, the invoicing rules in the European Union were far from uniform, which caused administrative burdens and considerable uncertainty for companies engaged in cross-border activity. This lack of uniformity led to the adaptation of the Invoicing Directive[945] on 13 July 2010. This Directive, which entered into force on 1 January 2013, simplified and harmonized the invoicing rules, and implemented the freedom of choice regarding the invoicing method:

942 *Guide to the VAT Mini One Stop Shop*, *supra* n. 899, at part 4.

943 http://secondlife.com/corporate/vat.php

944 Arts. 220-249 of the VAT Directive.

945 *Council Directive 2010/45/EU amending Directive 2006/112/EC on the Common System of Value Added Tax as regards the Rules on Invoicing*, OJ L 189/1 of 22 July 2010. For a description of the invoicing rules applicable as from 1 January 2013, *see* A. Bal, Recent EU VAT Changes – The Invoicing Directive, 52 Eur. Taxn. 9 (2012).

paper and electronic invoices are now treated equally.[946] Suppliers may use any invoicing method provided that it ensures the authenticity of the origin and the integrity of the invoice content. Invoicing is governed by the national legislation of the Member State in which the supply of goods or services is deemed to be made. The exception to that rule, i.e. the requirement that the invoices must be drawn up in accordance with the rules applicable in the service provider' s Member States, is limited to situations in which the customer must account for VAT under the reverse charge mechanism on the value of the B2B services received from abroad.[947]

Taxable persons must file VAT returns and remit VAT within the prescribed deadlines.[948] Taxable persons engaged in the provision of cross-border services to other EU taxable persons must additionally submit recapitulative statements (EU sales lists).[949] EU sales lists show the details of all service recipients and the value of supplies made to them during the reporting period.

As shown above, the status of taxable person is associated with extensive compliance obligations. A person that incorrectly assumes the status of a non-taxable person may face serious financial consequences and liability issues. For that reason, it is worth highlighting again the importance of the correct understanding of the concept of taxable person. The clarity and precision of this term is crucial to the correct functioning of the EU VAT system.

8.1.10 Conclusions

Section 8.1. has described EU VAT rules applicable to trade in virtual currencies. Supplies of virtual currency fall within the scope of EU VAT if they are performed by taxable persons acting as such. Taxable person is anyone who performs economic activities. According to the settled ECJ case law, the terms "taxable person" and "economic activities" should be objective in character. However, the analysis in this chapter showed that they are vague and give rise to diverging interpretations. The determination of when a person may qualify as a taxable person requires a complex case-by-case analysis, the outcome of which depends on the subjective perceptions of the examiners. The hobby component of trade in community-related currency aggravates the characterization issues.

Exchanges of virtual items and currencies are considered to be electronically supplied services since they involve transfers of data that occur via the Internet

946 Although paper and electronic invoices shall be treated equally, one important difference remains between those two types: the use of electronic invoicing should be accepted by customers. The acceptance may also occur by tacit agreement, for instance by processing or payment of the received e-invoice (art. 232 of the VAT Directive).

947 Art. 219a of the VAT Directive.

948 Arts. 250-261 of the VAT Directive.

949 Arts. 262-271 of the VAT Directive.

with minimum human intervention. Both lawful and unlawful supplies are taxed (i.e. not exempt) and subject to the standard rate. The EU VAT law does not require establishing the objective value of the consideration which constitutes the taxable amount. The subjective value that the taxable person attributes to the item disposed of is used as the taxable amount.

Under the place-of-supply rules, applicable as from 1 January 2015, all supplies of electronic services will follow the destination principle. In B2C scenarios, suppliers will be required to identify and verify the customer's location in order to apply the correct VAT rate. This may be a difficult task when services are provided at a distance, payment intermediaries are involved and no physical shipments take place.

Taxable persons are faced with numerous compliance obligations (registration, issue of invoices, submission of VAT returns and EU sales lists). Persons performing cross-border supplies of virtual currency have to register irrespective of their turnover. They cannot benefit from the exemption for small enterprises. Non-EU entrepreneurs (and as from 1 January 2015 also EU taxable persons) supplying virtual currency to EU private individuals have the option to register and account for VAT under the One Stop Shop scheme.

Based on the description of the EU VAT system, it can be concluded that some of its elements could deviate from the prescriptions of the model indirect tax system. Those issues are:

- the concept of taxable person lacking clarity;
- complexity and high compliance burden regarding the application of the destination principle; and
- the existence of voluntary compliance mechanisms, such as the One Stop Shop scheme.

Chapter Nine discusses those issues in more detail and proposes solutions to remedy them.

8.2 The United States

8.2.1 Initial comments

The United States is the only OECD member country that does not apply a nationwide federal consumption tax. Instead, almost every state levies its own sales tax. Although in their design state sales taxes follow a similar pattern, their rates and scope vary considerably. The following sections will focus on the common elements of these taxes but also highlight some deviations.

Sales taxes are also frequently imposed by local jurisdictions (counties, cities and districts). About 7,500 local governments levy local sales tax as a supplement to the state sales tax. Local sales taxes are commonly administered by the state and collected together with the state sales tax. However, they are

frequently subject to different rules with regard to the tax base and exemptions and this highly complicates tax compliance.[950]

State sales taxes were introduced in the 1930s to compensate for the effects of the Great Depression on state finances. In view of declining revenue from income and property taxes, coupled with the increased demand for social services, state legislators saw the sales tax with its broad coverage and relatively simple compliance as the solution to their financial needs. Although intended as a temporary measure, sales taxes have turned out to be enduring in nature.[951] Currently 45 states and the District Columbia have sales taxes,[952] and these taxes contribute to about 30% of the states' tax revenue.[953]

8.2.2 State versus federal taxing rights

8.2.2.1 Due Process and Commerce Clause

The US Constitution allows the states enormous latitude in taxation. It explicitly prohibits import and export duties, but beyond that it is largely silent on the taxing powers of the states. Constitutional restraints on the nature and scope of state taxation have resulted from judicial interpretations of two broad constitutional provisions: the Due Process Clause and the Commerce Clause.

The Due Process Clause relates to the fairness of the tax burden.[954] Due process can be procedural, which is concerned with how the government acts (administrative fairness), or substantive, which is concerned with whether or not it has the right to act.[955] With respect to sales and use tax, due process refers to links and contacts, both qualitative and quantitative, between the state and the person over which the state attempts to assert jurisdiction. The Supreme Court has provided two tests for the due process. In its view, under the Due Process Clause, state taxation requires:[956]

- a minimal connection (nexus) between the interstate activities and the taxing state; and

950 Brederode, *Introduction to the US State Sales and Use Taxes*, *supra* n. 771, at sec. 10.
951 Id., at sec. 1.
952 Sales taxes are not levied in: Alaska, Delaware, Montana, New Hampshire and Oregon.
953 R. v. Brederode, *The Harmonization of Sales and Use Taxes in the United States*, 18 Intl. VAT Mon. 6, sec. 1 (2007).
954 The Fifth and Fourteenth Amendments to the US Constitution contain a due process clause. The 14th Amendment states: "[Nor] shall any State deprive any person of life, liberty, or property, without due process of law". The 5th Amendment reads: "[N]or shall any person … be deprived of life, liberty, or property, without due process of law".
955 B.M. Nelson et al., *Sales and Use Tax Answer Book*, sec. 2:1 (CCH 2013).
956 *Exxon Corp. v. Wisconsin*, 447 US 207, 219-20 (1980).

- a rational relationship between the income attributed to the state and the interstate values of the enterprise.

To satisfy the due process test, the taxpayer does not have to be physically present in the state. It is sufficient if the taxpayer's commercial efforts are "purposefully directed" towards the state's residents.[957]

The Commerce Clause reserves to Congress the power to regulate international and interstate commerce.[958] Historically, the Commerce Clause restrictions on state and local taxation were ambiguous or even contradictory.[959] In *Complete Auto Transit* (1977), the Supreme Court provided a four-element test to determine whether or not a state tax on interstate commerce is constitutional. A tax that meets this test must:

- apply to an activity with a substantial nexus with the taxing state;
- be fairly apportioned;
- not discriminate against interstate commerce; and
- be related to the services provided by the state.[960]

The first prong is by far the most important component of the *Complete Auto* test. It prevents states from imposing sales or use tax compliance obligations on remote suppliers. The second prong (fair apportionment) ensures that multistate economic activity is not subject to taxation in two different states. The third element is satisfied as long as the tax rate does not exceed that which would apply to an intrastate sale. The fourth prong is closely connected to the first element of the test. Additionally, it requires the measure of the tax be reasonably related to the extent of the taxpayer's contact with the state. The Supreme Court has repeatedly interpreted this fourth prong as being met

957 *Quill Corp. v. North Dakota*, 504 US 298, 305 (1992).

958 The Commerce Clause reads: "The Congress shall have the power … to regulate commerce with foreign Nations, and among the several States, and with the Indian Tribes". Congress made use of its power to regulate interstate commerce by enacting the Internet Tax Freedom Act (ITFA) in 1998. The Act was enacted for a limited period of three years and was extended later several times, most recently until 1 November 2014. The Act forbids any tax on the Internet access and any multiple or discriminatory taxes on electronic commerce (such as a bit or bandwidth tax). However, it does not exempt from taxation sales made via the Internet.

959 For more information on the historical developments, *see* W. Hellerstein, *State Taxation of Interstate Business: Perspectives on Two Centuries of Constitutional Adjudication*, 41 Tax L., p. 37 (1987); J. Hellerstein, *State Taxation under the Commerce Clause: An Historical Perspective*, 29 Vand. L. Rev.. p. 335 (1976).

960 *Complete Auto Transit Inc. v. Brady*, 430 US 274 (1977). The taxpayer (a Michigan corporation) transported motor vehicles to Jackson, Mississippi, and handed them over to Mississippi dealers. Mississippi imposed a tax on "the privilege of doing business" in the state. The taxpayer argued that the transportation was a part of an interstate movement and the tax was unconstitutional as it applied to operations in interstate commerce. The Supreme Court ruled that a "privilege tax" can be applied to an out-of-state corporation's activities in the state without violating the Commerce Clause.

when a tax is measured as a percentage of some proxy for the value of the taxpayer's economic activity occurring within the state. As long as this is the case, the Supreme Court has declined to inquire into the appropriate tax rate, ruling that determinations about the appropriate levels of taxation must be made by the political process.[961]

Both the Due Process and the Commerce Clause serve as protection against states' aggressive taxing policy. However, their purpose is different: the former is concerned with the circumstances and procedures under which a jurisdiction can impose tax, while the latter – with the impact of a tax upon interstate commerce.[962]

8.2.2.2 Landmark judgments

Two judgments are of fundamental importance in interpreting the Due Process and Commerce Clause limitations on state taxation: *National Bellas Hess* (1967)[963] and *Quill* (1992).[964]

National Bellas Hess was a Missouri mail-order seller whose only contacts with the state of Illinois were through mail and commercial carriers. It did not have any property, employees or agents there. Customers sent their orders to Belles Hess's Missouri facility, and the goods were shipped to them either by mail or by common carrier. The tax authorities of Illinois argued that Bellas Hess was regularly and continuously exploiting the consumer market in Illinois and this should give rise to sufficient nexus in that state.

The Supreme Court found that the Illinois tax collection obligation violated both the Due Process and the Commerce Clause. It held that remote sellers can be required to collect tax only if they have a physical presence in the state. The reason for the restriction on the taxing power of the states was that, in the Court's view, the states' exercise of fiscal sovereignty had produced a sales tax system of such complexity that it was necessary to restrict the states' taxing powers by the physical presence test. The Supreme Court ruled that:

> 'the many variations in rates of tax, in allowable exemptions, and in administrative and record-keeping requirements could entangle [the taxpayer]'s interstate business in a virtual welter of complicated obligations to local jurisdictions.'

Quill, a Delaware corporation, sold office equipment to North Dakota customers by soliciting sales through catalogues, flyers, advertisements in periodicals and telephone calls. It did not have any property, employees or

961 D. Gamage & D.J. Heckman, *A Better Way forward for State Taxation of E-commerce*, 92 B.U.L. Rev., p. 493 et seq. (2012).
962 Nelson et al., *supra* n. 955, at sec. 2:5.
963 *National Bellas Hess v. Illinois*, 386 US 753 (1967).
964 *Quill Corp. v. North Dakota*, 504 US 298 (1992).

agents in North Dakota. The goods were shipped to North Dakota from out-of-state locations either by email or by common carrier. The question was whether there was a sufficient nexus to warrant taxation in North Dakota.

In the *Quill* judgment, the Supreme Court distinguished between the Due Process nexus (minimum contacts) and the Commerce Clause nexus (substantial presence). As these two tests were not identical, it was possible that a taxpayer's activities could satisfy one and fail the other:

> 'The State contends that the nexus requirements imposed by the Due Process and Commerce Clauses are equivalent and that if, as we concluded above, a mail order house that lacks a physical presence in the taxing State nonetheless satisfies the due process "minimum contacts" test, then that corporation also meets the Commerce Clause "substantial nexus" test. We disagree. Despite the similarity in phrasing, the nexus requirements of the Due Process and Commerce Clauses are not identical. The two standards are animated by different constitutional concerns and policies.'

The Supreme Court agreed that Quill's exploitation of the North Dakota market satisfied the Due Process test but not the nexus under the Commerce Clause. As the taxpayer purposely directed its activities towards North Dakota residents, its "economic presence" (solicitation of business) was sufficient to create some minimum connection with the state. However, the taxpayer lacked the substantial nexus (physical presence), which is created by, for example, employees, independent contractors or the ownership or leasing of property in a state.[965]

The physical presence test was justified based on *stare decisis*[966] and the concern that allowing states to impose compliance obligations on remote sellers could burden interstate commerce by entangling remote sellers in a "'virtual welter of complicated obligations' imposed by the "nation's 6,000-plus taxing jurisdictions":[967]

> 'North Dakota's use tax illustrates well how a state tax might unduly burden interstate commerce. On its face, North Dakota law imposes a collection duty on every vendor who advertises in the State three times in a single year. Thus, absent

965 It is not clear how much physical presence will create the necessary substantial nexus to satisfy the Commerce Clause. The Supreme Court stated that "the slightest presence" is not sufficient (*National Geographic Society v. California Board of Equalization*, 430 US 551 (1997)). In *Quill*, the Court held that the Quill's ownership of some floppy disks in North Dakota did not create substantial nexus. Moreover, the Court made it clear in *Miller Bros Co. v. State of Maryland*, 347 US 340 (1954) that advertisements in newspapers and on the radio did not meet the necessary nexus requirement.

966 The invocation of *stare decisis* was important because the North Dakota State Supreme Court had previously determined that *Bellas Hess's* physical presence rule no longer applied due to the evolution of the US Supreme Court's Commerce Clause jurisprudence.

967 *Quill Corp. v. North Dakota*, 504 US 313 (1992).

> the Bellas Hess rule, a publisher who included a subscription card in three issues of its magazine, a vendor whose radio advertisements were heard in North Dakota on three occasions, and a corporation whose telephone sales force made three calls into the State, all would be subject to the collection duty. What is more significant, similar obligations might be imposed by the Nation's 6,000-plus taxing jurisdictions. See National Bellas Hess, Inc. v. Department of Revenue of Ill., 386 U.S. 753, 759-760 (noting that the "many variations in rates of tax, in allowable exemptions, and in administrative and recordkeeping requirements could entangle [a taxpayer] in a virtual welter of complicated obligations").'

The *Quill* decision has been widely criticized. The case was nominated for "the most maligned Supreme Court tax decision".[968] Numerous commentators have called for the Court to revisit the decision or for Congress to pass legislation enabling states to tax out-of-state sellers. However, it should be kept in mind that the *Quill* decision was not based on any notion that remote sellers ought to be placed in a tax-advantaged position as compared to local retailers. The Supreme Court recognized that interstate commerce may be required to pay its fair share of state taxes when it held in *Commonwealth Edison* (1981)[969] that:

> 'To accept appellants' apparent suggestion that the Commerce Clause prohibits the States from requiring an activity connected to interstate commerce to contribute to the general cost of providing governmental services (...) would place such commerce in a privileged position. But as we recently reiterated, "[i]t was not the purpose of the commerce clause to relieve those engaged in interstate commerce from their just share of state tax burden even though it increases the cost of doing business".'

However, states will not be allowed to collect use taxes from out-of-state sellers as long as remote sellers bear increased reporting and payment obligations as a result of their participation in interstate trade. Whereas a seller operating exclusively within a single state must only bear the tax collection costs imposed by that state's sales or use tax system, in the absence of the Commerce Clause nexus, a seller operating in many states would bear tax collection costs of the use tax of each state to which he ships goods.

A common misinterpretation of the physical presence test is that it requires either the presence of tangible property or employees within a state to establish nexus. In *Scripto Inc. v. Carson* (1960), the Supreme Court held that agents soliciting on behalf of a corporation satisfied the nexus requirement under

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968 P.L. Caron, *Pepperdine Hosts Symposium on the Most Maligned Supreme Court Decisions,* Tax Prof. L. Blog (1 Apr. 2011), available at: http://taxprof.typepad.com/taxprof blog/2011/04/supreme-mistakes.html.

969 *Commonwealth Edison,* 453 US at 623-624 (1981).

both the Due Process and Commerce Clause.[970] Similarly, in *Tyler Pipe Industries v. Washington* (1987),[971] the Supreme Court held that the corporate taxpayer had substantial nexus in Washington based on activities performed in the state on behalf of the corporation. The Court reached this result even though the corporation had no office, property or employees in the state. The judgments in *Scripto* and *Tyler Pipe* indicate that the physical presence requirement may be satisfied by the in-state activities of others taken on behalf of an out-of-state retailer. Nexus based on the activities of another is referred to as attribution nexus because the in-state activities of others are attributed to the out-of-state seller. Attribution nexus disregards certain formal distinctions, such as whether the in-state activities are performed by an employee or an independent agent, and, instead, focuses on the nature and extent of the activities themselves, in particular, whether they allow the taxpayer to establish and maintain a market in the state.[972]

Finally, it is important to note that the fact that a taxpayer has nexus for sales tax purposes does not imply that he will also have nexus for income tax purposes.[973] Both concepts are similar and both are heavily rooted in the Commerce and Due Process Clause. However, different levels of activity within a state may trigger one type of nexus but not the other. The federal legislator passed Public Law 86-272, according to which states cannot collect income tax from corporations whose only activity within the state is the solicitation of orders for tangible personal property.

8.2.2.3 "Amazon" laws

The reliance on physical presence nexus has created planning opportunities for taxpayers in mail-order and online businesses. As the electronic commerce grew, the potential loss of revenue became a serious concern for the states. In 2010, electronic commerce in the United States exceeded USD 4.1 trillion, with USD 424 billion of that amount comprised of consumer purchases. From 2002 to 2010, retail online sales increased at an average annual growth rate of 17.9%, compared to 2.6% for total retail sales.[974]

Frustrated by the *Quill* decision and desperate for revenues, a number of states have passed legislation, commonly referred to as "Amazon" laws, which aggressively interprets the physical presence requirement in an attempt to tax

970 *Scripto Inc. v. Carson,* 362 US 207 (1960).

971 *Tyler Pipe Industries v. Washington*, 483 US 232 (1987).

972 A. Haile, *Affiliate Nexus in E-Commerce*, Elon Univ. Sch. of Law, Legal Studies Research Paper No.2011-04, sec. I.C, available at: http://ssrn.com/abstract=1924510.

973 S. Lusch, *State Taxation of Cloud Computing*, 29 Santa Clara Computer & High Tech. L. J., p. 380 (2013).

974 US Census Bureau, *E-commerce 2010*, (10 May 2012), available at: www.census.gov/econ/estats/2010/2010reportfinal.pdf.

interstate electronic commerce.[975] Although there is a considerable variation in the content of "Amazon" laws, they generally try to assert nexus through affiliation (related-entity approach) or referral (click-through nexus).[976]

Click-through nexus legislation triggers use tax liability for remote sellers who solicit sales through state residents. The remote supplier must have an agreement with state residents according to which the latter refer to him potential customers (for example, by a link on a website) and gross receipts from sales in that state must exceed a certain threshold. New York was the first state to enact click-through nexus legislation in 2008.[977] In 2009, Rhode Island and North Carolina adopted identical laws.

Affiliate nexus exists if a remote seller and a state business are under common control or if they use a similar name or trademark to promote and maintain sales. This kind of nexus attempts to circumvent the Commerce Clause prohibitions by disregarding the corporate structure and treating related business entities as though they were a single unitary business.[978] In 2010, Colorado adopted a law under which if a "controlled group of corporations" had at least one member with physical presence in Colorado, all retailers in the group had nexus with Colorado.[979] In 2011, California amended the definition of a "retailer engaged in business in California" to include certain affiliates of in-state companies and to require them to collect use taxes.[980] The affiliate nexus provision was reportedly targeted at Amazon, which has a research and development facility (operated by an Amazon subsidiary) in the state.

Affiliate nexus is similar to attribution nexus, but those two concepts are not exactly the same. Attribution nexus means that the actions of an in-state representative establish and maintain a market for an out-of-state entity. Affiliate nexus applies if the in-state and out-of-state entity satisfy a common ownership requirement. These two concepts overlap when an in-state affiliate is performing services for an out-of-state retailer, those services are essential

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975 For detailed discussion of Amazon Laws and their constitutionality, *see Amazon.com v. New York State Department of Taxation and Finance*, 877 N.Y.S.2d 842 (N.Y. App. Div. 2009); T. Cavanaugh, *Iowa Can Do Better than the Affiliate Tax: A Proposal for an Intermediary Tax*, 97 Iowa L. Rev., p. 567 (2012); D. Cowan, *New York's Unconstitutional Tax on the Internet: Amazon.com v. New York State Department of Taxation and Finance and the Dormant Commerce Clause*, 88 N.C. L. Rev., p. 1423 (2010); S. W. Gaylord & A. Haile, *Constitutional Threats in the E-Commerce Jungle: First Amendment and Dormant Commerce Clause Limits on Amazon Laws and Use Tax Reporting Statutes*, 89 N.C. L. Rev., p. 2011 (2011); T.S. Steele et al., *The 'Amazon' Laws and the Perils of Affiliate Advertising*, 59 St. Tax Notes, p. 939 (28 Mar. 2011); Haile, *supra* n. 972.

976 States that passed Amazon laws include: Alabama, Arkansas, California, Georgia, Idaho, Indiana, Kansas and Minnesota.

977 Gamage & Heckman, *supra* n. 961, at p. 518 et seq.

978 Id., at p. 520 et seq.

979 J. Henchman, *Amazon Taxes*, p. 36, The Tax Foundation (July/August 2012).

980 Assembly Bill No. 155, passed by the California State Legislature on 9 Sep. 2011 and signed by Governor Brown into law on 23 Sep. 2011.

to establishing and maintaining a market for the retailer and they are part of a unitary business between the affiliate and the retailer.[981] The Supreme Court has not yet considered the application of affiliate nexus in the use tax context. Several lower courts have uniformly rejected it.[982]

"Amazon laws" do not offer an effective solution for taxing interstate electronic commerce. These laws have been described as unconstitutional and they have been the subject of litigation across the country. Courts are extremely reluctant to disregard the separate legal status of distinct entities, even if those entities are affiliates. This reluctance is based on the fundamental principle of corporate law that the parent company and its subsidiary are treated as separate and distinct legal persons, even though the parent owns all the shares in the subsidiary and the two enterprises have identical directors.[983] Moreover, since use tax is imposed on the consumer's act of using personal property, it has no relation to the corporate structure of the retailer selling the property.

Remote suppliers found a way of circumventing "Amazon" laws by moving their subsidiaries or suspending their relationships with marketing organizations from the states that passed such laws. Amazon responded to the New York law establishing the click-through nexus by terminating its affiliate programmes in the state and filing a lawsuit in state court. Thus, the first "Amazon" taxes did not result in more revenue. Rhode Island actually saw revenue loss due to reduced income tax collections from terminated affiliate's relationships.[984]

8.2.2.4 Proposed legislative measures

While efforts to enact "Amazon" laws continue at the state level, the dubious constitutionality of those laws and their lack of success in raising revenue has shifted attention to the federal level where there have been several attempts to adopt a new nexus standard. Almost every year since the *Quill* decision in 1992, new legislation that would grant states the authority to compel remote sellers to collect state sales and use taxes has been proposed.[985]

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981 Haile, *supra* n. 972, at sec. I.C.

982 *SFA Folio Collections, Inc. v. Bannon*, 585 A.2d 666 (1991); *SFA Folio Collections, Inc. v. Tracy*, 652 N.E.2d 693 (Ohio 1995); *Current, Inc. v. State Board of Equalization*, 24 Cal. App. 4th 382 (Cal. Ct. App. 1994).

983 *SFA Folio Collections, Inc. v. Bannon*, 585 A.2d 673 (1991) (quoting H. Henn and J. Alexander, Laws of Corporations (3d ed. 1983) sec. 148, p. 355).

984 Haile, *supra* n. 972, at sec. I.C.

985 The Main Street Fairness Act (S. 1452/H.R. 2701) introduced on 29 July 2011; the Marketplace Equity Act (H.R. 3179) introduced 13 October 2011; and the Marketplace Fairness Act (S. 1832) introduced 9 November 2011.

The Market Fairness Act of 2013[986] has made the greatest progress so far. It grants the states the authority to compel remote sellers to collect sales tax at the time of a transaction just as local retailers are already required to do. However, before states are allowed to start collecting tax from remote sellers, they must simplify their sales tax laws. The Act provides for two simplification options. The first one is to join the Streamlined Sales Tax Project (*see* section 8.2.2.5.) and the other – to introduce simplification measures listed in the proposed bill. For states which do not participate in the Streamlined Sales Tax Project, the minimum simplification requirements are as follows:

- there must be a single entity within the state to administer all state and local sales and use taxes, a single audit for all taxing jurisdictions within the state and a single return to be filed with the single administering entity;
- the state cannot require a remote seller to file sales and use tax returns more frequently than it is required for non-remote sellers or impose requirements on remote sellers that the state does not impose on non-remote sellers;
- there must be a uniform sales and use tax base among the state and local taxing jurisdictions;
- remote sales must be sourced to the location "where the item is received by the purchaser" (destination principle);
- the state must provide remote sellers with information about the taxability of goods and services and the rates;
- the state must provide free software for remote sellers to calculate and file sales and use tax returns and hold them harmless for any errors and omissions resulting from relying on state-provided systems and data.

Sellers whose nationwide remote sales did not exceed USD 1 million in the preceding year are not required to collect sales and use taxes on those sales (the small seller exemption). As the exemption threshold refers to "gross annual receipts in remote sales", remote sellers that primarily sell non-taxable items may also be subject to collection and remittance obligations. By way of example, a seller with remote sales of non-taxable items of USD 950,000 that also sold taxable items in the value of USD 55,000 would still be required to collect tax on the USD 55,000 of remote sales of taxable items since he would not qualify as an exempt small seller.

The Market Fairness Act of 2013 intends to provide some level of sales tax simplification in an effort to make it easier for remote sellers to comply with the collection and remittance obligations. Although it does not address

986 *See* http://beta.congress.gov/bill/113th-congress/senate-bill/743. The Marketplace Fairness Act of 2013 was introduced in the Senate as S. 743 (formerly S. 336) on 16 April 2013, and in the House of Representatives as H.R. 684 on 14 February 2013. It was passed by the Senate on 6 May 2013. For more information on the Market Fairness Act of 2013, *see* www.marketplacefairness.org/what-is-the-marketplace-fairness-act/.

one of the main concerns of the remote sellers, i.e. significant differences among the states as to which goods and services are taxable, it provides remote sellers with free-of-charge software that calculates sales and use taxes due on each transaction and it holds them harmless for any errors or omissions that result from relying on state-provided systems and data.

8.2.2.5 Simplification efforts by states

The US Constitution does not provide a nationwide forum in which the states can meet to seek uniformity in policies or rules that govern cooperative arrangements between them. On the contrary, the US Constitution imposes restrictions on the ability of the states to collaborate with each other on tax administration. The Compact Clause[987] generally prohibits interstate agreements without the consent of Congress. Thus, congressional approval is required for a state to enter into an agreement to collect sales taxes on a uniform basis.

In an effort to simplify and to gain consistency on the structure of sales taxes, a group of states established the Streamlined Sales Tax Project (SSTP).[988] The result of this work was the adoption of the Streamlined Sales and Use Tax Agreement (SSUTA) in November 2002.[989] The SSUTA focuses on improving sales and use tax administration systems by developing uniform definition and sourcing rules for taxable transactions and by simplifying compliance matters, thereby minimizing costs and administrative burdens on retailers operating in multiple states. It encourages remote sellers to collect tax on sales to customers living in the streamlined states to ensure a level playing field between online shops and local "brick-and-mortar" stores. The governance of the SSUTA is in the hands of the Governing Board, which has the form of a non-profit entity. All full and associate member states have a seat on the Board. The ultimate goal of the SSTP is to persuade the federal government to allow tax collection on interstate trade by demonstrating the states' willingness to achieve uniformity in taxation.

Under the SSUTA, all local sales and use taxes must be administered by the state. Sellers are only required to register and file returns with the state that redistributes the revenues to the local governments. The tax base for state and local jurisdictions must be identical. Participating states agree to reduce compliance burden for sellers by making a reasonable effort:

- to notify sellers of legal changes in the tax base, rate and other rules and regulations;
- not to apply multiple tax rates;

987 Art. 1 (10) of the US Constitution.

988 *See* http://streamlinedsalestax.org.

989 For an overview of the SSUTA, *see* Van Brederode, *The Harmonization of Sales and Use Taxes in the United States*, *supra* n. 953.

- to maintain a database that describes the boundaries of all taxing jurisdictions according to the five and nine-digit zip code.

The participating states must provide monetary compensation for the implementation of new technology in the case of voluntary registration, i.e. registration in a state where the seller lacks sufficient nexus. The SSUTA provides for three compliance models. In Model 1, sellers employ a Certified Service Provider (CSP) to perform all their sales and use tax functions.[990] CSPs are liable to the tax authorities for any errors made. The services rendered by CSPs are paid for by the participating states. If registration in a particular state is mandatory, for example because the seller has sufficient physical presence (nexus) there, no compensation will be paid under the terms of the CSP contract in respect of taxes due to that particular state. In Model 2, sellers retain their responsibility in respect of sales and use taxes and use Certified Automated Systems (CAS) software to perform compliance functions. The CAS identifies which products are taxable, applies the appropriate tax rate and can be linked to the company's accounting system. The costs of the CAS software are borne by the businesses employing them. Finally, Model 3 sellers use their own system to make their tax calculations on the basis of performance standards determined by the individual participating states.[991]

Until December 2013, 24 states have passed the conforming legislation. Those states represent about 31% of the country's total population.[992] However, some important states, like California and New York, have not joined the project yet.

8.2.3 Basic characteristics of sales taxes

8.2.3.1 Personal scope

The sales tax does not know the concept of taxable person, similar to that under the EU VAT law. The seller or retailer is responsible for sales tax collection and remittance, provided that he has sufficient nexus with the state.

As regards liability for the payment of tax, a distinction must be made between seller privilege tax (SPT) and consumer tax (CT) states. In SPT states, the tax is imposed on the privilege of doing business in the state. The tax subject is the retailer who must remit the tax whether or not it is collected from the customer. In CT states, the tax is imposed on the privilege of con-

990 For a list of CSPs, *see* www.streamlinedsalestax.org/index.php?page=certified-service-providers.

991 *See* www.streamlinedsalestax.org/index.php?page=reg_3.

992 *See* www.streamlinedsalestax.org/index.php?page=About-Us.

suming the goods and services purchased. The tax subject is the consumer, but the responsibility for tax collection rests on the retailer.[993]

The sales tax and the VAT employ different techniques to avoid taxing business purchases. The US retail tax system does not know the concept of input tax. Sales and use taxes are only imposed on the ultimate consumer. Retailers, manufacturers and wholesalers are exempt on their sales under the resale/manufacturing exemption. Despite this, it is estimated that more than 40% of sales tax revenues are derived from business purchases, which results in tax cascading effect that distorts choices among productive techniques.[994]

There are neither registration thresholds nor simplifications measures for small businesses. Any person, regardless of his turnover, which establishes nexus in a taxing jurisdiction and makes taxable sales is required to register, collect and remit sales tax. The filing frequency can be lower if the average tax liability is low.[995]

8.2.3.2 Taxable transactions

General information

In general, all sales of tangible personal property are taxable.[996] A "sale" is defined as any transfer of title or possession, exchange or barter of tangible personal property for consideration.[997] Some states have expanded their definition of tangible personal property to include items such as electronically delivered software and digital products, as well as some commodities (for example, natural gas and electricity).[998]

Intangibles are excluded from the RST scope in the majority of states. However, there are some states (for example, Hawaii, New Mexico and South Dakota) that tax almost all services, and in those states the sale of intangibles is taxable to the extent that the intangibles are considered services.[999] Intangible property is treated as tangible property if it is transferred in a tangible format, for example, software delivered on a data carrier.[1000]

Most states tax only a few enumerated services. When sales taxes were enacted, services accounted for a substantially smaller fraction of national output than now. Thus, the failure to tax them did not cause a serious loss

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993 D.L. Yetter, *United States – VAT & Sales Tax*, sec. 2, Topical Analyses IBFD.

994 C.E. McLure Jr. & P. Merrill, *Why Doesn't the United States Use a VAT for Deficit Reduction? Political Impediments and Fiscal Coordination Issues*, sec. 4.2., 67 Bull. Intl. Taxn. 4/5 (2013).

995 Yetter, *supra* n. 993, at sec. 12.1.

996 Sales tax statutes do not distinguish between legal and illegal supplies, both of which are subject to tax. *See Greer v. Department of the Treasury*, 145 Mich. App. 248, 377 N.W.2d 836 (1985).

997 Yetter, *supra* n. 993, at sec. 3.1.2.

998 Id., at sec. 3.1.1; Lusch, *supra* n. 973, at p. 376.

999 Nelson et al., *supra* n. 955, at sec. 6:52.

1000 Yetter, *supra* n. 993, at sec. 3.1.1.

of revenue. Over time, the economic landscape of the United States has changed, but sales taxes have not reflected those changes. Although now services comprise a larger share of national output than goods, service providers have been able to defeat proposals to extend the tax to the service sector. There is an understandable reluctance for the states to apply sales taxes to services. The main reason is the lack of uniformity in the definition of what may constitute a service and in the rules to determine which state may tax interstate services. In the absence of such rules, a service contracted in one state, performed in another and used by the customer in several other states may be subject to multiple taxes.[1001]

A retailer or service provider is required to charge, collect and remit sales or use tax on all transactions subject to tax in a given jurisdiction, except when the provisions in that jurisdiction allow for a sale to be exempt. The states apply exemptions to certain categories of goods and services, for example, food, medical supplies and educational materials. The determination of which goods are taxable or exempt varies among the states.

Many states allow an exemption for occasional or casual sales as these types of transactions are generally not made in the regular course of business. The states vary on what types of transactions may qualify for this type of exemption. The exemption is sometimes limited to a certain number of sales or a specified dollar amount. If a taxpayer exempts a transaction believing that the threshold will not be exceeded, but within the specified time period the sales value does exceed the threshold, all past sales are subject to tax. New York only exempts occasional sales of property sold by individuals at a residence (i.e. garage sales). California does not consider sales by anyone holding a retail permit to qualify for a casual sale. In Alabama, an exemption applies to items sold outside the normal course of business (for example, a publishing company selling computers).[1002]

Barter transactions

The concept of sale includes barter transactions. Two parties to a barter transaction function as both "buyer" and "seller" and the goods and services exchanged serve, in turn, as both the items sold and the consideration paid. Barter is subject to the general sales tax rules.

The following example explains the tax treatment of a barter transaction under the RST rules. If the "seller" of taxable goods sold in a barter transaction is a New Jersey vendor (i.e., a vendor who has sales tax nexus with New Jersey or a vendor without nexus who has voluntarily chosen to register as a vendor in this state), the seller should collect and remit sales tax calculated on the normal retail value of the item sold, assuming that the purchaser cannot claim a valid statutory exemption (for example, resale, exempt organization or

1001 Van Brederode, *Introduction to the US State Sales and Use Taxes*, *supra* n. 771, at sec. 6 and 7.
1002 Yetter, *supra* n. 993, at sec. 2.3.

production equipment). The normal retail value is the price at which goods or services of the same kind are offered for sale by him to retail customers paying by traditional means (money). If the seller is an out-of-state vendor, not registered in New Jersey, who delivers taxable goods to a New Jersey customer in a barter transaction, the New Jersey customer will be liable for remitting the use tax. The New Jersey customer will owe the tax on the value of the consideration that he paid. This consideration will consist of the goods or services that he gives to the seller in lieu of money.[1003]

Classification of digital goods

When digital goods first entered the marketplace, the existing statutes and regulations focused on taxation of supplies of tangible personal property and specifically enumerated services. In the absence of statutory or administrative provisions imposing tax on digital goods, sales of such goods were generally not considered taxable because the consumer did not receive any tangible personal property. Over the last few years, as states have been looking for ways to expand their sales tax bases in order to increase revenues, new statues and regulations have appeared to address the taxation of digital goods. Among the states' approaches to taxation of digital goods, three trends can be identified.

First, there are states that still have not addressed the issue of taxation of digital goods. As they tax only tangible personal property, digital goods escape taxation due to their intangible nature. Second, there are states that tax digital goods because such goods are considered to be tangible property. The Texas Tax Code provides the following definition of a taxable item:[1004]

> '"Taxable item" means tangible personal property and taxable services. Except as otherwise provided by this chapter, the sale or use of a taxable item in electronic form instead of on physical media does not alter the item's tax status.'

The Louisiana Revised Statute defines tangible personal property as property which may be seen, weighed, measured, felt or touched, or is in any other manner perceptible to the senses.[1005] However, the Administrative Code provides examples of tangible property, including:[1006]

> 'digital or electronic products such as "canned" computer software, electronic files, and "on demand" audio and video downloads.'

1003 New Jersey State Tax News, vol. 30, no. 1 (Spring 2007), available at: http://www.state.nj.us/treasury/taxation/pdf/pubs/stn/spring07.pdf.

1004 Texas Tax Code 151.010.

1005 Louisiana Revised Statute 47:301(16)(a).

1006 Louisiana Administrative Code 61:I.4301(C) (Definition of Tangible Personal Property).

Relying on prior case law according to which electricity constituted tangible personal property,[1007] the Alabama Department of Revenue (Administrative Law Division) ruled that a photographer's sale of digital images transmitted electronically was subject to sales tax because the digital images constituted tangible personal property:[1008]

> 'Whether sales tax applies to the sale of digital goods delivered electronically is an emerging issue in state taxation. Admittedly, treating the sale of digitized photographs delivered electronically as a taxable sale of tangible personal property pushes the bounds of what has traditionally been viewed as the sale of tangible goods. But Alabama's broad definition of tangible personal property, which the Alabama Supreme Court has construed to include electricity, is sufficiently broad to include digital goods transmitted by electrical impulses. I also see no principled reason why the retail sale of goods that can now be delivered electronically due to advances in technology, i.e., photographs, music, movies, books, etc., should be taxed any differently than the sale of those goods delivered by traditional means.'

The third approach includes states that have enacted a definition of digital goods and impose tax on such goods. The majority of those states are members of the Streamlined Sales Tax Project. Under the SSUTA, member states must not include "any products transferred electronically"[1009] in the definitions of "tangible personal property", "computer software",[1010] "telecommunication services" or "ancillary services".[1011] A member state may choose to tax products transferred electronically by enacting special rules but not by including those products within one of the categories specified above. For states that impose a tax on products transferred electronically, section 332(D) of the SSUTA provides that, unless the statute specifically states otherwise, a tax on such products shall be construed as being imposed on a sale that grants the right of permanent use to an end user and that is not conditioned upon continued

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1007 In *Curry v. Alabama Power Co.*, 8 So.2d 521 (Ala. 1942), the Alabama Supreme Court held that electricity, i.e. the flow of electrons, constituted tangible personal property for sales and use tax purposes. The Court later confirmed that holding in *State v. Television Corp.*, 127 So.2d 603 (Ala. 1961), and *Sizemore v. Franco Distributing Co., Inc.*, 594 So.2d 143 (Ala. Civ. App. 1991).

1008 *Robert Smith d/b/a FlipFlopFoto v. State Department of Revenue*, Admin. L. Div. Dkt. No. S051240.

1009 The term "transferred electronically" means obtained by the purchaser by means other than tangible storage media (sec. 333 of the SSUTA).

1010 According to the definition in Appendix C Part II of the SSUTA, "computer software" means a set of coded instructions designed to cause a computer or automatic data processing equipment to perform a task.

1011 Sec. 332A and 333 of the SSUTA. Before 1 January 2010, the restriction applied only to "specified digital products" defined as digital audio-visual works, digital books and digital audio works.

payment to the seller by the purchaser.[1012] A person that purchases products "transferred electronically" for the purpose of giving away such products shall not be considered to have engaged in the distribution or redistribution of such products and shall be treated as an end user.[1013]

Although the SSUTA lays down conditions under which the sale of products transferred electronically should be taxable, many SSUTA member states have deviated in their statutes from the SSUTA provisions. Some states consider a sale of digital products taxable even if the right to use a digital item is not permanent or the purchaser is obliged to make continuous payments. North Dakota took a different approach: it adopted the definition of products transferred electronically provided by the SSUTA and then exempted those products from taxation.[1014] On the other side of the spectrum is South Dakota, which has taken the broadest approach to taxing digital products: all sales, leases and rentals of electronically transferred products are taxable.[1015] Thus, even among the SSUTA member states – where one might expect some consistency – a taxpayer must study each statute individually and cannot make a determination regarding the taxability of digital goods in one state based upon its knowledge of the taxability of digital goods in another one.

Form the above-mentioned considerations, it can be concluded that the characterization of virtual currency for sales tax purposes varies from state to state. In states that do not tax intangibles or services, transactions involving virtual currency are not subject to sales tax. Under the SSUTA, virtual items and currency qualify as "products transferred electronically".[1016]

8.2.3.3 Place of taxation

In the United States, sales taxes apply only to domestic (i.e. intra-state) supplies, i.e. supplies that originate and end within the boundaries of the same state. States have no authority over out-of-state suppliers because interstate trade is the exclusive domain of the federal government. Under the current judicial interpretation of the Commerce Clause, only sellers with adequate physical presence (nexus) are required to register as use tax collectors. Thus, sellers of digital goods are generally not required to charge sales tax when

1012 Sec. 332D of the SSUTA.

1013 Sec. 332D(1) of the SSUTA. However, this provision excludes a person who receives by contract a product transferred electronically for further commercial broadcast, rebroadcast, transmission, retransmission, licensing, relicensing, distribution, redistribution or exhibition of the product, in whole or in part, to another person or persons (Rule 332.1).

1014 S.B. 2347, 61st Gen. Assem., Reg. Sess. (N.D. 2009).

1015 South Dakota Department of Revenue, *Factsheet "Products Transferred Electronically"* (Mar. 2011), available at: www.state.sd.us/drr2/businesstax/publications/taxfacts/digital.pdf.

1016 Sec. 332G of the SSUTA clarifies that the tax treatment of a "digital code" shall be the same as the tax treatment of the "specified digital product" or product "transferred electronically" to which the "digital code" relates.

the goods are sent to a customer in a different state or country. In an interstate scenario, the obligation to calculate and remit the tax is shifted to the customer. However, the customer will have little incentive to fulfill his obligations knowing that the probability that the tax authorities will find out about the transaction is very low.[1017] If the customer (a non-taxable person) is resident of the European Union, the seller becomes obliged to register in a selected Member State under the One Stop Shop arrangement. However, the seller may not be aware of his obligation to register or he is unlikely do so given the low probability of enforcement and detection.

The determination of whether a transaction takes place within a state jurisdiction depends on where the transfer of title or possession occurs. This is generally the location where the goods are shipped to the customer by the retailer. The place of taxation for services is usually the location where the service is performed or where the benefit of the service is enjoyed or where the customer makes first use of the service.[1018]

The sourcing rules for digital goods depend on their characterization for state sales tax purposes. States that treat digital goods as tangible property follow the sourcing provisions applicable to other tangible goods. Given the intangible nature of digital goods and the characteristics of the electronic means of delivery, the application of rules on sales of tangible property may give rise to significant difficulty. For example, when bitcoins are exchanged for traditional currency, it is unclear when the delivery occurs (i.e. whether the location of the buyer, the seller or the equipment supporting the transaction is decisive).

Under the SSUTA, the sourcing of digital goods follows the five-step sourcing hierarchy laid down in section 310A. First, if the digital good is "received" by the purchaser at a location of the seller, the sale takes place at that location.[1019] The term "received" means taking possession or making the first use of digital goods, whichever comes first.[1020] Second, if the product is not received at the location of the seller, the sale occurs where the purchaser receives the product, as long as that location is known to the seller.[1021] If neither of the above applies, the place of supply is the location of the purchaser available from the seller's business records (the third step)[1022] or an address of the purchaser obtained during the consummation of the sale (the fourth step).[1023] Finally, if none of the above applies, the seller is to source the transaction to the location from which the product was provided.[1024] The first

1017 *See* section 8.2.4. *Basic characteristics of use taxes*.
1018 Yetter, *supra* n. 993, at sec. 4.
1019 Sec. 310A.1 of the SSUTA.
1020 Sec. 311C of the SSUTA.
1021 Sec. 310A.2 of the SSUTA.
1022 Sec. 310A.3 of the SSUTA.
1023 Sec. 310A.4 of the SSUTA.
1024 Sec. 310A.5 of the SSUTA.

rule is not likely to apply to virtual currency transactions since the customer seldom "takes possession" or "makes the first use" of digital goods at the seller's location. Similarly, the second, third and fourth rule have little practical relevance when the seller has no indications of the location of the customer. However, the catch-all provision appears to offer a workable solution; as a matter of last resort, a transaction can always be sourced to the location of the seller.

Some states are unwilling or unable to adopt the destination-based sourcing approach of the SSUTA. Origin-based taxation is a critical issue for states that permit local jurisdictions to tax intrastate sales that originate in their territory. The origin principle benefits not only local businesses that are required to collect tax for only one jurisdiction but also municipalities that are home to large retailers. To encourage those states to join the SSTP, the Governing Board amended the SSUTA to permit origin-based sourcing for intrastate sales of tangible personal property and digital goods.[1025] While the destination principle remains the rule for interstate sales, member states with local jurisdictions that impose or receive sales or use taxes may elect origin-based sourcing.

Just like in the case of the characterization of digital goods, there are no uniform sourcing rules among the SSUTA member states. A taxpayer must study each state statute individually and cannot make a determination regarding the sourcing of digital goods in one state based upon its knowledge of the laws of another one.

8.2.3.4 Tax amount

The sales tax rates vary from 2.9% to 7%.[1026] The applicable combined rate for a taxable sale is the state sales tax rate plus any local rates. The differences in tax rates result in cross-border shopping, i.e. consumers making their purchases in a state with a lower tax.

Contrary to the situation in the European Union, where VAT is included in the listed retail sales price, the US sales tax is an addition to the price. There is a dual rationale for separating the price from the tax. First, by stating the tax separately, customers are made aware of what they are paying for public services. Second, it makes it easier for suppliers to shift the tax forward to their customers and it prevents loss in sales volume when prices increase upon the introduction of the tax or when the existing rates are increased since the listed price is never affected by the tax.[1027]

1025 Sec. 310.1 of the SSTUA (effective 1 January 2010).
1026 For a list of state sales tax rates, see http://salestaxinstitute.com/rates.html.
1027 Van Brederode, *Introduction to the US State Sales and Use Taxes*, *supra* n. 771, at sec. 2.

8.2.3.5 Administrative obligations

The sales tax administration is decentralized and handled at the state level, which means that persons seeking to register, collect and remit taxes are confronted with different rules in each state. Creating nexus in a state or a local jurisdiction generates the responsibility for a retailer or service provider to register, collect and remit sales and use tax. Registration to collect and remit sales tax can typically be administered online by completing an application form. Once an application has been processed and approved and the necessary certification is sent to the taxpayer, the taxpayer can legally initiate the collection and remittance of the sales tax. This is often referred to as the "retailer's permit."[1028]

Once a taxpayer is registered to collect or remit sales and/or use taxes in a jurisdiction, the jurisdiction will notify the taxpayer of their filing frequency and due date. Filing frequencies can change based on a taxpayer's level of sales activities. The due date applies to both the filing of the return and the payment of the tax.[1029]

8.2.4 Basic characteristics of use taxes

Use tax is defined as a tax on use or consumption of taxable items on which no sales tax has been paid. It applies to purchases made outside the taxing state but used within that state. Its aim is to prevent competitive disadvantage for domestic sellers.[1030]

Use taxes were initially enacted in the 1930's, shortly after states started passing sales tax laws. The original purpose of use taxes was to prevent residents from crossing state borders and purchasing goods in neighboring states which had not yet enacted sales taxes.[1031]

Use taxes must be remitted by the customer unless the seller has sufficient nexus in the state of destination. Thus, there are two types of use taxes: consumer use tax (CUT) and seller use tax (SUT). The former is self-assed by the customer on items on which no tax was collected by the retailer, whereas the latter applies to sales made by a retailer to a consumer located in another state if the retailer has nexus and is registered to collect tax there.[1032]

In practice, use tax compliance is drastically lower than sales tax compliance. Due to ignorance or intentional tax evasion, consumers rarely self-report transactions. The California State Board of Equalization estimates that only

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1028 Yetter, *supra* n. 993, at sec. 11.1.1.1.
1029 Id., at sec. 11.4.1.
1030 Van Brederode, *Introduction to the US State Sales and Use Taxes*, *supra* n. 771, at sec. 8.
1031 Haile, *supra* n. 972, at sec. I.A.
1032 Yetter, *supra* n. 993, at sec. 2.

0.4% of individual taxpayers actually pay the use taxes they owe the state. Non-compliance with the use tax resulted in an estimated revenue loss of USD 1.2 billion in California in 2011.[1033] An empirical study on the sales tax compliance by eBay sellers showed that cross-border activity amounts to 92% of the total eBay activity. Coupled with a low level of use tax compliance, this creates a large threat to state tax revenues.[1034]

If state residents paid the use taxes they owe on e-commerce purchases, there would be no problem of taxation of interstate transactions since the states' inability to levy sales or use taxes on remote sellers would be remedied by the state residents paying use taxes on these purchases.

8.2.5 Conclusions

For most people, the Information Age has simplified their lives. However, for RST payers and administrators, the sales tax rules on digital goods have complicated an already confusing system. When digital goods first entered the marketplace, the existing statutes and regulations focused on taxing sales of tangible personal property and specifically enumerated services. Digital items were not considered taxable because the consumer did not receive any tangible items.

As the importance of the digital sector and electronic commerce grew, states started looking for ways to subject digital goods to taxation. The result of these efforts is a very inconsistent and complex set of rules that further complicates the multi-state sales tax system. In many states, virtual goods escape taxation due to their intangible nature. In others, they are considered to be tangible property and are taxed accordingly. The SSUTA has not offered a satisfactory solution to the characterization problem so far. Although it provides rules on taxation of digital products, many member states have deviated from the SSUTA provisions in their statutes.

Taxation of digital items is further complicated by the sourcing rules. As most states have not explicitly addressed the sourcing of digital goods, taxpayers and tax administrators face uncertainty in this area. The SSUTA failed to create uniformity in that matter either.

Another obstacle to taxation of digital goods is the fact that since the Supreme Court decisions in *National Bellas Hess* and *Quill*, interstate suppliers of digital goods have been effectively exempt from state sales and use taxes.

In view of the different issues discussed in this chapter, it can be concluded that the US tax system, in its present shape, is not ready to deal with problems imposed by virtual worlds and currencies. As the digital environment con-

1033 Haile, supra n. 972, at sec. I.A.
1034 Alm & Melnik, *supra* n. 728.

tinues to change at speeds that were unfathomable some years ago, state sales tax systems fail to keep pace.[1035]

8.3 INTERNATIONAL ASPECTS

As a consequence of the spread of VAT and the increase in the volume of cross-border activities, transactions are frequently affected by indirect tax systems of two (or more) different jurisdictions. The differences in those systems and the lack of coordination at the international level may cause the same supply to be taxed twice or not taxed at all.[1036] Both phenomena are undesirable as they distort competition and violate the principle of neutrality. Conceptually, they should not exist: VAT is a tax on final consumption and should be applied by the state where the goods/services are most likely to be consumed. The main reasons for the existence of double taxation or double non-taxation are: the use of different rules to determine the place of taxation (or their different interpretation) and a different characterization of a supply. For example, state A levies VAT because it is the jurisdiction where the supplier is established, whereas state B taxes the same supply because it is the jurisdiction where the consumer is resident.

As VAT is harmonized within the European Union, the risk of double taxation or non-taxation is more common in transactions between Member States and third countries or between third countries themselves.[1037] Supplies of digital goods between the European Union and the United States are largely affected by double non-taxation.[1038] An EU taxable person supplying digital goods to a US customer does not charge EU VAT as the supply is deemed to take place outside the EU territory. The US customer should remit use tax on the received supply, but the probability that he will comply with his tax obligations is very low. A US seller supplying digital goods to an EU customer should charge VAT of the country of destination under the One Stop Shop regime. However, he may fail to do so since he is not familiar with EU VAT rules (which do not require nexus) or intentionally disregards them knowing that his tax liability is unlikely to be detected and enforced.

1035 The statement that the digital environment changes rapidly can be illustrated by the following example: in 1989, Bill Gates said that they "will never make a 32-bit operating system". However, such system was introduced just four years later (*See* http://econsultancy.com/nl/blog/430-36-greatest-bill-gates-quotes-just-for-apple-fanboys).

1036 VAT/RST double taxation means that two countries levy VAT/RTS on the same supply, irrespective of whether the tax is levied on the same or different persons. Tax cascading is not covered by this definition.

1037 If double taxation occurs within the European Union, the ECJ may be called upon to solve the issue.

1038 With respect to direct taxes, the risk of unintentional double non-taxation is generally lower than with respect to VAT/RST as most direct tax systems tax their residents on a worldwide basis.

As shown above, the "import" of digital goods by consumers gives rise to non-taxation. Non-US sellers of digital goods have a competitive advantage over domestic sellers in the US market because of the difficulty of enforcing VAT on remote sales. The same applies in a reverse scenario of a non-EU seller supplying digital goods in the European Union. Due to their intangible nature, digital goods are not traceable and do not cross any borders. It is usually not possible for tax authorities in the country of destination to know the source of transactions, the identity of the recipient and the value of digital content, all of which are required to establish tax liability. The concept of use taxes has shown that it is unfeasible to collect tax on digital goods from consumers. A way must be found to collect tax from foreign sellers and this obligation must be supported by effective enforcement measures. The EU has found such a way by introducing the One Stop Shop regime. However, enforcing this regime in a digital context remains difficult as transactions can be carried out anonymously. Although millions of suppliers provide electronic services to EU consumers, only a few hundred of them are registered under the One Stop Shop scheme.[1039] Many fail to do so as the European Union does not have sufficient means to control and sanction them.

The introduction of a similar One Stop Shop regime in the United States does not seem a viable solution at the moment. Non-resident sellers cannot be required to apply the sales tax rate of the state of destination until the legal framework for taxing remote sales is changed, i.e. state sales tax laws are simplified and the physical presence test eliminated. Moreover, it would not be reasonable to require foreign suppliers to be involved in a "virtual welter of complicated obligations" imposed by the "nation's 6,000-plus taxing jurisdictions".

1039 *See* section 9.2.2.3. *One Stop Shop regime*.

9 Indirect tax: conclusions

9.1 INTRODUCTORY REMARKS

Chapter Seven described the features of the model system for taxing transactions in virtual currency. Chapter Eight described the characteristics of the EU VAT and the US retail sales taxes, and applied them to trade in virtual items and currencies. Although it was focused only on two jurisdictions, the issues identified in those jurisdictions may also be encountered in a wide range of other countries around the world which are trying to find the best way to tax cross-border digital consumption in the Information Age.

This Chapter draws conclusions based on the analysis in Chapters Seven and Eight. It examines deviations from the model system, identifies best practices for digital goods[1040] and makes recommendations for the improvement of the existing tax systems. It is important to keep in mind that taxation of trade in virtual currencies and items cannot be analyzed independently of the legal environment in which the trade takes place. If this environment does not work well, it cannot provide sound background for the development of rules applicable to new phenomena, such as virtual currency. Another aspect that is worth stressing is that virtual worlds are not a law- and tax-free place. They are not an independent place with autonomous regulations, but a place subject to rules imposed by the physical non-virtual world. Transactions in virtual items represent an extreme version of electronic commerce. They are carried out anonymously by "virtual" entrepreneurs. To try to fit them into the existing VAT framework is a way to evaluate the functioning of the EU VAT rules and their potential to capture even more sophisticated (yet unknown) technological developments.

1040 The term "digital goods" is frequently used in the United States to refer to digital products, whereas such products are considered to be "electronic services" in the European Union. However, in this chapter both terms are used interchangeably.

9.2 EU VAT

9.2.1 Unclear concept of taxable person

The personal scope of the VAT system depends on the concept of taxable person, which is independent of similar concepts that may exist in commercial or civil law. Given its importance for the functioning of the VAT system and the principle of legal certainty, the definition of taxable person should be clear and unambiguous.

Reliance on vague legal concepts that must be interpreted, firstly, by the tax authorities, and, subsequently, by national courts and, in the final instance, by the ECJ, gives rise to legal uncertainty, especially when the concepts must be interpreted taking into account "all facts and circumstances of the case at hand". The outcome largely depends on the emphasis that the tax authorities and the national courts put on specific aspects of a scenario under consideration. The more aspects must be taken into account, the larger the risk of different conclusions.

Despite numerous ECJ judgments on its interpretation, the concept of taxable person continues to give rise to controversial decisions of national courts. Inconsistent case law results in uncertainty, which in turn undermines one of the most fundamental constitutional values: the predictability of law.

There is no straightforward solution to this problem. On the one hand, it is obvious that the principle of legal certainty is best served with a detailed legislation, in which clear and quantified rules are stated for clearly described series of cases.[1041] Although the US Supreme Court acknowledged in the *Quill* decision (with regard to the physical presence rule) that any bright-line tests appear artificial at their edges, the majority of the judges concluded that "this artificiality (...) is more than offset by the benefits of a clear rule". By adopting clear, bright-line rules, it was hoped to reduce litigation and to avoid confusion that might otherwise arise in the absence of "precise guides to the States in the exercise of their indispensable power of taxation".[1042]

On the other hand, in view of the variety of taxable transactions and the circumstances under which they are carried out, the adoption of additional rules for certain groups of taxpayers would complicate the VAT system to a larger extent and create classification problems. For example, special rules for online traders would have to state who may qualify as such. The more complex the system, the more administrative resources are necessary to operate it. Moreover, the use of thresholds seems to violate the principle of equity: taxpayers in very similar situations are treated differently because their turnovers are just below or just above a certain monetary amount.

1041 B. Peeters, *European Supervision on the Use of Vague and Undetermined Concepts in Tax Laws*, EC Tax Review 3 (2013).

1042 *Quill Corp. v. North Dakota*, 504 US 315 (1992).

A solution that could mitigate the characterization problem is to implement binding rulings on the status of taxable person.[1043] Taxpayers would describe their individual circumstances to the tax authorities and the latter would give their opinion on whether the activity in question is of economic nature or merely amounts to private wealth management. There should be a low-cost possibility to request such a ruling in an administrative-friendly procedure, using electronic forms and e-mail communication. Tax authorities should be obliged to respond to those requests within a predefined time limit. If the taxpayer does not receive a response in a timely manner, he should be entitled to follow the characterization specified in the ruling request (unless the circumstances described in the ruling request are incorrect or have changed).

9.2.2 Place of taxation

9.2.2.1 Initial comments

Originally, in the European Union, a commitment was taken for the introduction of a VAT system based on the origin principle. The VAT Directive still stipulates that the current arrangements for taxation of trade between Member States are transitional and should be replaced by definitive arrangements based on the taxation of goods and services in the Member State of origin.[1044] However, in the meantime, new directives laying down the place-of-supply rules for certain transactions have clearly moved away from the origin principle by stipulating the place of taxation as the place where consumption occurs or where the customer is established. Taxation at destination is currently the default rule for B2B supplies. In its communication on the future of VAT, the European Commission advocated a destination-based VAT system.[1045] The EU Expert Group on Taxation of the Digital Economy is of the view that both the Commission and Member States should commit to apply the destination principle to all supplies of goods and services. As from 1 January 2015, TBE services supplied by EU taxable persons to EU final customers will be deemed

1043 The European Commission recognizes the fact that taxpayers need certainty with regard to the VAT consequences of their transactions. In June 2013, it introduced a pilot scheme under which the participating Member States provide taxable persons with an advance opinion regarding the VAT treatment of complex cross-border transactions. *See* European Commission, *Information Notice: Test Case For Private Ruling Requests Relating to Cross-Border Situations* (June 2013), available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/vat-forum-note-information_en.pdf.

1044 Art. 402 of the VAT Directive.

1045 European Commission, *Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on the future of VAT: Towards a Simpler, More Robust and Efficient VAT System Tailored to the Single Market*, COM(2011) 851 final (6 Dec. 2011).

to be performed where the customer has established his business, has his permanent address or usually resides.

The main benefit of taxation at destination is that VAT revenues accrue directly to the Member State of consumption, according to its domestic rates and exemptions. Its major weakness is that it relies on the overly simplistic assumption that suppliers are able to identify the location of their customers (which is required to establish the tax liability correctly) on a transaction-by-transaction basis. While this requirement is already difficult to satisfy for suppliers of traditional services, it is a major source of concern for suppliers of digital goods. The following examples illustrate what problems may arise in a digital context.

Example 1: PayPal transaction
Seller S (taxable person) supplies digital goods (for example, electronic files with movies) to buyer B. The files can be downloaded from the seller's website after making the payment. B chooses to use PayPal for transferring the consideration. This means that his credit card number, bank account number and address stay with PayPal and are not communicated to the seller. Since S has not received any proof of business status from B, he treats his customer as a private individual and should charge VAT at the rate of the customer's country. However, S cannot identify that location. Even if he asks B to provide the necessary information by filling in an online form, he has no reliable means to verify the data.

Example 2: Bitcoin transaction
Seller S (taxable person) supplies 2 bitcoins to buyer B in exchange for cash (EUR 200). B has received the bank details of the supplier to transfer EUR 200. After the payment is received, the seller sends the bitcoins to B's digital wallet. The only information he needs for that purpose is the buyer's bitcoin address: for example, 31uEbMgunupShBVTewXjtqbBv5MndwfXhb. Such an address can be generated at no cost by any bitcoin user (this does not require any registration with the Bitcoin network) and operates in a similar way to an email address. S faces the same identification problems as in the example above.

Another problem with taxation at destination is that digital goods do not cross borders in a physical sense and are generally difficult to track. Tax administrators in the jurisdiction of destination may not know about taxable supplies made in their territory.

9.2.2.2 Identification of customer location

The VAT Implementing Regulation intends to assist suppliers in determining the permanent address or usual residence of the customer by establishing a number of rebuttable presumptions. For example, if for the provision of electronic services the physical presence of the recipient is required (for

example, a telephone box, a Wi-Fi hot spot or an Internet café), such services will be taxable at the location where the recipient effectively uses and enjoys them. For services supplied via mobile networks, the customer is presumed to be established in the country identified by the mobile country code of the SIM card used for receiving such services.

However, instead of assisting suppliers, the presumptions make the situation even more uncertain and complex. How the supplier of electronic services should know that the customer is using them at a Wi-Fi hotspot or how should he find out the country code of the SIM card? Many digital products can be accessed via the browser from any place as long as the Internet connection is available. Does it mean that a customer that uses electronic services in various countries and also while travelling is deemed to have his permanent address in various countries?

Another worrying fact is that the presumptions also apply to B2B services. Thus, an electronic service received by a taxable person at the Wi-Fi hotspot is deemed to be supplied at that hotspot. This clearly contradicts the wording of the VAT Directive according to which such a service is deemed to be supplied where the customer has established its business and not where the service is used and enjoyed.

If none of the rebuttable presumptions is applicable, the location of the customer must be established on the basis of two items of non-contradictory evidence (shipping address, bank details, IP address or any other commercially relevant information).The use of the evidence rule suggested by the VAT Implementing Regulation may encounter significant difficulty.

First, as digital goods are not sent on a physical carrier to the customer, there is no need to provide any shipment address which could be used as a proxy for the place of establishment, permanent address or usual residence.

Second, a country of the bank in which the buyer holds his account may have nothing to do with the place of establishment, permanent address or usual residence. A person may have accounts in various countries. Which one is used for a particular transaction depends on many factors (form of payment, transaction currency and account balance at that moment). Moreover, bank details are not disclosed to the other party in transactions handled by payment intermediaries, such as PayPal.

Third, the customer's IP address is a way to identify the computer used to perform a particular transaction, but not necessarily the person involved in it. With regard to the storage of IP addresses, the EU policy on personal data protection must be taken into account. The purpose of these EU rules is to protect the fundamental rights and freedoms of natural persons and, in particular, their right to privacy with regard to the processing of personal data.

Under Directive 95/46/EC, personal data means any information relating to an identified or identifiable natural person.[1046]

Opinion 4/2007 of the Article 29 Working Party[1047] clarifies how the concept of personal data applies to IP addresses.[1048] The Working Party noted that there are cases in which IP addresses do not allow the identification of users for various technical and organizational reasons. One example could be an IP addresses attributed to a computer in an Internet café, where no identification of the customers is requested. Although it can be argued that the data collected on the use of computer X during a certain timeframe in an Internet café does not allow identification of the user, it should be noted that the Internet service providers usually do not know whether the IP address in question is one allowing the identification or not and that they process data associated with that IP in the same way as they treat information associated with IP addresses of users that are duly registered and are identifiable. The Working Party acknowledged that, in most cases, IP addresses are data relating to an identifiable person. Thus, unless the Internet service provider is in a position to distinguish with absolute certainty that the data corresponds to users that cannot be identified, it has to treat all IP information as personal data to be on the safe side.

Under article 6 of Directive 2002/58/EC,[1049] data relating to users of electronic communication networks must be erased or made anonymous when it is no longer needed for the purpose of the transmission of a communication. Such data may be stored for billing purposes only for a limited time. The Working Party considers a period of maximum three to six months as appropriate (with the exception of cases of disputes, for example, when the bill is

1046 Art. 2a of *Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with regard to the Processing of Personal Data and on the Free movement of such Data*, OJ L 281 of 23 Nov. 1995. The term "identifiable" is clarified in recital 26 of that Directive, which states that "to determine whether a person is identifiable, account should be taken of all the means likely reasonably to be used either by the controller or by any other person to identify the said person." This means that a mere hypothetical possibility to identify the individual is not enough to consider the person to be "identifiable". If, taking into account "all the means likely reasonably to be used by the controller or any other person", that possibility does not exist or is negligible, the person should not be considered "identifiable", and the information should not be regarded as "personal data".

1047 The Article 29 Data Protection Working Party was set up under Directive 95/46/EC. It has advisory status and acts independently. *See* http://ec.europa.eu/justice/dathey are ta-protection/article-29/index_en.htm.

1048 Opinion 4/2007 on the Concept of Personal Data, 01248/07 WP 136.

1049 *Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 Concerning the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector (Directive on Privacy and Electronic Communications)*, OJ L 201 of 31 July 2002. The Directive on Privacy and Electronic Communications translates the provisions of Directive 95/46/EC into specific rules for the electronic communication sector.

contested).[1050] The stored traffic data must be limited to the necessary one. It is not allowed to store data that are irrelevant to either billing or interconnection payments.[1051]

To sum up, under EU law, IP addresses are considered to be personal data, and, as such, they cannot be freely communicated. They can only be legally gathered under strict conditions and for a legitimate purpose. Persons or organisations which collect and manage them must protect them from misuse and must respect the rights of the data owners.

Another problem related to the information value of IP addresses is that anyone can hide their location. So-called "anonymizer" sites hide the origin of communications over the Internet. There are two basic types of Internet anonymizers: networked and single-point.[1052] Networked anonymizers transfer data through a network of computers until it reaches its destination. For example, a request to visit a webpage might first go through computers A, B, and C before going to the website, with the resulting page transferred back though C, B, and A. The main advantage of the networked anonymizer is that it makes traffic analysis much more difficult. To mitigate the risk of traffic analysis, such anonymizers can: add small but random delays to the passage of responses back to the user to make time matching more difficult, make random requests to random pages across the web to pollute the pool or have a large cache of web pages so not all incoming requests have outgoing requests. Single-point anonymizers pass data through a single website to protect the user's identify and often offer an encrypted communications channel for passage of results back to the user. They offer less resistance to sophisticated traffic analysis than do networked ones. Many single-point anonymizers create an anonymized URL by appending the name of the site the user wishes to access to their URL.

The evidence rule suggests verification sources which are quite often unavailable to the suppliers. The problems identified above (lack of shipping address, the use of payment intermediaries, and legal and practical obstacles related to the identification and storage of IP addresses) mean that suppliers of electronic services will have to rely on information provided by the customer

1050 Opinion 1/2003 on the Storage of Traffic Data for Billing Purposes, 12054/02/EN WP69.

1051 The Directive on Privacy and Electronic Communications was amended by the Data Retention Directive (*Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the Retention of Data Generated or Processed in Connection with the Provision of Publicly Available Electronic Communications Services or of Public Communications Networks and Amending Directive 2002/58/EC*, OJ L 105/54 (2006)). The amendments oblige Internet service providers to retain personal data, such as the identity of a user of an IP address, for a period of between six months and two years. The aim is to ensure that the data retained is available for the purpose of the investigation, detection and prosecution of serious crime, as defined by each Member State in its domestic law. However, the ECJ ruled that the Data Retention Directive is invalid. *See* ECJ, 8 Apr. 2014, Joined Cases C-293/12 and C-594/12, *Digital Rights Ireland and Seitlinger and Others*.

1052 *See* http://www.livinginternet.com/i/is_anon_work.htm.

without having any means to verify it. It is unclear what should be done if two non-contradictory pieces of evidence cannot be found. The Explanatory Notes simply recommend that the suppliers "continue to seek" them.[1053]

Another element that should not be underestimated is the average sales price of digital products and the high number of daily transactions. Many digital goods are cheap and they can be easily and fast moved across the globe. This means that imposing transaction-based verifications is likely to cause costs equal to or even exceeding the benefit of most online transactions.

Moreover, the evidence items prescribed in the VAT Implementing Regulation can be easily manipulated. Customers can open a bank account in a third country or a country with a low VAT rate, and claim to be resident there. It is also unclear why a country of the bank account or a country that issues a SIM card is used to determine the place of supply since such countries may have no relationship with the country where the customer has a permanent address or usually resides.

9.2.2.3 One Stop Shop regime

The (Mini) One Stop Shop arrangement was introduced to avoid multiple registration and reporting obligations. While it clearly reduces the compliance burden, its operation is not free from flaws. First, it results in a cash-flow disadvantage as suppliers must always remit VAT upon submission of their VAT returns, whereas input VAT cannot be immediately deducted, but its refund must be requested under the provisions of the Thirteenth VAT Directive (third-country suppliers) or Directive 2008/9 (EU suppliers). Second, it does not relieve suppliers from the burden of locating their customers on a transaction-by-transaction basis. Third, suppliers must comply with VAT legislation of the Member States where their non-taxable customers are resident in all circumstances. Unlike in the case of supplies of goods under the distance selling regime,[1054] there is no turnover threshold for supplies of cross-border electronic services: even if the volume of such services supplied in a particular Member State is insignificant, the service provider must be aware of the local VAT legislation. Although the VAT rules are harmonized across the European Union, Member States still have discretion with regard to the application of certain provisions. For example, Member States may decide about granting bad debt relief (i.e. the reduction of the initial VAT liability in the case of non-payment by the customer) and determine the conditions that need to be fulfilled for that purpose.[1055]

Enforcing the One Stop Shop regime is difficult in a digital context where multiple transactions are carried out anonymously. Tax authorities have limited

1053 *Explanatory Notes*, *supra* n. 899, at sec. 9.5.7.
1054 Art. 34 of the VAT Directive.
1055 Art. 90 of the VAT Directive.

possibilities to sanction third-country suppliers who fail to register and report their supplies to EU customers.[1056] According to statistics provided by the UK Treasury in March 2012, 453 non-EU providers of electronic services had registered under the One Stop Shop scheme at the end of 2011 (207 in the United Kingdom, 83 in the Netherlands, 65 in Luxembourg, 36 in Germany, 25 in Ireland, 14 in Italy and 23 in nine other Member States).[1057] It is questionable whether the fact that VAT collection in third-country scenarios is reliant on voluntary compliance by non-EU suppliers is acceptable for EU suppliers and Member States' budgets from a neutrality and competition perspective in the long term. Without effective supervision and enforcement, there is a risk of non-taxation that threatens to distort competition. If tax rules are not linked to a real possibility of enforcement, taxpayers are unlikely to comply.

The MOSS and OSS will not provide simplification and relieve suppliers from the obligation to register in multiple countries in all situations. Non-EU suppliers of electronic services that are already registered in the European Union (for example, because they receive services that are effectively used and enjoyed in a Member State or perform intra-Community supplies of goods) cannot be registered under the OSS. Article 358a of the VAT Directive defines a non-EU taxable person as a person that does not have a place of establishment or a fixed establishment in the EU territory and that is not otherwise required to be identified for VAT purposes in the European Union. Neither can such suppliers be registered under the MOSS since only taxable persons that are established or have a fixed establishment in the European Union can benefit from this scheme.[1058]

Another example of how the MOSS will makes the compliance obligations of suppliers more complex is as follows. A UK supplier provides electronic services to final consumers (B2C transactions) resident both in the United Kingdom and in other Member States. His turnover from taxable transactions has never exceeded GBP 81,000 (the UK registration threshold) and it not likely to do so in the future. A large portion of the turnover (GBP 60,000) comes from transactions with UK customers, whereas only GBP 10,000 from the cross-border provision of services. Until 31 December 2014, all supplies of electronic services are deemed to be made in the United Kingdom and the supplier does not have to register for VAT purposes. However, as from 1 January 2015, the supplier will have to register since the GBP 10,000 services will be deemed to be supplied in other Member States.

1056 Van Kesteren mentions the enforcement problem as the main weakness of the One Stop Shop regime. *See* H. van Kesteren, *Society's Online Revolution and the Short Arms of the Tax Authorities* in: *VAT in an EU and International Perspective* (H. Van Arendonk, S. Jansen & R. Van der Paard eds. IBFD 2011), Online Books IBFD.

1057 Those statistics are cited in M. Lamensch, *Proposal for Implementing the EU One-Stop-Shop Scheme from 2015*, 23 Intl. VAT Monitor 5 (2012).

1058 Art. 369a of the VAT Directive.

9.2.2.4 Recommendations

The application of the place-of-supply rules places a heavy compliance burden on suppliers. Although the destination principle is the theoretically correct way to tax consumption, to ensure neutrality and to create a level playing field for supplies of electronic services, the difficulty of its practical application should not be underestimated. First, instead of applying their familiar domestic VAT law, suppliers will have to be aware of the relevant VAT legislation of other Member States. Thus, service providers having customers in 28 Member States will have to comply with 28 national VAT laws, irrespective of their sales volume in those countries. Second, the location of their customer is not easy to identify when services are provided at a distance, payment intermediaries are involved and no physical shipments take place. Third, although the OSS and MOSS aim to provide simplification, their operation is not free from flaws.

One of the solutions to the identification and remittance burden currently discussed in the European Union is the real-time VAT (RTVAT).[1059] The RTVAT project suggests eliminating the possibility for suppliers to receive VAT from their customers by organizing the tax collection at the level of the banks. The supplier would receive the VAT-exclusive price and the VAT would automatically be remitted to the competent tax authorities by the customers' banks. A software program would calculate the applicable amount of VAT based on the status and location of the customer which would have to be disclosed to the bank at the time of the opening of the account. RTVAT imposes the tax collection obligation on a party that has the means and technical expertise to comply with law and that has benefited from the growth in electronic commerce. Payment intermediaries are not small companies that would be adversely affected by processing transactions. However, although RTVAT collection fixes all the weak points of the current VAT system, it makes very high demands on both the technical payment infrastructure and the cooperation between financial institutions and tax authorities. It would require enormous implementation costs and, to be effective, it would have to be implemented by all the financial institutions. The software would have to be able to apply correctly exemptions or reduced rates that vary from country to country. The question also arises how a bank can determine the correct VAT amount without interfering with the supplier's liability. Moreover, the operation of an EU-wide database that gives access to business records of millions of companies would raise privacy issues. An electronic system involving banks, suppliers and credit

1059 B. Wohlfahrt, *The Future of the European VAT System*, 22 Intl. VAT Mon. 6, sec. 3.3.1 (2011); R.T. Ainsworth, *Technology Can Solve MTIC Fraud – VLN, RTvat, D-VAT certification*, 22 Intl. VAT Mon. 3 (2011); C. Williams, *Technology Can Solve MTIC Fraud – 2*, 22 Intl. VAT Mon. 4 (2011); R.T. Ainsworth, *Technology Can Solve MTIC Fraud – 3 and Final*, 22 Intl. VAT Mon. 4 (2011).

companies would be a target of hacker attacks. Thus, it is not likely that RTVAT collection will be implemented.

As shown above, the application of the destination principle gives rise to uncertainty and a heavy compliance burden, which are absent when digital goods are taxed at origin. Under the origin approach, suppliers assess and collect VAT in accordance with their local legislation. Moreover, they only have to satisfy administrative formalities required by their own tax authorities. However, the origin principle was rejected by the European Commission for the following reasons. First, origin-based taxation would make it necessary to harmonize the VAT rates to prevent rate differences from influencing decisions on where to buy and to locate business activity.[1060] Second, a clearing system would be needed to ensure that VAT receipts accrue to the Member State of consumption. Third, Member States would have to rely on each other to collect a substantial part of their VAT revenue.[1061] As destination-based taxes can be avoided only by changing the place of consumption, which generally means changing the place of residence, they do not give rise to serious competition issues. Consumers have little inclination to change their location only to benefit from a lower VAT rate. Thus, differences in destination-based taxes are not likely to distort decisions of where to live and consume.[1062]

In my view, the compliance burden placed upon suppliers of cross-border electronic services would be relieved if an option to apply the origin principle to such supplies was available as a method of last resort, i.e. in circumstances in which no information on the permanent address or the usual residence of the customer based on the evidence rule could be obtained.[1063] Such a rule would eliminate suppliers' potential liability for an incorrect determination of the customer's location. If it is impossible to identify the customer's location, the supplier should be allowed to charge VAT in accordance with his own domestic legislation. To prevent abuse, the application of the origin option should only be possible upon prior authorization by the tax authorities. The permission should not be required for individual transactions, but it should be granted for a certain period to taxable persons whose type of business activity does not allow the implementation of sophisticated verification systems. Taxation according to the origin principle in a limited number of cases would be less distortive than non-taxation resulting from the application of the destination principle (non-taxation occurs if the customer pretends to be

1060 Under the place of supply rules applicable to supplies to private individuals until 31 December 2014, there is a clear incentive to provide digital products from Luxembourg, which has the lowest VAT rate in the European Union (15%).

1061 European Commission, *Green Paper on the Future of VAT: Towards a Simpler, More Robust and Efficient VAT System*, sec. 4, COM(2010) 695 final (1 Dec. 2010).

1062 C.E. McLure Jr., *Tax Competition in a Digital World*, 57 Bull. Intl. Fisc. Doc. 4, sec. 2.1, (2003).

1063 The application of the origin principle as a method of last resort is allowed in the United States under the SSUTA. *See* section 8.2.3.3. *Place of taxation*.

resident in a third country and the supplier has no means to verify this). It would make the tax system workable and would not punish businesses which have chosen certain distribution channels by placing on them too burdensome and difficult to fulfil compliance obligations.

As One Stop Shop regimes based on voluntary compliance are not effective, the enforcement of taxes on the consumption of digital goods should be given more attention in international agreements on cooperation in tax matters. EU Tax Commissioner Algirdas Šemeta has stressed the importance of international cooperation and the willingness of the European Union to cooperate:[1064]

> 'There is no effective way of ensuring compliance if a business located in California, for example, provides e-services to a private individual in Slovakia and does not register for the e-commerce scheme and pay Slovak VAT. What can the national tax authorities do realistically? The Commission is addressing this issue and has asked member states for a mandate to negotiate with third countries on this issue from a collective position of power. For the time being, though, compliance depends on the willingness of suppliers in third countries to assume their legal obligations.'

The final report of the EU Expert Group on Taxation of the Digital Economy[1065] suggested that tax treaty provisions should be extended to include consumption taxes and that the OECD Model should be amended accordingly. From an EU perspective, the most effective solution would be an agreement between the European Union and a third country that would solve the problems of non-taxation or double taxation of transactions. The Group also considered that consumption taxes should be included in exchange-of-information clauses in tax treaties.

However, to be able to exchange information or request assistance, tax authorities must first be in possession of the relevant information. The fact that a non-EU entrepreneur supplies digital goods to EU customers can be detected by his local tax authorities during a tax audit or by extracting data from trading platforms. One of the ways to monitor transactions on trading platforms is the use of sophisticated web crawling programs.[1066] Special software crawls through the websites and captures data necessary to identify sellers which is later cross-referenced with other databases and tax records. For example, German tax authorities use XPIDER, a software robot extracting information about sellers with high turnover from platforms, such as eBay.[1067] The Xenon Spider Software, developed for the Dutch tax authorities,

1064 A. Šemeta, *The Mini-One Stop Shop for VAT – The Start of Something Big*! (2012), available at: www.worldcommercereview.com/publications/article_pdf/617.

1065 Expert Group on Taxation of the Digital Economy, *supra* n. 20, at sec. 4.2.5.

1066 Both more extensive administrative cooperation in cross-border tax matters and the use of web-based robots are also suggested by Van Kesteren, *supra* n. 1056, at sec. 5.

1067 *XPIDER – der virtuelle Jäger der Steuerfahndung*, available at http://www.onlinesteuerrecht.de/home/index.php?option=com_content&task=view&id=231&Itemid=33.

has been successfully applied in Canada, the United Kingdom, Austria and Denmark.[1068]

Internet trading platforms are frequently requested to disclose to the tax authorities data on sellers whose turnover exceeds certain thresholds. In May 2013, the German Federal Tax Court (*Bundesfinanzhof*) ruled on the legality of information requests concerning unidentified taxpayers.[1069] The facts of the case were as follows: a Germany company operating a trading platform transferred this business activity to its Luxembourg affiliated company. After the transfer, it continued to provide data-processing services to that affiliate. The German tax authorities ordered the German company to provide them with the names and addresses of sellers whose turnover from sales on that platform exceeded EUR 17,500. The company claimed that it was impossible to provide the requested information: the relevant data was stored on servers abroad (so the company could not access it) and the agreement between the two affiliates did not permit data disclosure to third parties. The Tax Court of Lower Saxony (*Finanzgericht Niedersachsen*) followed the company's reasoning. However, the Federal Tax Court annulled the decision of the lower instance and ordered the Tax Court of Lower Saxony to establish whether the German company had a real possibility to obtain the data (the non-disclosure clause in the intercompany agreement should be disregarded) and whether tax evaders were likely to be detected as a result of the enquiry (the mere possibility of tax evasion does not entitle tax authorities to request information on unidentified taxpayers).

Information requests are likely to be successful if they are targeted at resident companies since non-compliance with such requests can trigger immediate sanctions. However, tax authorities have limited or no possibilities to obtain information from foreign companies if their efforts are not supported by the foreign tax administration. Without administrative assistance in tax matters, the destination principle cannot be effectively applied.

9.2.3 Exemptions

Another solution to problems caused by virtual currencies would be to introduce an (optional) exemption for digital barter. The EU VAT system applies exemptions to a wide range of activities which are said to be difficult to tax (financial and insurance services and gambling). There seems to be no scholarly argument that supports exemption for those activities, except the one that accurately calculating the tax base is too complicated (for example, in the case of gambling, under the credit-invoice method, casinos would be required to

1068 *Zoekrobot Belastingdienst wereldwijd success* (2007), available at https://www.security.nl/posting/15305/Zoekrobot+Belastingdienst+wereldwijd+succes.

1069 BFH, 16 May 2013, II R 15/12.

report the bets as outputs and the winning paid out as inputs on a transaction-by-transaction basis). Preparatory work to the Sixth Directive confirms this reasoning.[1070]

However, the benefits of maintaining exemptions in the VAT system are questionable.[1071] Form a legal perspective, exemptions give rise to definitional and interpretative problems, and make it necessary to calculate the proportion of deductible input VAT. Taxpayers who sell both taxable and exempt outputs are faced with complex tax calculations. Thus, from the perspective of legal certainty and simplicity, the introduction of exemptions for digital barter transactions is not desirable.

9.3 US Sales Tax

9.3.1 Uniform treatment of digital goods

At present, the scope and rates of sales taxes vary from state to state. The states have taken different approaches to defining and taxing digital goods: they tax them in the same way as tangible property, do not tax them at all or have enacted special rules that apply to electronically transferred products. All this gives rise to competitive inequalities and violates the principle of neutrality and equity. Distinctions are made that neither have economic sense nor serve any useful purpose. Sales taxes discriminate the goods and few services that are subject to them in favour of the large sectors of the economy that remain untaxed. There is no rational reason for the way different goods and services are currently treated under sales tax law and for the fact that tax policy favours content delivered online over that in tangible forms.[1072]

The failure to tax all consumption complicates compliance and administration, and leads to loss of revenue or to higher income and sales tax rates for supplies that do not escape taxation. The existing laws (with multiple definitions, exemptions, rates, registration, filing and audit procedures) fail to satisfy the principle of simplicity and certainty. They are also the main obstacle to the taxation of interstate trade: it is unreasonable to expect remote sellers to determine sales and use tax liability for each of the 7,500 taxing jurisdictions with different definitions of tax base and exemptions ("a virtual welter of complicated obligations").

1070 European Commission, *Proposal for a Sixth VAT Directive on the Harmonization of Legislation of Member States Concerning Turnover Taxes – Common System of Value Added Tax: Uniform Basis of Assessment*, COM(73) 95 (20 June 1975).

1071 *See also* section 7.5.3.2. *Equity*.

1072 It is interesting to observe that the European Union applies higher tax rates to digital goods (books) than to their equivalents in printed form, whereas digital goods are treated more favourably than their printed counterparts in the United States.

While it is clear that a complete uniformity in state sales taxation is not likely to be achieved, the states should adopt one set of the basic rules (definitions of taxable events and sourcing rules) and interpret them consistently. To be able to pursue their own fiscal policy and to control the revenue-raising potential of their sales taxes, the states could remain competent to determine their own tax rates. Such a system would resemble that of the European Union where the Member States are bound by common rules on the taxable transactions but are free to set their own VAT rates within the predefined framework.

As the principle of neutrality requires all consumption to be taxed, digital goods should generally be included in the RST scope. All products delivered electronically, irrespective of whether on the basis of a sales, lease or rental transaction, should be subject to tax. No exemption should apply to electronically transferred products since, from a tax policy point of view, no reasons for such an exemption can be found.

9.3.2 Nexus and interstate trade

Currently, the scope of sales taxes is limited to domestic sales. Since interstate commerce is the exclusive domain of the federal government, the states have no authority over out-of-state suppliers, unless those suppliers have sufficient nexus with the state. In respect of cross-border transactions, use taxes should be applied. However, they have proved to be very ineffective since consumers do not have any incentive to remit the tax or are not aware that such an obligation exists at all. In the European Union, reverse charging has never been considered as an option for taxing B2C supplies.

Congress does not consider that remote sellers ought to be placed in a tax-advantaged position as compared to local retailers. Rather, it is afraid that "variations in rates of tax, in allowable exemptions, and in administrative and recordkeeping requirements" could create "a virtual welter of complicated obligations" for taxpayers engaged in interstate business. Thus, based on the Commerce Clause, states will not be allowed to collect use taxes from out-of-state sellers until they simplify their sales tax laws.

While the nexus rules provided in *Quill* reduce complexity, they are a highly defective way to deal with avoidable complexity. These rules are unfair to local merchants since they distort commerce: not by impeding interstate trade but by favouring it at the expense of intrastate commerce. The *Quill*'s bright-line presence test makes no economic sense. The current situation violates the principle of neutrality since supplies escape taxation when the seller lacks physical presence in the state. As consumers ordinarily do not remit use tax on purchases from remote sellers despite the legal obligation to do so, a *de facto* exemption of B2C remote sales exists.

Even if states, acting in concert, simplified their sales tax laws, only Congress or the Supreme Court could eliminate the physical presence test. In other

words, the states could create the preconditions for a reform, but Congress or the Supreme Court must implement it. It is unfeasible for the Supreme Court to overturn its earlier decisions without a serious progress by a large number, if not all, of the states in respect of harmonization and simplification of their sales and use tax systems. All these developments clearly point out that a solution can only be found at the level of federal legislation. The Supreme Court emphasized in *Quill* that Congress remained constitutionally free to "overrule" the judgment.

A new nexus standard should be established on the basis of the seller's economic rather than legal or physical contacts with a state. Such a nexus could be deemed to exist if the seller's turnover exceeded a certain threshold. With regard to the threshold, there are two options: nexus could be based on aggregate sales in all other states or on the sales volume in a particular state. The former has many disadvantages. It would create an enormous burden for sellers whose sales exceed the threshold, since they would have nexus in all states, irrespective of their sales volume there. It would discourage businesses with sales above the threshold from making any sales to a state where the benefits would not justify the compliance costs. Finally, it would prevent a state from asserting nexus over a vendor making substantial sales in its market as long as the seller's total out-of-state sales fell below the nationwide threshold.[1073] Thus, the turnover threshold should be based on the sales volume in a particular state. This approach is economically sensible and clear. It would render irrelevant issues such as whether placing advertisement on a website constitutes nexus. The turnover threshold would relieve sellers who derive negligible revenue from certain states from the obligation to comply with the local rules.[1074]

Another solution would be to abolish the nexus standard completely. If uniform definitions of taxable transactions were used in all the states, the sellers would only have to determine the correct RST rate. This should not be a difficult task given that the sellers can benefit from software solutions recommended by the SSUTA and Market Fairness Act 2013. Such certified software can be used not only to calculate sales and use taxes due on each transaction but also to file the relevant tax returns.[1075]

1073 McLure, *Taxation of Electronic Commerce: Economic Objectives, Technological Constraints and Tax Laws*, *supra* n. 21, at p. 400.

1074 Similar rules apply to distance sales in the European Union. When a supplier delivers goods to private individuals in other Member States, he must charge VAT applicable in the Member State where his customer is resident unless the total value of the goods supplied to private individuals in that particular Member State remains below an annual threshold set by that State (art. 34 of the VAT Directive).

1075 The new place-of-supply rules applicable to electronic services as from 1 January 2015 require that supplies of such services to private individuals in other Member States be taxed at destination, irrespective of the value of the services supplied in a particular Member State (no thresholds will apply). *See* section 8.1.4. *Place of taxation*.

9.3.3 Place of taxation

The RST place-of-supply rules vary from state to state. The Streamlined Sales Tax Project prescribes a hierarchy of sourcing rules depending on information that is available to sellers: taxation should follow the destination principle, but if the seller cannot determine the place of consumption, origin-based taxation may apply.

The destination principle remains the conceptually ideal approach to taxing consumption. It does not differentiate between expenditure on goods imported or locally produced. The total amount of tax collected is not influenced by the geographical structure of the value chain. Thus, the primacy of the destination principle incorporated into the SSUTA should be adopted nationwide. On the other hand, destination-based taxation may be difficult to apply in a digital context or vulnerable to manipulation. Customers operating in many states could select those that do not tax digital products and assert that those are the locations where the products will be used. It seems that the same approach as that recommended for the EU VAT system could strike the necessary balance between the desire to ensure similar rules for taxation of all consumption in a particular jurisdiction and the need to take into account suppliers' compliance burden. Under this approach, the default rule would be taxation at destination; however if suppliers cannot determine the customer's location based on various proxies (for example, bank details or shipping address), they should apply their local sales tax (taxation at origin).

9.3.4 Reform

Uniformity in consumption taxation seems to be more easily achieved in the European Union than in the United States. While the VAT Directive allows Member States some latitude in defining their tax bases, that latitude is nowhere as great as that found in the sales taxes. This development is easy to explain: at the time the European Community was created, it had only six Member States. As other countries joined, they were required to levy VAT based on the Sixth Directive and its successors. By comparison, the US states were already there when the first sales tax was levied. The EU Member States chose to limit their fiscal sovereignty in the field of indirect taxation at the outset in order to create conditions for the establishment of a single market. The VAT imposed in the European Union is a result of rational design and politics (especially in the case of exemptions and differential rates). The system was explicitly chosen to avoid the distortions inherent in the turnover taxes that preceded it. By comparison, in the United States, fiscal sovereignty has prevailed over uniformity. The US sales taxes "just grew" with little purpose or

design other than to raise revenue. Each state went its own way with no efforts at coordination until the past few years.[1076]

Taxing transactions in virtual currencies would not be a good idea if adopted in the current system. Under this scenario, states would presumably extend their existing sales taxes to digital goods with all the inequalities and distortions that the sales tax system entails. Compliance and administrative problems for interstate trade would be created. The US sales tax system lacks almost all the characteristics of an optimal tax system. It is plagued by a number of problems, the most important of which are: a *de facto* exemption for interstate trade, lack of uniformity in the definitions of taxable events, prevailing non-taxation of digital goods, and different sourcing rules among the states. Thus, there seems to be no good alternative other than a reform of the existing system of sales and use taxation.

Discussions about tax reform occur in the Unites States on a regular basis, both in academic circles and at the political level.[1077] The most radical alternative would be to replace the current system with VAT, which accomplishes many objectives of consumption taxation. A federal consumption tax could be used to obtain sufficient revenue to repay the rapidly increasing national debt and bailouts for failing financial institutions and industries. It would also decrease the reliance on income tax. The fact that all sales (both to businesses and to consumers) would be taxed would simplify compliance and administration.

However, there are serious political obstacles to the introduction of a federal VAT. VAT is unpopular among politicians since due to its regressive nature it burdens low-income households (i.e. it takes a higher percentage of the income of the poor than of those in higher income groups). Some states and local governments see the enactment of a federal VAT as an unwelcome encroachment on their fiscal sovereignty. The existence of both state and federal consumption taxes would also present challenges of coordination.[1078] As the introduction of a federal VAT system is not likely to occur in the near future, an attempt needs to be made to rationalize the current system without abandoning it completely. Despite many objections to sales taxes, it seems certain that they will remain a primary component of state and local tax revenues.

1076 C.E. McLure Jr., *EU and US Sales Taxes in the Digital Age: A comparative Analysis*, 56 Bull. Intl. Fisc. Doc. 4, sec. 6.2. (2002).

1077 S*ee* Tax Analysts, *The VAT Reader: What would a Federal consumption Tax Mean for America?* (2011); McLure & Merrill, *supra* n. 994; C.E. McLure, Jr., *How to Coordinate State and Local Sales Taxes with a Federal Value-Added Tax*, 63 Tax L. Rev. 3, p. 639 (2010); R.G. Penner, *Do We Need A VAT to Solve Our Long-Run Budget Problems?* 63 Tax L. Rev. 2, p. 301 (2010).

1078 McLure & Merrill, *supra* n. 994, at sec. 2.3. However, Canada has shown that a federal VAT can coexist with consumption taxes at the provincial level.

9.4 CONCLUSIONS

The Information Age has placed strains on consumption taxes throughout the world. The EU VAT system seems to have kept pace with these far-reaching changes and developed quite effective ways of taxing digital goods. The EU VAT meets many of the criteria of the model tax system. It covers all consumption, employs the destination principle and relieves businesses from the VAT burden. Its weak points are: an unclear concept of the taxable person and high compliance burden resulting from the application of the destination principle. However, those problems could be remedied by implementing taxpayer-friendly binding rulings and a possibility to switch to the origin principle as a last resort. Although the legal setting for the consumption taxation in the European Union is very different from that in the United States, many features of the EU VAT system (for example, comprehensive and uniform definition of taxable transactions) can be used as guidelines to modify the sales tax systems.

The state sales tax systems inherited from the Industrial Age do not operate well in the Information Age, a world where economic activity transcends state boundaries. States have not accommodated their tax systems to this new reality. Their inability to tax electronic commerce has been causing significant revenue losses. State sales tax systems fall short of implementing the destination principle and exempt the consumption of digital goods from taxation by excluding those goods from the tax scope and by *de facto* exempting interstate trade. However, the main problems faced by trade in digital goods are not new: they occur because digital goods aggravate the defects in the existing sales tax systems. These problems provide a classic example of how prior errors in tax policy cast a long shadow over current policy because of what economists call "path dependence" – the dependence of outcomes on the path history has taken.[1079]

Taxing trade in virtual currencies and items in the current US environment would aggravate the existing distortions and inequalities and create compliance problems for suppliers. As a radical departure from present practice (the introduction of VAT) is not likely to occur, it is necessary to rationalize the existing system without abandoning it completely. The most common sense approach would be to achieve uniformity in the basic legal framework by enacting federal legislation. By introducing uniform definitions of taxable transactions, uniform sourcing rules and amending the nexus standard, it is possible to create a level playing field for trade in digital goods. The more time will pass without affirmative congressional action, the longer the states go without taxing sales transactions on the Internet and the harder will it be to correct the problem. Congressional action would establish permanent

1079 McLure, *Tax Competition in a Digital World*, *supra* n. 1062 at p. 135.

boundaries for taxation of digital goods and remove uncertainty resulting from unclear and complex state rules.

Finally, it should be noted that the proposals mentioned in the previous sections with regard to both the EU VAT and US sales tax systems do not solve all the problems. However, the quest for perfection should not stand in the way of improvement.

Summary

Money is a social institution that has exhibited a great capacity to evolve and adapt to the character of the era. In the past, commodities were used as means of payment. Later on, they were gradually replaced by coins and paper money. The Information Age has created a new concept of money: virtual currencies existing solely in the cyberspace in the form of intangible computer code. Virtual money can be defined as a type of unregulated digital currency that is issued and often also controlled by its developers. Two main categories of virtual money can be distinguished: community-related currencies (used by members of a specific virtual community) and universal currencies (used by anyone to purchase goods and services).

Initially, virtual currencies were used as a medium of exchange between avatars within virtual worlds. Virtual worlds are persistent computer-generated online environments that can be accessed remotely and simultaneously by a large number of people who interact with one another. The majority of these environments operate under some type of economy with in-world property and currency systems. The heart of the virtual economy is trade: to improve their virtual status, participants must acquire virtual items and money. Although trade in virtual items began within the online environments, it soon expanded beyond their boundaries. Virtual items started being exchanged on Internet platforms for real money, and the game ceased to be merely a game. Many people quickly noticed that they could make real profits by "farming" and selling virtual items and currencies.

Universal currencies exist independently of any virtual environment and compete with traditional currencies. Bitcoin, a totally decentralized crypto-currency without a central authority, grabbed the public attention as its value skyrocketed at the beginning of 2012. Its supporters claim that Bitcoin has many properties that could make it an ideal currency for mainstream consumers and merchants: it is highly liquid, has low transaction costs, can be used to make micropayments and allows its users to preserve anonymity in transactions.

A study from the European Central Bank suggests that the use of virtual currencies is expected to grow in the future. Therefore, it is important that our economic, political and legal institutions are prepared to deal with those currencies and to incorporate them into the existing legal framework. Modern technology provides opportunities for income generation that were unknown back in the days in which tax laws were developed. Trade in virtual currencies

carried out in borderless and anonymous setting challenges the current tax law to its extremities.

The purpose of this thesis is to examine tax implications that result from transactions in virtual currencies and items (such transactions are referred to here as ”virtual trade“ or ” virtual transactions“). The thesis investigates three core research questions:

1) How income from virtual trade and transactions involving virtual currencies and items should be taxed (the model scenario)?
2) How income from virtual trade and transactions involving virtual currencies and items are actually taxed under the existing tax legislation (the actual scenario)?
3) How the actual scenario can be aligned with the model scenario?

The thesis is divided into three main parts. Chapters 1, 2 and 3 serve as an introduction and provide the definitions of virtual currency and virtual worlds. Chapters 4, 5 and 6 examine income tax aspects of virtual trade, whereas chapters 7, 8 and 9 are concerned with indirect tax issues of transactions in virtual currencies.

Before investigating tax implications of virtual currency, it is necessary to determine its nature, i.e. whether virtual currency can be regarded as money in the economic or legal sense (*see* Chapter 3). Money in the economic sense exhibits three important characteristics: it acts as a unit of account, medium of exchange and store of value. The legal definition of money contains additional elements, such as legal tender status, central management and availability of a physical carrier. Although virtual currencies are designed to perform the same functions as legal currencies, they cannot be subject to the same rules as EUR or USD due to their different characteristics. Community-related currencies cannot be even regarded as money in the economic sense as they do not fulfill the monetary function of storing value and serving as a unit of account. A decentralized currency scheme, such as Bitcoin, could be regarded as money in the economic sense if concerns regarding its safety and reliability are removed and it obtains “intuitive” value. However, irrespective of that, Bitcoin does not meet the definition of money in the legal sense.

Chapter 4 identifies activities that may be relevant for income tax purposes. These are: creation of virtual currency (through mining or completion of quests), possession of virtual currency that appreciated in value and exchanges. Exchanges may give rise to two types of income: real income (when virtual currencies and items are sold for real money, i.e. money in the legal sense) and virtual income (when goods and services are exchanged for virtual money).

Chapter 4 also describes a model system for taxing income from virtual trade. This description consists of two steps. The first step involves finding a universal income definition; a definition independent from any country specific characteristics and limitations. This definition turns out to be the Schanz-Haig-Simons model, according to which all increases in wealth (both

in the real and virtual form) and consumption should be taxable. The second step takes this most comprehensive income concept and narrows it down to achieve a workable income definition that takes into account the requirement that taxes be something that can be reliably measured, reported and paid. It considers what limitations can be imposed on the comprehensive income definition by the generally recognized principles of taxation (equity, efficiency, effectiveness and neutrality). The examination shows that there is a strong case against taxing income in the virtual form. The illiquidity, valuation and compliance difficulties, combined with the resentment of taxpayers, would threaten a tax system based on self-assessment. In contrast, any real income derived from trade in virtual currencies and items should be subject to tax. This approach is in line with the principle of equity (increased ability to pay is taxed), administrative convenience (taxation is deferred until the taxpayer has the means to pay the tax) and neutrality (taxpayers are not "forced" to monetize their assets).

Chapter 5 examines whether income from virtual transactions is actually subject to tax in four countries: the United States, the United Kingdom, Germany and the Netherlands. Those countries were selected on the basis of their different approaches to income taxation (global versus schedular) and the different treatment of capital gains and accumulated wealth.

The United States imposes tax on all income from whatever source derived and, thus, real income from virtual transactions is always taxable there (irrespective of whether profit motive or market participation exists). With respect to profits existing only in the virtual form, it is necessary to distinguish between community-related and universal currencies. The taxpayer does not have a complete dominion over community-related currencies since he has expressly agreed to contractual terms according to which the world operator may modify and terminate the virtual environment at its sole discretion. In contrast, the possession of universal currency (Bitcoin) is free from such restrictions. Thus, the receipt of universal virtual currency gives rise to taxable income, irrespective whether the currency was generated or obtained in an exchange transaction.

In the other three European countries, there is no all-encompassing provision that would tax income from whatever source derived. Tax is levied on explicitly enumerated categories. In the United Kingdom, virtual exchanges may result in trading income, miscellaneous income or capital gains, whereas generated and accumulated virtual currency is not taxable as it involves neither source nor disposal. In Germany, income from virtual trade may fall within either business or miscellaneous income category, depending on whether it is generated in a business or private capacity. Self-generated virtual currency is not taxable as it is not derived from transactions with other market participants. In the Netherlands, profits from virtual trade may fall within either business or other income category. However, in the Netherlands, income tax is also levied on the net value of assets, irrespective of whether those assets

are able to generate any income. Accumulated virtual currency may be regarded as a qualifying asset since it has economic value. Thus, not only profits from virtual exchanges but also accumulated virtual currency is subject to tax. In all three European countries, it does not matter whether income exists in a real or virtual form. Virtual income is subject to the rules on barter transactions and benefits in kind.

Chapter 6 points out that the actual scenario deviates from the model one since income in the virtual form is taxable in all the countries under consideration. However, the fact that income is taxable does not mean that it is *actually* taxed. People who have virtual income either are not aware that it is taxable or deliberately avoid paying tax knowing that this non-compliance is unlikely to be detected and punished. Ignored and unenforced tax law is useless. It neither generates revenue nor serves any redistributive purpose, so that its existence cannot be justified by any of the taxation objectives. To align the actual scenario with the model one, this thesis proposes to exempt any income in the virtual form from taxation and implement reporting requirements together with taxpayer information services to improve compliance with regard to real income from virtual transactions. Tax authorities should issue guidelines on income characterization, allowable deductions, income calculation methods and records to be kept. As even the most comprehensive guidance will not solve all the problems, taxpayers should also have the possibility to request advice on their individual circumstances, and such requests should be handled in a timely and customer-friendly manner. Compliance requirements should be imposed on operators providing exchange services since such businesses are smaller in number, have known locations and incentives to comply with the law. A combination of a rule-based and risk-based approach should be used for customer due diligence and filing obligations. The existing regulations for online casinos could be used as a starting point for the regulation of virtual currency exchanges.

Chapter 7 identifies the characteristics of a model system for taxing transactions in virtual currency on the basis of the general principles of taxation: neutrality, equity, certainty and administrative feasibility. Those characteristics are: a clearly defined personal scope, taxation of all private expenditure, taxation at destination, single tax rate and effective mechanisms to ensure that all suppliers comply with their tax obligations.

The EU VAT meets certain criteria of the model tax system: it covers all consumption and employs the destination principle. Its weak points are: lack of certainty with regard to the status of taxable person, high compliance burden resulting from the application of the destination principle and ineffectiveness of the One Stop Shop scheme. However, those problems could be remedied by implementing taxpayer-friendly binding rulings, the possibility to switch to the origin principle as a method of last resort and more extensive administrative cooperation in tax matters.

The US retail sales tax systems lack almost all of the characteristics of the model tax system. They are plagued by a number of problems, the most important of which are: a *de facto* exemption for interstate trade, prevailing non-taxation of digital goods and different sourcing rules among the states. Taxing trade in digital goods would not be a good idea if adopted in the current system. Under this scenario, states would presumably extend their existing sales taxes to digital goods with all the inequalities and distortions that the sales tax system entails. Thus, there seems to be no good alternative to a reform of the existing system. As a radical departure from present practice (the introduction of VAT) is not likely to occur, it is necessary to rationalize the existing system without abandoning it completely. The most common sense approach would be to achieve uniformity in the basic legal framework by enacting federal legislation. By introducing uniform definitions and sourcing rules and amending (or abolishing) the nexus standard, it is possible to create a level playing field for trade in digital goods.

Samenvatting

Belastingheffing op de virtuele valuta

Het is gebleken dat geld een enorm vermogen heeft om zich te ontwikkelen en zich aan te passen aan de tijd. In het verleden werden grondstoffen gebruikt als betaalmiddel. Later werden ze geleidelijk vervangen door munten en papiergeld. In het informatietijdperk is een nieuw concept van geld gecreëerd: virtuele valuta die uitsluitend bestaan in cyberspace in de vorm van computercode. Virtueel geld kan worden gedefinieerd als een vorm van niet-gereguleerde digitale valuta die wordt uitgegeven en vaak ook wordt gecontroleerd door zijn ontwikkelaars. Twee hoofdcategorieën van virtueel geld kunnen worden onderscheiden: "community"-gerelateerde valuta (alleen te gebruiken door leden van een bepaalde virtuele gemeenschap) en universele valuta (door iedereen te gebruiken om goederen en diensten te kopen).

Aanvankelijk werden virtuele valuta gebruikt als een medium voor uitwisseling tussen avatars in virtuele werelden. Virtuele werelden zijn computergegenereerde online omgevingen die op afstand en tegelijk kunnen worden bezocht door een groot aantal mensen. De meesten van deze omgevingen kennen een eigen economie met bezit en valutasystemen. Het hart van de virtuele economie is de handel: om hun virtuele status te verbeteren, moeten deelnemers virtueel bezit en geld verwerven. Hoewel de handel in virtueel bezit begon binnen de online-omgevingen, is die al snel uitgebreid erbuiten. Via het internet begon men met het inwisselen van virtueel bezit voor echt geld, en veel mensen hebben snel gemerkt dat ze echte winsten konden maken door de verkoop van virtueel bezit en virtueel geld.

Universele valuta's kunnen onafhankelijk van een virtuele omgeving bestaan en kunnen concurreren met echte valuta's. Bitcoin, een virtuele valuta zonder centrale autoriteit, kwam onder de aandacht van het grote publiek toen de waarde ervan omhoog schoot begin 2012. Aanhangers van Bitcoin beweren dat het veel van de benodigde eigenschappen heeft om de ideale valuta voor consumenten en handelaren te worden: het is zeer liquide, heeft lage transactiekosten, kan gebruikt worden om microbetalingen te doen en waarborgt de anonimiteit van gebruikers.

Uit een studie van de Europese Centrale Bank blijkt dat het gebruik van virtuele valuta in de toekomst zal groeien. Daarom is het essentieel dat onze economische, politieke en juridische instellingen bereid zijn om virtuele valuta's

op te nemen in het bestaande wettelijke kader. Moderne technologie biedt nieuwe mogelijkheden voor het genereren van inkomsten op manieren die onbekend waren in de tijd waarin fiscale wetgeving werd ontwikkeld. Virtuele handel, uitgevoerd in anonieme omgevingen zonder grenzen, ondermijnt daarmee de huidige fiscale wetgeving in sterke mate.

Het doel van dit proefschrift is te onderzoeken welke fiscale consequenties de handel in virtuele valuta's heeft. Het onderzoek bevat drie kernvragen:

1) Hoe zou inkomen uit handel in virtuele valuata en transacties met virtuele valuata of virtueel bezit belast moeten worden (model scenario)?
2) Hoe wordt inkomen uit handel in virtuele valuata en transacties met virtuele valuata of virtueel bezit belast (actueel scenario)?
3) Hoe kunnen de bestaande fiscale regels worden aangepast om beter overeen te komen met het model scenario?

Het proefschrift bestaat uit drie delen. De hoofdstukken 1, 2 en 3 geven een inleiding voor het proefschrift en behandelen de definitie van virtuele valuta en virtuele werelden. In de hoofdstukken 4, 5 en 6 wordt de inkomstenbelasting over de handel in virtuele valuta behandeld en in de hoofdstukken 7, 8 en 9 de indirecte belasting.

Voordat met het onderzoek naar de fiscale gevolgen van virtuele valuta's kan worden begonnen, is het noodzakelijk om te bepalen of virtuele valuta kan worden beschouwd als geld in economische of in juridische zin (zie hoofdstuk 3) Geld in economische zin heeft drie belangrijke kenmerken: het wordt gebruikt als rekeneenheid, als ruilmiddel en voor de opslag van waarde. De juridische definitie van geld bevat aanvullende elementen, zoals status van wettig betaalmiddel, centrale regelgeving, en de beschikbaarheid in munten en biljetten. Hoewel virtuele valuta's zijn ontworpen om te functioneren als juridische valuta, kunnen ze niet worden onderworpen aan dezelfde regels als de euro of de dollar als gevolg van afwijkende kenmerken. Een "community"-gerelateerde valuta kan niet worden beschouwd als geld in economische zin, omdat het niet de monetaire functie van waarde-opslag en het dienen als een rekeneenheid kan vervullen. Een gedecentraliseerde valuta, zoals Bitcoin, kan echter wel als geld in economische zin worden beschouwd, indien de bezorgdheid over zijn veiligheid en betrouwbaarheid wordt weggenomen en de valuta een "intuïtieve" waarde verkrijgt. Bitcoin voldoet echter niet aan de definitie van geld in juridische zin.

Hoofdstuk 4 beschrijft ten eerste welke economische activiteiten – gerelateerd aan virtuele valuta – relevant zijn voor de inkomstenbelasting. Dit zijn: de creatie (via "mining" en de voltooiing van spelopdrachten) en het bezit van virtuele valuta en ruiltransacties met virtuele valuta. Ruiltransacties kunnen leiden tot twee soorten inkomen: reeël inkomen (als virtuele valuta's en bezittingen worden verkocht voor echt geld, dat wil zeggen geld in juridische zin) en virtueel inkomen (als goederen en diensten worden uitgewisseld voor virtueel geld).

Verder beschrijft hoofdstuk 4 het model voor de belasting van inkomen uit handel in virtuele valuata. De beschrijving bestaat uit twee stappen. De eerste stap is het vinden van een universele definitie van inkomen (een definitie onafhankelijk van land specifieke kenmerken of regels). Het Schanz-Haig-Simons model voldoet aan deze definitie. Volgens dit model zijn alle veranderingen in het vermogen (zowel in de echte als in de virtuele vorm) en in de consumptie belastbaar. In stap twee wordt, rekening houdend met de eis dat de belasting op betrouwbare wijze moet kunnen worden berekend en afgedragen, de universele definitie van inkomen ingeperkt op basis van de algemene beginselen en doelstellingen die aan belastingheffing ten grondslag liggen. Uit het onderzoek blijkt dat in het modelscenario inkomen in virtuele vorm niet belast zou moeten worden. Problemen rond liquiditeit, waardering en "compliance", gecombineerd met ergernis van belastingbetalers, zou de wil ondermijnen om vrijwillig aangifte te doen. Daarentegen zouden echte inkomsten uit handel in virtuele valuta's en bezittingen wel belastbaar moeten zijn. Deze aanpak is in overeenstemming met het draagkrachtbeginsel (het toegenomen vermogen wordt belast), administratief gemak (de belastingheffing wordt uitgesteld tot de belastingbetaler de middelen heeft om de belasting te betalen) en neutraliteit (belastingbetalers worden niet gedwongen om hun bezitten te gelde te maken).

Hoofdstuk 5 onderzoekt de vraag of inkomsten uit virtuele transacties feitelijk worden onderworpen aan belasting in de volgende landen: de Verenigde Staten, het Verenigd Koninkrijk, Duitsland en Nederland. Deze landen zijn geselecteerd op basis van hun verschillende benaderingen van de inkomstenbelasting (globaal versus analytisch) en de verschillende wijze van belastingheffing op vermogenswinsten en vermogen.

De Verenigde Staten belasten alle inkomsten ongeacht de bron. Dus het reële inkomen uit virtuele transacties wordt altijd belast (ongeacht of er een winstoogmerk bestaat). Voor inkomsten die bestaan in virtuele vorm dient onderscheid gemaakt te worden tussen "community"-gerelateerde valuta en universele valuta. De belastingplichtige heeft geen "complete dominion" (volledige heerschappij) over "community"-gerelateerde valuta, aangezien hij uitdrukkelijk heeft ingestemd met de contractuele voorwaarden, waaronder de eigenaar de virtuele wereld kan veranderen en verwijderen naar eigen goeddunken. Daarentegen is het bezit van universele valuta (zoals bitcoins) vrij van dergelijke beperkingen. Dus het ontvangen van universele virtuele valuta leidt tot belastbare inkomsten, ongeacht of de valuta is gegenereerd of is verkregen in een ruiltransactie.

In de drie Europese landen is geen belastingwetgeving die alle inkomsten, ongeacht de bron, belast. Belasting wordt geheven op expliciet genoemde categorieën. In het Verenigd Koninkrijk kunnen virtuele ruiltransacties resulteren in handelsinkomsten, diverse inkomsten of vermogenswinsten, maar gegenereerde en opgebouwde virtuele valuta's zijn niet belastbaar. In Duitsland kunnen de inkomsten uit virtuele handel onder de ondernemerscategorie of

onder de categorie 'overige-inkomsten' vallen; dit hangt ervan af of de belastingplichtige het inkomen genereert als ondernemer of als privépersoon. Verder is zelf-gegenereerde virtuele valuta niet belastbaar omdat deze niet voortkomt uit transacties met andere marktpartijen. In Nederland kan de winst uit virtuele handel als winst uit onderneming of als overig inkomen worden geclassificeerd. Inkomstenbelasting wordt echter geheven over de bezittingen minus de schulden, ongeacht of bezittingen een inkomen genereren (de zogeheten vermogensrendementsheffing). Virtuele valuta's kunnen daarbij als een bezitting in aanmerking komen, aangezien zij een economische waarde hebben. Dus niet alleen inkomsten uit virtuele ruiltransacties dienen volgens het Nederlandse belastingrecht te worden belast, maar ook het bezit van virtuele valuta is onderworpen aan belasting. In alle drie Europese landen maakt het niet uit of het inkomen bestaat in reële of in virtuele vorm. Verder is virtueel inkomen onderworpen aan de regels inzake ruiltransacties en voordelen in natura.

In hoofdstuk 6 wordt uiteengezet dat inkomen in virtuele vorm belastbaar is in alle betrokken landen en daarom afwijkt van het modelscenario waarin er geen belasting over wordt geheven. Echter, het feit dat het inkomen belastbaar is, wil niet zeggen dat het daadwerkelijk wordt belast. Mensen met een virtueel inkomen zijn zich ofwel niet bewust dat het belastbaar is of ontduiken de belasting bewust omdat zij weten dat het onwaarschijnlijk is dat zij opgespoord en gestraft zullen worden. Belastingwetgeving die ontdoken worden en die niet gehandhaafd wordt, is nutteloos. Die genereert geen ontvangsten voor de schatkist en dient evenmin de inkomensverdelingsfunctie, zodat het bestaan ervan niet meer kan worden gerechtvaardigd. Om de belastingheffing van het werkelijke scenario dichter bij het model-scenario te brengen, stelt dit proefschrift voor om alle inkomsten in virtuele vorm vrij te stellen van belasting. Voor reeël inkomen uit virtuele ruiltransacties dienen rapportageeisen te worden geïmplementeerd en dient voorlichtingsmateriaal voor belastingplichtigen beschikbaar te zijn. De belastingdienst zou richtsnoeren moeten opstellen voor: het categoriseren van inkomen, het gebruik van aftrekposten, de berekening van inkomsten en het inrichten en bijhouden van de administratie. Omdat zelfs de meest uitgebreide handleidingen niet alle problemen kunnen oplossen, moeten de belastingplichtigen de mogelijkheid hebben om advies te vragen over hun individuele omstandigheden en dienen dergelijke verzoeken tijdig en op klantvriendelijke wijze te worden behandeld. Bedrijven die diensten leveren als geldwisselkantoor op het internet en dus virtuele valuta kunnen omwisselen tegen reële valuta, dienen aan de belastingdienst te rapporteren over hun transacties en klanten. De bestaande regelgeving voor online casino's kan worden gebruikt als uitgangspunt voor de regulering van virtuele valuta-uitwisselingen.

Hoofdstuk 7 beschrijft de kenmerken van het model voor belasting van transacties in virtuele valuta. Deze kenmerken zijn gebaseerd op de algemene beginselen van belastingheffing: neutraliteit, rechtvaardigheid, eenvoud,

efficiency en zekerheid, en zijn: duidelijke definitie van belastingplichtige, belasting van het consumptief gebruik van alle goederen en diensten, de plaats van de prestatie op basis van het bestemmingslandprincipe, één belastingtarief, effectieve handhaving zodat alle ondernemers voldoen aan hun belastingverplichtingen.

De Europese btw voldoet aan sommige criteria van het modelbelastingstelsel. Het omvat alle leveringen van goederen en diensten en maakt gebruik van het bestemmingslandprincipe. De zwakke punten van het stelsel zijn: het ontbreken van een precieze definitie van het begrip 'ondernemer', hoge kosten die voortkomen uit de toepassing van het bestemmingsprincipe en een ineffectief éénloketsysteem voor ondernemers buiten de Europese Unie. Echter, deze problemen kunnen gemakkelijk worden verholpen door middel van klantvriendelijke "rulings", door de mogelijkheid te bieden om over te schakelen naar de oorsprongslandprincipe als een laatste redmiddel, en door betere samenwerking tussen de verschillende landen.

Alle kenmerken van het model-belastingstelsel ontbreken bij de Amerikaanse omzetbelasting. Het stelsel kent diverse problemen waarvan de belangrijkste zijn: een *de facto* vrijstelling voor handel tussen staten, het veelal niet belasten van digitale goederenen de verschillende regels tussen staten onderling over de plaats van levering. In het huidige belastingstelsel is het belasten van leveringen van digitale goederen een slecht idee. Er is geen andere mogelijkheid dan het hervormen van het bestaande stelsel. Het volledig opgeven van het huidige stelsel zal vermoedelijk niet gebeuren, waardoor het nodig is om het bestaande systeem aan te passen. De meest voor de hand liggende aanpak is om door federale wetgeving uniformiteit in het belastingrecht te bereiken. Een gelijk speelveld voor de handel in virtuele goederen kan worden ontwikkeld door: de invoering van uniforme definities en regels voor plaats van levering, en het wijzigen (of het afschaffen) van de nexus standaard.

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