Seigniorage, its history, its present, and its future for the European Union

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SEIGNIORAGE: A NEW REVENUE FOR THE EUROPEAN UNION

ABSTRACT *Seigniorage, the government's revenue from the creation of money, has been a source of finance for countries from the past to the present. The article focuses on the future of it as a new way to finance the budget of the European Union. Seigniorage, as generated by the euro, can provide for at least a quarter of the present budget. It can be called a veritable own resource (revenue) of the Union; for the countries of the eurozone, seigniorage is generated by a policy-driven common EU policy.*

After stating the unique EU character, the substantial income, and the easy and fraud-free collection of seigniorage, the article looks at the institutional, legal, and practical difficulties that have to be tackled with the introduction of it as new revenue (EU tax) for the Union. The article concludes with an overall assessment of seigniorage in view of the present EU budget reform. Though no one-way bet, seigniorage is, at least on equal footing with the two, at present, by the Union preferred new EU taxes: a financial transaction tax and an EU VAT.

KEYWORDS *EU budget reform; EU taxes; monetary income of the Eurosystem; seigniorage; veritable own resources of the EU.*

INTRODUCTION

In 2006, the European Commission started the discussion about a fundamental reform of the EU budget. The Commission (2010a, 2011a) plans the introduction of one or more EU taxes. A European tax should not add weight to the fiscal burden of European citizens, but it should represent a more appropriate mode of financing the EU insofar as a Union of States and citizens is concerned. For the European Parliament (EP), the requirement that the European Commission put the introduction of EU taxes on the agenda was a *sine qua non* to its approval for this year's budget. European taxes should be a part of the upcoming seven-year multiannual financial framework that starts in 2014.

Though every present source of revenue of the EU is, by definition, called an own resource---the EU knows better (Ehlermann 1982). In fact, only the custom duties, including agricultural levies, that are collected at the borders of the EU are true own resources. Their yield 'naturally' accrues to the Union (European Commission 2004). They generate 15 percent of the revenue of the EU. The other 85 percent consists of, *grosso modo*, contributions by the Member States based on their Gross National Product (GNP). Both two traditional own resources, were in the beginning of the seventies of the last century the first and the second really EU own resources. They are the most complete expression of the financial autonomy of the EU. National custom authorities do withheld them and transfer them directly to the Union. This is done without any mediation of the national treasuries and after a deduction of a fee for the Member State of collection. Both revenues are linked to European policies: the creation of one internal market and food security.

For the EU, the goal of the introduction of new EU taxes is to get a greater autonomy from the Member States; the EU speaks about the need for true own resources. At present, expenditures with a real European added-value are under-supplied because they go under-financed. For Member States, of relevance is not the answer to the question: What does the EU achieve with its expenditures? It is the answer to the question: What do we give and what do we get in return? The cursed *juste retour* thinking (Pietras 2008; Richter 2008) that goes hand-in-hand with the direct contributions, has a destructive effect on policies with an added value for the EU, e.g., energy security, European infrastructure, and a knowledge-led service economy. Member States tend to favor instruments with geographically pre-allocated financial envelopes rather than those that may warrant a greater EU added value.

The aim of the paper is to show that seigniorage, the government's revenue from the creation of money, can be a solution to the reform of the EU budget. Seigniorage, as an old source of government income, can become the new veritable own resource the Union wants. It has been a source of government finance for most of the countries in the world. For the countries of the eurozone, a real common EU policy generates seigniorage; just as the present two traditional own resources are the result of a common EU policy, and for that same reason belong to the EU. For the EU, in the past, seigniorage has always been an important candidate for a new own resource. At present, at best, it receives some lip service (European Commission, 2011b).

The article is structured as follows. After the introduction, the concept of seigniorage is explained. Next, the article gives an historical overview of the discussions of the possibility of seigniorage for financing the EU budget. After stating a general problem in the assessment that seigniorage shares with all the other possible new EU taxes, a specific assessment follows of seigniorage as a new own resource of the Union. First, on the positive side, the unique EU character, the substantial income, and the easy, fraud-free collection of seigniorage are discussed. Next, on the negative side, the article looks at the institutional, legal, and practical problems that have to be tackled with its introduction. The article gives a special emphasis to the perceived loss of autonomy of the European Central Bank (ECB). The article concludes with an appraisal of seigniorage as compared to the two, at present, preferred new EU taxes: a financial transaction tax (FTT) and an EU VAT.

SEIGNIORAGE

In the middle ages, seigniorage, also spelled 'seignorage' or 'seigneurage', was a prerogative of the crown whereby it claimed a percentage upon the bullion brought to the mint to be coined or to be exchanged for coin (Black 1992). Individuals with precious metal could take it to the government, and, for a fee called *brassage*, the government's mint would stamp a coin out of the metal so it could be used in commerce. Seigniorage became such a lucrative source of income that seigneurs often mandated yearly recoinage: *renovatio monetae*. The circulating coins were declared to have lost their legal tender; it was required that, e.g., taxes were to be made in a new coin. In England, after the year 1000 over a period of 150 years, rulers changed their coinage at least 53 times (Desan

2011). Seigniorage is also a type of revenue governments earn because of their monopoly power over the production of currency.

The average reliance of governments all over the world, measured as the ratio of seigniorage revenue to governmental expenditures, varied, e.g., for the period 1965-94 from a minimum of 1% to a maximum of nearly 31% (Haslag and Bhattacharya 1999). In Europe, it was on average a little above 5 percent in the sixties and seventies of the last century (Klein and Neumann 1990). As a percent of Gross Domestic Product (GDP) for the period 1971-1990 for countries in Western Europe it was about 0.5 percent (Click 1998, Gros 1993; cp Cukrowski and Stavrev 2001; Hochreiter, Rovelli, and Winckler 1996).

In modern days, the returns to the government from the issue of currency are three-fold. Firstly, it is the difference between the face value of a coin or banknote and its production costs. The difference between the face value of paper money and its marginal printing cost are almost equal to the face value of the note---marginal printing costs are effectively zero (Buiter 2007). The cost of printing banknotes in the U.S. is estimated to be about four cents for a newly printed banknote (Barro and Stevenson 1997).[1]

Secondly, it consists on the returns of the investments of the balances commercial banks have to hold at their National Central Banks (NCBs) as a counterpart to the total amount of banknotes in circulation. In the eurozone the amount of banknotes in circulation is over 800 billion euro.

Thirdly, it is the economic disadvantage suffered by a holder of cash, due to the effects of expansionary monetary policy. In the long run, inflation is mainly the result of the excess issue of money over and above the amount equal and necessary to finance the growth in trade. Essentially, inflation is a form of indirect income tax, since it causes a decline in the purchasing power of the public’s income (Masson, Savastano, and Sharma 1998; Scott 1997). The main purpose of an inflation tax is financing government expenditures.

In general, the differences between countries of seigniorage relative to other sources of government revenue can be explained by looking at seigniorage as a form of taxation. Countries with a more unstable and polarized political system often have a more inefficient tax structure and rely heavily on seigniorage. Political instability, also, is positively related to the amount of seigniorage (Cukierman, Edwards, and Tabellini 1992; Davies 2007).

Because of the just-said, there seems to be, at least, three common measures of seigniorage (Drazan 1985). Firstly, the change in the monetary base, that is the currency and central bank deposits that together provide the base for the money supply under fractional reserve banking. Secondly, the interest earned by investing resources obtained by the past issuance of base money in interest-bearing assets. And thirdly, the inflation tax (Buiter 2007). It depends on the situation which concept we have to use. In periods of high inflation, when the rate of inflation dominates real growth, most seigniorage is generated as inflation tax. The third concept of measuring seigniorage applies. When inflation is relatively low and interest rates are determined by the market, it is the second, opportunity cost based, concept that makes the most sense. In cases where the central bank is integrated with the government and where the government finances itself directly by deciding on the amount of new banknotes or monetary base issued each period, the first concept is the most useful (Hochreiter and Rovelli 2002). This is mainly the case of central banks in smaller and poorer economies (Ize 2007).

Since we are interested in the fiscal aspect of seigniorage, we look at the just-described second concept of seigniorage (Schobert 2001). Seigniorage consists of the proceeds of the investments of over 800 billion euro: the amount of euro banknotes in circulation in the eurozone in 2010. At present, the proceeds flow to the National Central Banks (NCBs) of the Member States and the European Central Bank (ECB) that make up the Eurosystem. In the end, the proceeds go to the national governments of the countries of the eurozone.[2]

VERITABLE OWN RESOURCES AND SEIGNIORAGE

In 2006, the EU agreed on a full, wide-ranging review without taboos of EU spending and revenue. With the current reliance on contributions from Member States and the accompanying ubiquitous *just retour* thinking; there is no room for policies with a real added value for the EU. More really own resources may solve this problem. In addition, the EU wants to create a more visible bond with its citizens. Own EU taxes according to the European Commission will attain both ends. It will increase the financial autonomy of the European Union and create a direct bond of citizens with the EU institutions.

In the seventies of the last century, the Union, indeed, had its own true resources in the form of customs duties, agricultural levies and a percentage of a harmonized tax base of the value-added tax (VAT) in the Member States. National payments, as they were agreed to finance the EU during the transition period directly after the founding of the EU in 1957, temporarily disappeared from the scene. From the beginning of this century, however, national contributions finance again, at present for 85 percent, the EU budget. They consist of contributions by the Member States based on their Gross National Product (GNP). In total, the EU budget is limited to about one percent of the GNP of the Member States. For 2012 the revenues and expenses of the EU, the budget has to be in balance, are € 129 billion. On the list of the new proposed EU taxes by the Commission, are six taxing possibilities: (1) taxation of the financial sector; (2) revenues from auctioning under the greenhouse gas Emissions Trading System; (3) a charge related to air transport; (4) VAT; (5) energy tax; and (6) corporate income tax (European Commission, 2010a, Technical Annexes). The European Commission, however, emphasizes that there are certainly other taxing possibilities. In its latest communication the Commission (2011a) did select a financial transaction tax (FTT) and a European VAT as the two most likely candidates for a Euro tax.

For a long time, seigniorage, also, has been mentioned as a possible new own resource (Begg et al. 2008; Catoir 2004; European Commission 1998, 2004; European Parliament 1997). In the famous Sapir rapport (2003) on the future of the Union (Making the EU Economic System Deliver) seigniorage was stated as an example of a revenue with a clear EU dimension rather than those taxes with an obvious national label. Revenues with an EU dimension, were described as to either be related to an EU policy so that they cannot be meaningfully be reapportioned nationally or have a very mobile tax bases within the EU. On principle, they should directly accrue to the Union. The rapport stated that even a partial allocation of seigniorage to the EU budget would be sufficient to cover the financing needs of the Union (Sapir 2003: 165). In 2001 for the Eurosystem, it was estimated to be about 10 billion euro (Catoir 2004).[3] At present an estimate is that it is on average about 50 billion of essentially free money for the Union (Buiter 2010: 18). In the short run, seigniorage revenues can be volatile since they depend on the demand for cash balances and prevailing interest rates. Both are notably affected by the business cycle.[4] Begg et al. (2008) estimate that seigniorage could provide between 4 percent and 40 percent of the annual budget of the EU. Over time, the revenues are more stable and are about 0.25 percent of GNP (Heinemann, Mohl and Osterloh 2008). In the future, however, changes in payments habits and the generalized use of electronic means of payments, the rising cashless payment practices, might erode the tax bases (Vergote et al. 2010: 21) On the other hand, the future development of the euro as an international currency may contribute to seigniorage through increased circulation of banknotes outside the euro area. In the case of the U.S., about half of the dollar bills are used outside the U.S (Baldwin and Wyplosz 2006).

In more recent studies, however, seigniorage has more or less disappeared. The main reasons cited are that not all Member States do participate in the eurozone, the revenues should be small and volatile, and institutional opposition from especially the ECB (European Commission 2011b).

To sum up, in history there are two fundamental reasons given for assigning seigniorage to the Union. First, it is a veritable new own resource; it is clearly linked to a fully developed key European policy. In the history of the EU, the introduction of the euro in 2002 is a new common EU policy *on par* with the introduction of the Common Agricultural Policy (CAP) and the one internal market. The revenue that the eurozone raises by printing money is not simply the result of adding-up the seigniorage the Member States generated before with their own currencies. Most currencies did not have the status of an international reserve currency. A status, the euro, at present, has. The euro is a *sui generis* result of an EU policy. Seigniorage also is a candidate for the new, policy-driven, own resource the EU is looking for (European Union 2009: 29).

The second reasons for assigning seigniorage to the Union is that there is in an integrated currency area, no obvious key for apportioning seigniorage revenues to Member States. Just as the custom duties collected at EU ports do not belong to the Member States in which the ports are situated. Seigniorage, also, is an equivalent of the Rotterdam-Antwerp effect for custom duties. In short, it can, as has been said for these reasons, only be a matter of time before these revenues are assigned to the EU (Begg and Grimwade 1998; European Parliament 1997).

ASSESMENT

The EU has developed criteria to assess new own resources (Begg et al. 2008; European Commission 1998 and 2004; European Parliament 2007). The problem is that the EU uses more than a dozen criteria. The criteria can be rubricated as budgetary: sufficiency, stability; efficiency: visibility, operating costs, efficient allocation of resources; equity: horizontal and vertical, fair contributions of the Member States; and political: will consensus be possible among the Member States?, will the fiscal sovereignty of the Member States be maintained?, does an EU tax create a Leviathan?[5] Criteria, the European Commission also has to add-up somehow for an overall result. The problem is not only, which is of course an open door, and the EU is well aware of, that no tax can fulfill all the, often contradicting, criteria. Nevertheless, the quality of the legislation remains a problem. Quality is next to being a matter of legality (Voermans 2009a)[6] also related to the legislative process (Radaelli 2004; Voermans 2009b).[7] We have to consider how the social process and pertaining content are guaranteed: did all parties participate in the process and can the expectations be fulfilled. These qualities are impossible to fulfill with the shopping list of criteria. The probable result is an *ad hoc* political choice; the spur of the moment will decide on the chosen EU tax.

As an example of the just-said we can look at the by the European Union stated most important characteristic of the visibility of the new EU tax to the EU citizens. With an EU tax, for the Union, a direct link between citizens and the EU should be established. Over the years, the Union has evolved from a bond between states to a bond between states and the citizens thereof. An EU tax should be the expression of this idea. Visibility, also, is emphasized in the assessment criteria of a new EU tax. Just as José Manuel Barroso in Political Guidelines for the next Commission (2009: 36) says that we need to "find a more efficient and transparent way of financing EU policies"; at present the revenues of the EU are "a confusing and opaque mix of contributions and rebates". A reason, also, not to assign seigniorage to the Union is its invisibility for EU citizens. A reason, seigniorage shares with the at present by the Union most preferred financial transaction tax (FTT).[8] Of a FTT, it is unclear who in the end does pay and it does not create a direct visible bond between the EU and the citizens. It is chosen, as to be expected, with an ad hoc argument: to let the financial sector pay for its part in causing the financial crises in 2008.The opinion, however, if invisibility really is a disadvantage differs. Begg and Grimwade (1998: 135), e.g., mention that because the tax is an implicit one, it may be politically easier for Member States to assign the tax to the EU than in the case of other more overt taxes.[9] In fact, of all the proposed EU taxes only an EU VAT, visible on every receipt, will be clearly visible to every EU citizen.

ON THE POSITIVE SITE: UNIQUE EU CHARACTER, SUBSTANTIONAL REVENUE, AND LOW (FRAUD-FREE) COLLECTION COSTS

Several characteristics of seigniorage do make it a prime candidate for a new EU tax. First, a unique policy-driven common EU policy does generate seigniorage. In addition, since monetary policy within the euro area is an exclusive competence of the EU (Begg et al. 2008), the justification of transferring this revenue to the EU level is straightforward. For the EU, seigniorage, as far as it depends on currency in circulation, is based on the production of euro banknotes.[10] In the EU, 17 of the 27 Member States of the Union participate in the Eurosystem. All EU Member States, except England and Denmark, have to, when ready and fulfilling the criteria, join the eurozone. All who belong to the monetary union share the same banknotes, which freely flow form one country to another and outside the monetary union. The revenues stemming from these banknotes are difficult to allocate on a purely national basis. In other words, there is a problem of regional arbitrariness in the distribution of the proceeds. It is a common good of the Member States taking part in the Union (Cattoir 2004; Hansen and King 2007; Stojanović 2006).

Second, seigniorage in the EU is based on the revenues of the euro notes in circulation. At present the total value of the notes in circulation is over € 800 billion. It seems also safe, as shown before, to estimate the revenues from seigniorage to be, on average, about 0.25 percent of the total GNP of the Union, i.c. of the overall EU revenues.[11] At this moment the amount of seigniorage as generated by the euro is, of course, not at its maximum. This, as far as, only 17 of the 27 Member States participate in the eurozone. *Mutatis mutandis* it could also grow, with nearly all Member States participating (Hochreiter and Rovelli 2002), to about a third of the EU budget. In sum, seigniorage could also generate about a quarter till a third of the EU budget (Lang 2008). Combined with the revenues from custom duties, it would finance about half of the EU budget. It is also in line with an other explicit goal of the Commission to finance half of the budget with true own resources (European Commission 2004).

If seigniorage would flow to the Union, that would not leave the ECB and NCBs without means.[12] As said before, they would keep the revenues from the trade in international currencies, interstate payments, monitoring functions and real estate. Especially central banks with private shareholders undertake these last activities to lure private shareholders (Rösl 2002). Though of course the ECB and the NCBs can also keep a part of the seigniorage revenues as handling costs in view of spending for their currency function. Just like, at present, Member States retain part of the collected custom duties as handling costs.

Third, a great advantage of seigniorage, that no other of the proposed EU taxes can match, is that it has very low collection costs and possibilities for fraud.[13] The number of collection points are limited to the number of NCBs which use the euro and the ECB.[14] Fraud should be non-existent due to the transparency of Central Banks activities. For, e.g., an EU VAT however, fraud in the different Member States would be a real problem. Next to a FTT, a EU VAT is at the moment the preferred new EU tax by the European Commission (2011a). We must doubt if equity will exist between the citizens in the different Member States; tax morality and the quality of national tax administrations differ too much. Consumers in some Member States will pay the EU VAT; other consumers will not pay (Schneider 2007).

ON THE NEGATIVE SITE: INSTITUTIONAL, LEGAL, AND PRACTICAL PROBLEMS

An institutional/political problem for seigniorage is that the autonomy of the ECB seems to be threatened: not only, as is presently the case, monetary policy but fiscal policy too could become an aim of the ECB.[15] As a result, the monetary goal of the ECB, to maintain price stability, would be in danger. In other words, in the eyes of the NCBs and the ECB, though the financial autonomy of the EU increases for the central banks it decreases. At least it looks that way. In the eyes of the NCBs, seigniorage is a long run reliable income source that helps central banks to maintain their financial independence (Vergote et al. 2010). For that reason the ECB and NCBs are traditionally firmly opposed to the proposal (European Commission 2011b). The argument, however, looks like a sophism. We are looking at the monetary income of the ECB *to* the European Union. We are not discussing the v*olte face* that the European Union pays to the ECB. The situation arising when seigniorage goes to the EU is basically not different as it was before the introduction of the euro: the NCBs had to give seigniorage directly to their central governments, respectively the private shareholders. The financial and operational autonomy of the ECB remains the same (Begg et al. 2008; cp. Buchanan 2004).

Moreover, there are other means to ensure the autonomy of the ECB (Scheller 2006). To attain that goal, the Treaty of Lisbon contains several explicit provisions. The directors of the ECB can, for several reasons, behave independently of national politicians and the members of the European Parliament. Firstly, the directors of the ECB and the presidents of the NCBs have a tenure of eight respectively five years. The tenure lasts longer than the political cycle. Secondly, the requirement that the directors of the ECB have to be persons of known reputation and experience on monetary business and the banking sector has the same result. Mostly those people who get positions do not have to think, given their age, of a job after they stop working at the ECB. Thirdly, members of the ECB are explicitly forbidden, as it is written in the Treaty of Lisbon, Protocol No.4, to ask for or receive advice from other EU institutions or national politicians. These last institutions have to obey to the same principle.[16]

The just-described situation of autonomy of the ECB is probably also the reason that Member States gave up relatively easily part of their sovereignty on the subject of monetary policy. But there are other differences too. There is a direct link with citizens in view of fiscal policy which is absent in view of monetary policy. In addition, the credibility of the ECB is believed to be greater than the institutions of the Union. Hence, there is more trust in transferring sovereignty to them. The NCBs also play a direct role in the ECB. The interplay between national parliaments and the European Parliament is less direct and not that harmonious (Negrescu 2008). The EP and Counsil, also miss essential characteristics---they are even enlarged---to make rational decisions in view of taxation. In the EP the national interest often prevails over the much weaker ideological bond in the parties. It is also a fact that what Members States or the Council tell and write in official documents is not the same as what they really think and hence do not give a truthful picture of the situation (Clasper and Thurston 2010).

From a legal point of view, a solution has to be found in view of the different legal structures of the NCBs. In most Member States the state is the only shareholder of the National Central Bank. In Belgium, Austria and Italy, however, there are only, or next to the state. also private shareholders. All shareholders have a claim to the dividend and hence to the seigniorage of the NCB. Those private shareholders must be compensated. Because, however, in these cases the national governments already take, before the overall profit is determined, the part based on seigniorage beforehand out of the overall profit, the compensation will not be exceptionally high. In addition, there has to be a change in the statutes of the European Central Bank. The statute, art 33.1 (b), obliges that the seigniorage is to be shared with the NCBs. The NCBs and the ECB, as said before, would not be without income. They still do have their other sources of income.

Finally, a practical solution has to be found for those Member States that do not, out of principle or yet, use the euro.[17] Seigniorage would involve, for most Member States a temporary two-tier mechanism. A different treatment would be imposed on eurozone and non-eurozone Member States in the financing of the EU budget (European Commission 2011b). In the literature, two suggestions are made to handle this problem. A simple solution would be to let the Member States outside the eurozone pay according to their GNP. The overall ECB seigniorage is to be deducted from the GNP contributions of the Members of the eurozone. So the other EU Member States pay the GNP contributions in full (Heinemann, Mohl, and Osterloh 2008: 107). If this solution is chosen there will be winners and losers among the existing members of the eurozone. Poorer member states will loose, though not much. No country would pay more than 10 percent extra. At present they receive more seigniorage from the ECB by way of the payments of the ECB to their NCBs than they save on their national contribution to the EU (Heinemann, Mohl, and Osterloh 2008).

Goulard and Nava (2002: 50) give a more complicated proposal. Member States not yet participating in the common monetary policy[18] should pay a share of their GDP, which is calculated by a formula constituted of a linear combination of the share of the ECB seigniorage in the GDP of the eurozone and the share of the country's central bank's profits in the country's GDP.[19] The weighting of both parts would be a political decision. As the central banks outside the eurozone usually, as it has been in the past, generate higher profits due to higher inflation, a higher waiting of the second part would increase the contributions of those countries.

SUMMARY AND CONCLUSION

Based on a proposal of the European Commission (2011a), after June 2011 the European Union started the process of decision making on the multiannual financial framework for the period 2014-2020. A new own resource furnished by an EU tax is one of the goals. Next to the by the European Commission favored financial transaction tax (FTT) and EU VAT, seigniorage could, as discussed in this paper, be a possible new revenue of the Union. Seigniorage is the monetary income of the Eurosystem.

The introduction of seigniorage as a new EU resource is, however, no one-way bet. On the one hand, it can on average raise, fraud-free and with almost no collection costs, a substantional part of the EU budget. Seigniorage also really belongs to the Union since it is generated by a unique, policy-driven common EU policy. On the other hand it does not create a visible bond between the EU and its citizens (Gros 2008), and it faces stiff institutional opposition form the NCBs and ECB. What could tip the balance in favor of seigniorage is that one of the main obstacles to the introduction of all the other proposed EU taxes: the loss of the fiscal sovereignty of the Member States is not relevant for seigniorage.[20] The Member States did already give up their national sovereignty in view of monetary policy with the introduction of the euro.

To conclude, for a new EU revenue it seems to be a realizable possibility to go back to almost square one of modern monetary history: seigniorage. This may be for no stronger reason then by the default of the other proposed EU taxes. As was said by John Maynard Keynes, "A government can live by this means when it can live by no other. It is the form of taxation which the public find hardest to evade and even the weakest government can enforce, when it can enforce nothing else" (1923: 37).

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[1] The Federal Reserve paid in 2005, 5.7 cent for each note, whatever the denomination, for printing and delivering to the Bureau of Engraving and Printing (BEP). In the U.S., about 33 million notes are daily produced with a face value of about 529 million dollar (Karmin 2008).

[2] It is, however, an open question how much and when the seigniorage revenues are distributed from the NCBs to their national governments (Ize 2007).

[3] Total central bank profits were estimated to be about 25 billion. Next to profits related to seigniorage, central banks also generate profits, and losses, based on monetary policy operations, foreign exchange operations, advisory activities, economic research, and the proceeds of investments in real-estate (Rösl 2002).

[4] At this moment, for instance, the interest rate of the Eurosystem's main refinancing operations (the so-called refi rate), the rate the ECB gets as the proceeds of its allotted quantity of euro notes, is about one percent. This, however, is from a historic point of view exceptionally low and is related to the present policy to stimulate the economy after the late-2000s global financial crisis. From 2007 till 2009 the refi rate was, for instance, 4 percent. For an estimate of seigniorage in several Eastern Europe EU Member States see Kun (2003) and Hochreiter and Rovelli (2002). In general it is above the seigniorage in the eurozone.

[5] Though it could be maintained as well that the EU budged is just the oil that makes other more important decisions possible (Figueira 2008).

[6] In this paper we do not discuss the question if the European Parliament is a real parliament and hence if it is from that point of view safe to give it a taxing power (cp. Bustin 1972; Klaus 2009).

[7] See the ongoing Better Regulation project initiated by the European Commission in 2001 (http://ec.europa.eu/governance/better_regulation/transp_eu_law_en.htm).

[8] At present, the by the EU most preferred EU tax is a (FTT). Of a FTT, however, it is unclear who in the end does pay and it does not create a direct visible bond between the EU and the citizens. It is chosen, as to be expected, with an ad hoc argument: to let the financial sector pay for its part in causing the financial crises in 2008.

[9] It is also fair to say that the EU shows courage. With an EU tax, citizens have to pay directly to the Union. For centuries the ultimate goal and wisdom of governments was to collect taxes from its citizens as invisible as possible. Indirect taxes not direct taxes were to be preferred. The current financing represents the old ideal. As said before, customs duties provide 15% of the budget and the remainder roughly comes from direct contributions of the Member States. The contribution depends on the Gross Domestic Product of the Member State. Both revenues are unrelated to daily life.

[10] The governments of the Member States are still in charge, and do get the gains, of the production of euro coins, the other form of currency in circulation.

[11] This estimate would be in line with a recent estimate for the seigniorage given by The Bank of Canada (2010) (cp. Neumann 1992). In Canada, for the most commonly used 20-dollar bill, the revenues minus all the costs, is about 95 dollar cents each year. This is also a return of about 4 percent. For the Union this equals about a quarter of the EU budget. The low estimates of the European Commission (2011b) of seigniorage as supplying only a small part of the EU budget are, first, the result of looking at the present situation of exceptional low interest rates (compare note 4) and, second, not taking into account the seigniorage of those Member States who are not yet a part of the eurozone (compare note 5).

[12] Compare note 3.

[13] See, e.g., what would be the case if some of the other proposed EU taxes would be introduced. For then what to do with the difference in the quality of national tax collection? In some countries no doubt the part of the, e.g., VAT belonging to the EU would be collected, but in other countries this would certainly not be the case. Some EU citizens would pay and others would not.

[14] A legal point to be taken care of is that the European Court of Auditors must be able to audit the contribution of the NCBs and the ECB to the European Union. An option they do not have at present.

[15] It is of course another thing to maintain that this already did happen. In helping Member States with their debt the ECB is said to have crossed the line between monetary and fiscal policy (Ruparel and Persson 2011).

[16] It is of course another thing to maintain that these safeguards are working all of the times. In helping Member States with their debt the ECB is said to have crossed the line between monetary and fiscal policy (Ruparel and Persson 2011).

[17] It is emphasized that this paper looks at seigniorage as a new own resource for the EU. It does not look at the gains and losses Member States incur when introducing the euro. For estimates thereof see e.g. Gros 2004; Heinemann et al. 2008; Sinn and Feist 1997, 2000; cp. Bogetić 1999; Hansen and King 2007).

[18] Every Member State is obliged to join the eurozone. Till now all new members have to join the eurozone when ready for it. Only England and Denmark do have an opt-out option, which until now they do use.

[19] In general Goulard and Nava (2002) do estimate the revenues of seigniorage between 0.2 and 0.3 percent of the GNP of the Union.

[20] The whole discussion of EU taxes is closely linked to the battle between the extremes of those want to create the European Union as a super state and those who see the Union as no more than a free trade area (Begg 2011; Mutén 2001).