



Universiteit
Leiden
The Netherlands

Parallel enforcement of international cartels and its impact on the proportionality of overall punishment

Huizing, P.J.F.

Citation

Huizing, P. J. F. (2021, March 10). *Parallel enforcement of international cartels and its impact on the proportionality of overall punishment*. Retrieved from <https://hdl.handle.net/1887/3149355>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3149355>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/3149355> holds various files of this Leiden University dissertation.

Author: Huizing, P.J.F.

Title: Parallel enforcement of international cartels and its impact on the proportionality of overall punishment

Issue date: 2021-03-10

2. CHAPTER 2: A QUANTITATIVE INTRODUCTION TO PARALLEL CARTEL ENFORCEMENT

This chapter is based on the article 'Parallel enforcement of global cartels: facts & figures', 4 European Competition and Regulatory Law Review 2, 2020.

2.1 Introduction

Globalisation has expanded the geographic scope of economic activity, turning national or regional markets into global ones. This development has not left cartel conduct unaffected. Where competition is increasingly faced across borders and even continents, incentives and attempts to restrict this competition seem to travel along with it. It is hence not surprising that also worldwide markets are regularly found to be impacted by collusion between competitors. What is unique about global cartels is the widespread harm that they can cause within a great number of different jurisdictions. Preventing and punishing such harm is a concern shared across the globe. But given the absence of any international body targeting worldwide cartel conduct, global cartel enforcement is still characterised by multiple authorities acting in parallel, each safeguarding its own economic interests.

This chapter aims to provide a quantitative insight into the current state of the parallel jurisdictional enforcement of global cartels and how this has evolved over the past few decades. This insight is fundamental for a good understanding of the scope of the central issue researched in this dissertation. It therefore forms a good starting point for the analysis in the following chapters which focuses on the origins of overlapping enforcement and its implications for the proportionality of cartel fines.

A robust and meaningful assessment of this evolution relies on hard numbers, for which I have mainly relied on the comprehensive data set on Private International Cartels (PIC)¹ collected by Professor Connor and the International cartels database² published by the Organisation for Economic Cooperation and Development (OECD). This data can provide a quantitative insight into the changing nature of the fight against global cartels, revealing the extent to which more and more authorities are entering the arena, imposing increasingly severe fines.

Before analysing the data on the global cartels identified in this chapter, the next section first describes the methodology underlying this analysis. It sets out my definition of a 'global cartel' and explains how I have arrived at the list of 41 global cartels subject to public enforcement in the past thirty years. The chapter then describes several key features of the identified cartels, before turning to the analysis of the numbers of different authorities imposing fines for the same global cartel and the combined fine levels resulting from this parallel enforcement. The final part of this chapter looks at the level of international coordination of penalties and discusses the relevant developments in this area.

2.2 Defining and Identifying 'Global Cartels'

Collecting data on the enforcement of global cartels starts with a basic question: *what is a global cartel?* A cartel is generally understood to be an agreement or concerted practice between competitors with the aim to coordinate their competitive behaviour and/or influence competitive conditions, for example by fixing prices, restricting output or sharing markets.³ Connor has applied two distinguishing

¹ John Connor, Private International Cartels Full Data 2012-4-13 2012-1 Edition (2017), Purdue University Research Repository, doi:10.4231/R7GFORPJ.

² OECD International Cartels Database (2019) <https://qdd.oecd.org/subject.aspx?Subject=OECD_HIC>.

³ The European Commission refers to 'agreements and/or concerted practices between two or more competitors aimed at coordinating their competitive behaviour on the market and/or influencing the relevant parameters of competition through practices such as the fixing of purchase or selling prices or other trading conditions, the allocation of production or sales quotas, the sharing of markets including bid-rigging, restrictions of imports or exports and/or anti-competitive actions against other competitors'. Commission Notice on Immunity from Fines and Reduction of Fines in Cartel Cases [2006] OJ 298/11, para 1. The OECD similarly defines 'hard core cartels' as 'anticompetitive agreements, concerted practices or arrangements by actual or potential competitors to agree on prices, make rigged bids (collusive tenders), establish output restrictions or quotas, or share or divide markets by, for example, allocating customers, suppliers, territories, or lines of

qualifications to this general definition in determining the scope of his cartel database. First, a focus on 'private' cartels as opposed to cartels protected by government sovereignty or international treaties.⁴ Second, a focus on 'international' cartels as opposed to cartels consisting of participants each having their headquarters, residency, or nationality within the jurisdiction of the investigating authority.⁵

But when can a private international cartel be considered 'global' in scope? In his database, Connor qualifies cartels as global if they fixed or attempted to fix prices on at least two continents.⁶ This hence includes cartels that have affected (parts of) North America and Europe without affecting⁷ Asian or other markets.⁸ As the focus of this chapter is on assessing the number of different authorities around the world imposing fines for the same cartel, including cartels merely affecting two continents would distort the analysis. I have therefore adopted a more narrow definition of global cartels. Following Beyer⁹, I consider global cartels to be cartels whose coordinated conduct affects most, if not all, sales of the affected products or services worldwide. This captures cartels where the scope of the relevant geographic market is worldwide and where cartelists have fixed or have attempted to fix the global prices of their supplies. It also includes cartels where the relevant geographic markets are not worldwide but where cartel agreements span across the different regional markets.

Limited availability of cartel sales data makes it difficult to identify those cartels that have a global coverage. Cases where authorities explicitly refer to the worldwide scope of a conspiracy are rare. Often, authorities are hesitant to make statements on the precise geographic scope of a cartel beyond their own territory.¹⁰ Enforcement of the same cartel in several jurisdictions around the world can be a good indicator of the cartel's worldwide scope. But identifying global cartels purely on this basis would result in false negatives simply because the cartels may not be sanctioned in all the jurisdictions or even continents that they are affecting. Instead, this chapter has relied on Connor's data on affected commerce as a starting point for qualifying a cartel as global.¹¹ Where Connor has found commerce to have been affected in each of (i) North America, (ii) Europe and (iii) the rest of the world (ROW), I have considered the cartel to have a worldwide scope unless there are clear indications to the contrary.¹² For example references in authority decisions pointing at a cartel's limited geographic scope. Conversely, where Connor has indicated that no commerce was affected in (i) North America, (ii) Europe and/or (iii) ROW, I have considered the cartel not to have a worldwide scope unless there are clear indications that it did.¹³

commerce'. OECD, Recommendation of the Council Concerning Effective Action Against Hard Core Cartels (2 July 2019) OECD/LEGAL/0452.

⁴ John Connor, 'The Private International Cartels (PIC) Data Set: Guide and Summary Statistics, 1990-July 2016 (Revised 2nd Edition)' (9 August 2016) 4 <<https://ssrn.com/abstract=2821254>>.

⁵ *ibid* 3-4.

⁶ *ibid* 4. For this purpose, Connor has relied on its own estimates of the geographic scope of affected commerce, taking either directly from authority or court documents or estimated on the basis of industry reports or other business and legal resources. *ibid* 14-15.

⁷ Where this chapter refers to cartels 'affecting' certain markets and jurisdictions, it is meant to include cartels for which no actual effects were demonstrated (eg as is the practice in the EU for cartels qualified as infringements 'by object'. Also, it does not imply the broad application of a particular jurisdictional test (eg implementation or qualified effects) but relies on the demonstration of the cartel's existence and scope in accordance with the applicable test of the relevant jurisdiction(s).

⁸ Examples from Connor's PIC database include the *Paraffin wax* cartel, the *Stamp auctions* cartel, the *Shipping TACA (Trans-Atlantic Conference Agreement)* cartel and the *Acrylic glass* cartel. Each of these cartels is indicated in the database as having no ROW affected commerce, ie outside of North America and Europe.

⁹ John C. Beyer, 'Are Global Cartels More Effective Than "National" Cartels?' (14 January 2010) 1 <<https://ec.europa.eu/competition/antitrust/actionsdamages/beyer.pdf>>.

¹⁰ This results in references to cartels affecting commerce "in the United States and elsewhere" or cartels having a geographic scope "at least" covering the EEA. Cartel defendants may also claim an alleged geographic scope beyond the relevant jurisdiction as being confidential (see eg the European Commission's decision in *Fasteners* (Case COMP/39.168) [2009] OJ C 47/8, para 514).

¹¹ Connor explains his methodology for estimating the affected commerce as follows: 'Data on affected sales for a year or more are sometimes fully revealed in court or commission decisions; the EC decisions are especially important sources of the more precise sales data. Many other estimates were created from the annual sales revealed in an authority's decision or press release; combined with the dates of collusion, a reasonably accurate total affected sales figure can be computed. Without such information, if the industry description was clear, standard business-research sources of industry size were obtained.' John Connor, 'The Private International Cartels (PIC) Data Set' (n 4) 14.

¹² Examples of cartels that I have dismissed on this basis include the *Sherry* cartel, *Auction houses* and the *Insurance, commercial, brokerage fees* cartel.

¹³ This includes the *Aluminium fluoride* cartel, which according to the European Commission had a worldwide geographic scope.

The publicly available version of the Connor PIC database covers the period from 1990 to 2012.¹⁴ To identify global cartels for the period after 2012, I have received the assistance of Professor Connor and relied on the OECD's International cartels database, annual reports submitted to the OECD by competition authorities, published cartel decisions and other public sources.¹⁵ I have chosen to limit the analysis to global cartels discovered¹⁶ before 2018 given the likelihood that global cartels discovered thereafter (eg the *Hard disk drive suspension* cartel¹⁷) will still be subject to enforcement in additional jurisdictions.

In compiling the list of global cartels fined in the last three decades, I have chosen to count so-called 'supercartels' (*Vitamins, Auto Parts, Interest rate derivatives & Forex*)¹⁸ and other closely related cartels¹⁹ as a single global cartel in the analysis. This ignores the fact that they may comprise multiple, distinguishable underlying cartels focusing on different products or markets. But membership of these underlying cartels is often overlapping. More importantly, the discovery and punishment of one underlying cartel often results in the enforcement of other related cartels. Counting each underlying cartel separately would weigh heavily in the analysis, while not actually reflecting unique instances of parallel enforcement of global cartels. Qualifying the interrelated cartels as a single global cartel also distorts the assessment to some extent. Still, I consider this to be the better alternative. Throughout this chapter I have made notes on the way in which data regarding super-cartels was included in the assessment.

Based on the methodology described above, I have identified 41 global cartels that were discovered before 2018 and that were subject to public enforcement through monetary penalties in the period from the beginning of 1990 until the end of 2019. These cartels are listed in Table 1 below, sorted by year of discovery.

Table 1: List of fined global cartels

1.	Industrial diamonds	15.	Monochloroacetic acid	29.	TFT-LCD
2.	Citric acid	16.	Magnetic iron oxide powder	30.	Marine hoses
3.	Lysine	17.	Fasteners	31.	Cathode ray tubes
4.	Sodium gluconate	18.	Carbon cathode block	32.	Freight forwarders
5.	Graphite electrodes	19.	DRAMs	33.	Memory chips for smart cards
6.	Heavy-lift marine	20.	Chloroprene synthetic rubber	34.	High voltage power cables
7.	Sorbates	21.	Rubber processing chemicals	35.	Refrigeration compressors
8.	Vitamins	22.	Nitrile synthetic rubber	36.	Optical disk drives
9.	Organic peroxides	23.	Parcel tankers	37.	Auto parts
10.	Soda ash	24.	Plastic additives	38.	Interest rate derivatives & Forex
11.	Methionine	25.	Hydrogen peroxide	39.	Rechargeable batteries
12.	Specialty graphite	26.	Gas-insulated switchgear	40.	Maritime car carriers
13.	Methylglucamine	27.	Aluminium fluoride	41.	Capacitors

¹⁴ Global cartels have existed since long before 1990. Connor refers to the 1862 French-Belgian zinc global export cartel and the 1887 Secrétan copper syndicate export cartel as early examples. John Connor, 'Cartel Overcharges' (March 2014) *The Law and Economics of Class Actions*, 26 *Research in Law and Economics* 284.

¹⁵ This includes the websites of competition authorities, Shearman & Sterling LLP's Cartel Digest, MLex, Global Competition Review and websites of news agencies.

¹⁶ Relying on the date of authority press releases confirming the existence of a cartel investigation.

¹⁷ For the Hard disk drive suspension cartel, confirmed by the DOJ to have a global scope, fines have thus far been imposed in the US and Japan, with at least Brazil's CADE still investigating the matter.

¹⁸ Connor has used the term 'supercartel' to define cartels that (1) are global in scope and (2) have a large number of distinct products with partially overlapping corporate membership, and (3) direct their price fixing at customers in one vertical production-distribution channel. John Connor, 'Is Auto Parts Evolving into a Supercartel?' (28 August 2013) AAI Working Paper No. 13-04 <<https://www.antitrustinstitute.org/work-product/aai-working-paper-no-13-06-is-auto-parts-evolving-into-a-supercartel/>>. In contrast to Connor, I have limited the scope of the Banking and Finance supercartel to only Interest rate derivatives & Forex (including the underlying cartels related to Euribor, USD LIBOR, CHF LIBOR, CHF Spread, JPY LIBOR, Euroyen TIBOR, and the two Forex trading cartels 'Three way banana split' and 'Essex express').

¹⁹ Such as *Freight forwarders* (NES, AMS, CAF, PSS), *Cathode ray tubes* (colour picture tubes, colour display tubes), *Plastic additives* (tin stabilisers, ESBO/esters heat stabilisers), *Specialty graphite* (isostatic, extruded), *Heavy-lift marine* (construction, transport).

14.	MSG and nucleotides	28.	Air cargo		
-----	---------------------	-----	-----------	--	--

Sources: Connor's PIC data set, OECD's International cartels database, own research.

2.3 General Overview of the Global Cartels

The databases of Connor and the OECD, complemented with additional data collected by this author, allow for some novel insights into the nature of the 41 identified global cartels. This comparison reveals that, amongst themselves, global cartels vary considerably in respect of their basic features, such as the type of cartel behaviour, the affected industries, the number of companies fined, their nationality and their combined market share, and the cartels' duration.

A. Type of Cartel Behaviour²⁰

For eight of the 41 global cartels, the cartel conduct primarily concerned bid rigging. All other global cartels had price fixing as a key feature, including one in the form of benchmark manipulation influencing a price component (*Interest rate derivatives & Forex*). Out of the 33 cartels not primarily concerning bid rigging, information exchange is explicitly mentioned as a separate element of the illegal conduct for eighteen cartels. Quota setting or limitation of production is mentioned as a feature for twelve global cartels. The number of global cartels involving a form of market or customer allocation is also twelve. Seven global cartels combine all the elements of (i) price fixing, (ii) quota setting and (iii) market or customer allocation.

B. Affected industries²¹

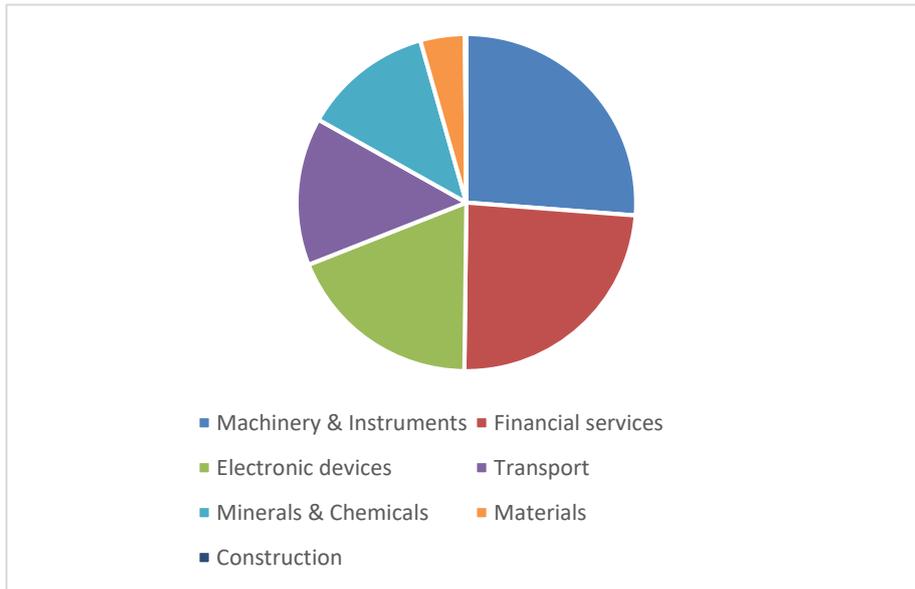
Based on number of global cartels, the Minerals & Chemicals industry by far delivers the highest number (seventeen). This is followed by the manufacturing of Electronic Devices (seven), Materials (six), Machinery & Industry (five) and Transport (five).²² The remaining industries are Financial Services (one) and Construction (one). A more balanced distribution across industries appears if one takes into account the cartels' fine levels, as shown in Graph 1 below. This is largely due to the very large fines imposed in the Transport (*Air cargo, Maritime car carriers*) and Financial Services industries (*Interest rate derivatives & Forex*).

²⁰ Connor's and the OECD's data sets indicate whether a cartel primarily concerned bid rigging, which indications I have followed. For the other elements of cartel behaviour I have relied on the description of the cartel activities given by the relevant authorities.

²¹ The categorisation by industry is mostly based on the economic sector indication used by the European Commission (NACE), grouped into broader categories.

²² For the purpose of the industry categorisation, the *Auto parts* cartel is counted as one global cartel in the industry for the manufacturing of Electronic Devices.

Graph 1: Industries affected by the 41 global cartels, weighted by fine levels



Sources: Connor's PIC data set, OECD's International cartels database, own research.

C. Number and nationality of cartel members fined²³

The average number of independent undertakings²⁴ fined per global cartel and per authority is 4.0. There are five cartels where only one undertaking was fined, and eleven cartels with on average more than five fined participants. The *Air cargo* cartel has the highest average number of fined cartel members across all prosecuting authorities, with on average ten cartel members being fined by ten authorities. One of these authorities, the US Department of Justice (DOJ), imposed fines on nineteen different airlines for their involvement in the cartel. Still, this number is dwarfed by the record number of undertakings targeted by the DOJ as part of the *Auto parts* investigations: 46.²⁵

A key feature of modern cartel enforcement is leniency, i.e. the ability to obtain immunity or a fine reduction in exchange for revealing a cartel's existence. Leniency programmes have greatly enhanced the success rates of authorities in disrupting, detecting and punishing cartel behaviour. This is confirmed by the data on global cartels. Immunity was granted in at least one jurisdiction for all but three of the 41 global cartels.²⁶ The three exceptions were all discovered in the 1990s.²⁷

For the 41 global cartels combined, authorities have penalised undertakings of at least 37 different nationalities. Of the more than one thousand individual penalties imposed by the various authorities, Japanese companies account for circa 39%.²⁸ At a distant second and third place are US and German companies, each representing circa 10% of the number of individual fines received. Other prominent

²³ The number of cartel members is based only on the number of independent undertakings, i.e. not separately counting subsidiaries. Only fined undertakings are included, hence excluding companies that have been granted immunity. Cartel facilitators are also excluded. For each cartel, the number of undertakings fined is based on the average number of companies fined by the individual authorities. *Auto parts* is excluded in the calculations of the average number of companies fined per cartel given the very large number of underlying cartels and the correspondingly large number of different cartel participants fined. The nationality is that of the ultimate group parent, or in the case of joint ventures the nationality of that entity. The main source for the number and nationality of fined companies is Connor's PIC data set, complemented with my own assessment of the relevant decisions.

²⁴ In line with the EU concept of an undertaking, the analysis has focused on corporate groups as single economic units, i.e. not separately counting subsidiaries.

²⁵ DOJ, 'Japanese Auto Parts Company Pleads Guilty to Antitrust Conspiracy Involving Steel Tubes' (31 May 2018) <<https://www.justice.gov/opa/pr/japanese-auto-parts-company-pleads-guilty-antitrust-conspiracy-involving-steel-tubes>>.

²⁶ Based on Connor's PIC data set and the decisions of relevant authorities, mainly those of the European Commission which is transparent in respect of the company that has been granted immunity.

²⁷ These are *Industrial diamonds* in 1994, *Citric acid* in 1995 and *Soda ash* in 1999.

²⁸ For *Auto parts*, I have relied on the data from Connor's article 'Twilight of Prosecutions of the Global Auto-Parts Cartels' (9 July 2019) 22 <<https://ssrn.com/abstract=3456279>>.

nationalities are France (9%), Korea (5%), Switzerland (3%), the UK (3%), Taiwan (3%) and the Netherlands (3%).

*D. Combined market shares*²⁹

Estimates on the combined share of the global market represented by the members of the cartel is available for 34 of the 41 global cartels. This data shows that on average, the combined global market share is circa 78%. For two cartels (*Lysine, Methylglucamine*) all global market players were involved. For ten other cartels, over 90% of the market was represented. In only four global cartels was the combined market share less than 50%: *Soda ash* (25%), *Air cargo* (34%), *Freight forwarders* (41%) and *Memory chips for smart cards* (48%).

*E. Duration*³⁰

The duration of the 41 global cartels widely varies, from just six months (*Aluminum fluoride*) to almost thirty years (*Organic peroxides*). Looking at the longest duration found by one of the enforcing authorities, eleven other global cartels have lasted for ten years or longer: *Marine hoses* (253 months), *Sorbates* (214 months), *Gas-insulated switchgear* (204 months), *Capacitors* (204 months), *Maritime car carriers* (188 months), *Monochloroacetic acid* (187 months), *Methionine* (156 months), *Refrigeration compressors* (144 months), *Plastic additives* (134 months), *Cathode ray tubes* (120 months) and *High voltage power cables* (120 months³¹). The average duration for all 41 global cartels is circa 89 months, i.e. over seven years.³²

2.4 Parallel Enforcement of Global Cartels

The data on global cartels shows a remarkable growth in the number of different enforcing authorities. For the 25 cartels discovered between 1994 and 2004, the average number of different authorities imposing fines for the same cartel is 2.6. No jurisdiction other than the US, Canada and the EU has sanctioned more than three of these 25 cartels. The average for the sixteen global cartels discovered in 2004 or thereafter is 5.9, with a much wider group of authorities imposing penalties. Thus far, seventeen jurisdictions have imposed fines for one or more of the 41 global cartels.³³

The *Auto parts* cartel holds the record in parallel enforcement with twelve different authorities imposing fines, followed by *Maritime car carriers* (eleven) and *Air Cargo* (ten). As shown in Table 2 below, eight other global cartels were the subject of fines in five or more jurisdictions.

Table 2: List of global cartels fined in five or more different jurisdictions

Cartel	Number of jurisdictions
Auto parts	12
Maritime car carriers	11
Air cargo	10
Freight forwarders	8
Interest rate derivatives & Forex	7
Capacitors	7

²⁹ The data on the combined global markets shares is mostly taken from Connor's PIC data set.

³⁰ The data on the duration is mostly based on Connor's PIC data set, which relies on the longest proven period. For cartels not covered by Connor's PIC data set, I have also relied on the longest period found by individual authorities. In the case of multiple underlying cartels as in *Auto parts, Vitamins or Interest rate derivatives & Forex*, the average duration of the underlying cartels was used.

³¹ Brazil's CADE has alleged that the *High voltage power cables* cartel started in the early 1990s, but I have instead relied on the duration found by the European Commission.

³² As the calculations on duration are based on the cartels' longest proven period, the duration for a cartel found by individual authorities may well be shorter. Taking not the longest proven period for these cartels but the average duration found by all prosecuting authorities, the average duration for the 41 global cartels will hence also be shorter.

³³ The numbers in this section exclude the Czech Republic, Hungary and Slovakia, which later joined the EU.

Refrigeration compressors	7
TFT-LCD	6
Marine hoses	6
Vitamins	6
Cathode ray tubes	5

Sources: Connor's PIC data set, OECD's International cartels database, own research.

The data presented above only covers authorities imposing fines on the members of a cartel, hence excluding investigations not resulting in a corporate fine.³⁴ This means that the actual number of different authorities that participants of the global cartel were faced with may be substantially higher. For example, while 'only' seven different competition authorities have imposed fines for the *Interest rate derivatives & Forex* cartel, UBS is reported to have filed for leniency in respect of the Forex cartel in twice as many jurisdictions.³⁵

The US, Canada and the EU have long dominated the enforcement of global cartels. Only seven of the 25 global cartels discovered between 1994 and 2003 were penalised by one or more authorities other than the DOJ, the Canadian Competition Bureau or the European Commission. The DOJ and the European Commission are still the most active enforcers when looking at the period after 2004. But this period also shows the rise of other authorities, each pursuing more global cartels than the Competition Bureau has: Brazil's CADE, Japan's JFTC, Korea's KFTC, Australia's ACCC, New Zealand's Commerce Commission and South Africa's Competition Commission. As Connor has noted, 'the last geographic piece of the cartel-enforcement puzzle is now in place'.³⁶ Table 3 below shows the number of global cartels pursued by each individual jurisdiction, as well as the year in which the first of the 41 global cartels was fined.

Table 3: List of jurisdictions in which fines were imposed for the 41 global cartels

Jurisdiction	Number of global cartels fined	Year of first global cartel fine
European Union	35	2000
United States	33	1996
Canada	18	1998
Brazil	16	2007
Korea	10	2002
Japan	8	2008
Australia	7	2003
South Africa	6	2008
Mexico	5	1998
New Zealand	4	2008
Switzerland	3	2012
China	3	2013
Singapore	3	2013
Taiwan	2	2012
India	2	2015
Chile	2	2012
Peru	1	2018

³⁴ For example where authorities have issued warning or signed cease-and-desist agreement without imposing monetary penalties.

³⁵ John Connor, 'Big Bad Banks: Bid Rigging and Multilateral Market Manipulation' (5 May 2014) American Antitrust Institute Working Paper No. 14-04, 18 <<https://ssrn.com/abstract=2547682>>.

³⁶ See Connor's article on the rise of cartel enforcement by authorities outside of Europe and North America: John Connor, 'The Rise of Anti-Cartel Enforcement in Africa, Asia, and Latin America' (September 2015) 1 Competition Policy International: Antitrust Chronicle, 9 <<http://ssrn.com/abstract=2711972>>.

Sources: Connor's PIC data set, OECD's International cartels database, own research.

During the last decade, the list of enforcers of global cartels has grown from ten to seventeen. The appearance of jurisdictions such as Peru and Chile on the world stage confirms the trend of increasing parallel enforcement of global cartels. Still, the numbers of different authorities pursuing the same global cartel appear relatively low considering that global cartels will generally affect a large share of the world's economies. Several of the top-20 economies are still missing in Table 3 (Russia, Indonesia, Saudi Arabia and Turkey), with China and India playing a minor role compared to the size of their economies. This is not to say that the competition authorities in these countries are not actively pursuing cartels, but merely that they have not played a significant role in the enforcement of global cartels.

The limited number of authorities having fined one or more global cartels will in part be due to the fact that robust competition laws and enforcement frameworks are still in their infancy in many countries in the world. But there can be a variety of other reasons for why certain global cartels were not fined in a particular jurisdiction:

- It may be that the commerce affected by a global cartel is of insignificant importance in a jurisdiction that would otherwise be inclined to pursue the conduct. A good example is the decision of Singapore's Competition Commission not to pick up a particular *Auto Parts* investigation even after receiving a leniency application. The authority did not consider the cartel's impact to be sufficiently direct to warrant prosecution, referring to the lack of a car manufacturing industry in Singapore.³⁷
- There are certain cartels that have explicitly limited the geographic scope of the cartel arrangements. In *Gas-insulated switchgear* for example, Japanese and European companies agreed on a worldwide allocation of projects, with the exception of projects in the US, Canada and for some time also Russia and China.³⁸
- There are examples where authorities have investigated a global cartel previously penalised by other authorities but where they have found insufficient evidence of collusion in respect of their own jurisdiction. The *Lysine* cartel was investigated in Brazil for twelve years before the case was dismissed without imposing a penalty.³⁹ In *Parcel tankers*, investigations had been launched by the European Commission, Korea's KFTC and Australia's ACCC, but all were dismissed for lack of evidence.⁴⁰
- Despite increased levels of cross-border information sharing about suspected cartels, authorities at times may still lack sufficiently reliable information to even start an investigation, or to do so in time. In *Gas-insulated switchgear*, the European Commission reportedly forgot to notify its Japanese counterpart that it was investigating the cartel.⁴¹ The JFTC only found out about the cartel's existence with the public announcement of the fines imposed by the European Commission, by which time it was too late to complete its own investigation before the expiry of the statute of limitations.
- Various other factors may also play a role, such as insufficient resources, a lack of investigative powers or alternative enforcement priorities.

2.5 Global Cartel Fine Levels

Apart from the increasing number of different authorities penalising the same cartel, the last three decades have also seen a clear rise in the level of fines imposed for global cartel conduct. For the 25 global cartels discovered between 1994 and 2003, the average combined fine level was USD 280

³⁷ Yonnex Li, 'Singapore Antitrust Regulator Gauges Local Impact in Leniency Cases, Chief Says' (April 6, 2017) *MLex*. The Competition Commission of Singapore did pursue and impose fines on one of the underlying Auto parts cartels, namely ball bearings.

³⁸ European Commission decision in *Gas-insulated switchgear* (Case COMP/38.899) [2008] OJ C 5/7, para 113, footnote 13.

³⁹ Rachel Hall, 'CADE Dismisses Lysine Cartel Case' (25 March 2012) <<https://www.machadomeyer.com.br/en/press-ij/cade-dismisses-lysine-cartel-case>>.

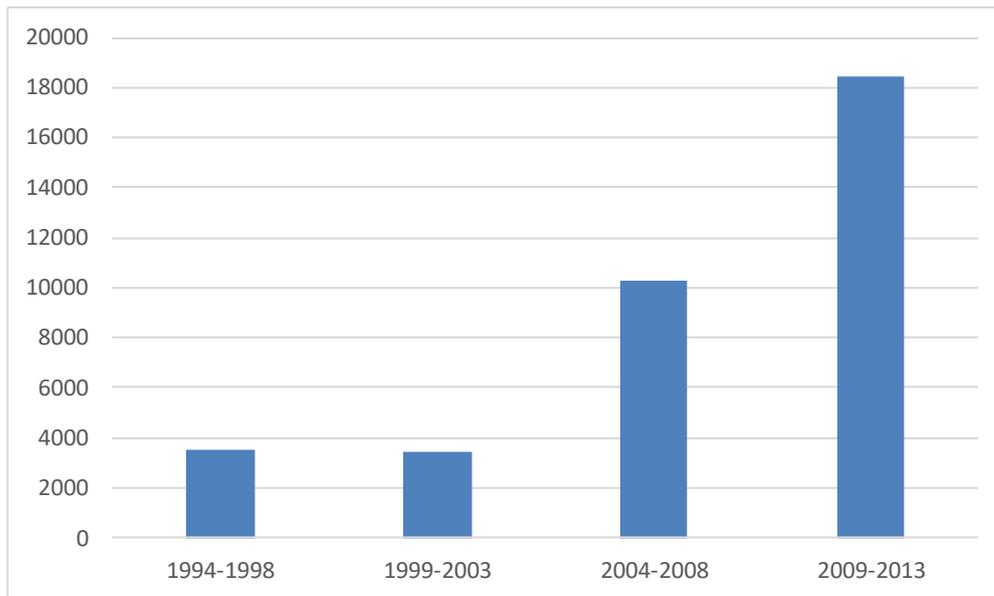
⁴⁰ Based on annual reports and other SEC filings made by parcel tanker company Stolt-Nielsen.

⁴¹ Elaine Chow, 'EU Says It Left JFTC Out of Switchgear Cartel Loop' (14 April 2008) *Law360* <<https://www.law360.com/articles/53017/eu-says-it-left-jftc-out-of-switchgear-cartel-loop>>.

million per cartel. For the sixteen global cartels discovered between 2004 and 2018, the average combined fine amount is more than six times that amount, at almost USD 1,800 million.⁴² In total, the 41 global cartels were subject to a fine amount of over USD 35 billion.

Graph 2 below illustrates the increase in total fine amounts per five-year period, with fines being allocated to the year in which the global cartel was first discovered. More cartels were discovered in the first two periods (25) than in the latter two periods (sixteen), showing that the increase in fine levels is not caused by a higher rate of discovery of global cartels.

Graph 2: Combined fine levels for global cartels, allocated to the first year of discovery



Sources: Connor's PIC data set, OECD's International cartels database, own research.

Fine levels for individual global cartels range from USD 1 million (*Soda ash*) to USD 8,543 million (*Interest rate derivatives & Forex*). The average fine level per global cartel is USD 873 million, with the average fine level per global cartel per individual authority being USD 226 million. Table 4 below lists the nine global cartels with a combined fine amount exceeding USD 1 billion, also showing the number of authorities having fined the cartel.

⁴² Excluding the two supercartels *Auto parts* and *Interest rate derivatives & Forex*, the average fine per global cartel discovered since 2004 is USD 937 million, still more than three times the average for the global cartels discovered between 1994 and 2003.

Table 4: Global cartels listed by combined fine amount⁴³

Cartel	Combined fine amount (USDm)	Number of authorities fining the cartel ⁴⁴
Interest rate derivatives & Forex	8,543	7
Auto parts	7,105	12
Air cargo	3,307	10
TFT-LCD	2,521	6
Cathode ray tubes	2,053	5
Vitamins	1,871	6
Maritime car carriers	1,206	11
DRAMs	1,146	3
Gas-insulated switchgear	1,105	3

Sources: Connor's PIC data set, OECD's International cartels database, own research.

This list includes seven of the eleven global cartels that were subject to penalties in five or more jurisdictions. There is hence a significant overlap between the most widely and the most heavily targeted global cartels. But there are some heavily fined global cartels that were penalised by only three authorities (*DRAMs*, *Gas-insulated switchgear*). There are also some relatively less heavily fined cartels subject to fines in more than three jurisdictions, namely *Optical disk drives* (USD 160 million, four authorities) and *Marine hoses* (USD 237 million, six authorities).

The overall increase in fine levels imposed on global cartels can be linked to individual cartel regimes adopting more aggressive fining policies and practices. Studies by the International Competition Network (ICN) in 2008 and 2017 on the setting of cartel fines confirm that in many jurisdictions, fine levels have significantly increased over the years.⁴⁵

Penalties for global cartels are also pushed to higher levels as a result of the proliferation of different authorities pursuing these cartels. At the same time, the impact of the additional enforcers is limited by the relatively small fines often imposed by the more recently established regimes. The fines imposed by the DOJ and the European Commission account for more than 90% of the total fine amount imposed on global cartels.⁴⁶ Their average fine amount per global cartel is USD 344 million and USD 448 million, respectively. This is much higher than the average amount in other jurisdictions such as Japan (USD 62 million), Korea (USD 43 million), Brazil (USD 33 million), Australia (USD 29 million) and Canada (USD 11 million). These disparities in average fine amounts are largely explained by the large sizes of the US and EU markets relative to ROW economies. This is because a key element determining cartel fine levels is the prosecuting jurisdiction's value of commerce affected by the cartel (i.e. the relevant sales). Under most fining methodologies, cartel fines are closely related to the value of commerce.⁴⁷ It is hence not surprising for fine levels to be proportionately higher in those jurisdictions that constitute a larger share of the relevant global market. However, ROW fines relative to affected domestic sales have still been found to be substantially lower than those imposed in the US or EU.⁴⁸ Other considerations such as the maturity of competition law statutes and fining policies hence also appear to play a role.

⁴³ Only fines imposed, in whole or in part, by competition authorities are included, hence excluding fines individually imposed by financial regulators in the *Interest rate derivatives* cartel.

⁴⁴ The numbers exclude the Czech Republic, Hungary and Slovakia, which later joined the EU.

⁴⁵ ICN, Report to the 7th ICN Annual Conference, Setting of Fines for Cartels in ICN Jurisdictions (April 2008) 44; ICN, Report to the 16th ICN Annual Conference, Setting of Fines for Cartels in ICN Jurisdictions (2017) (May 2017) 57.

⁴⁶ Given the lack of data on the precise distribution of fines imposed for the underlying cartels in *Auto parts*, this cartel was not taken into account in the calculation of the distribution of total fines across different authorities and of the average fines per cartel per individual authority.

⁴⁷ ICN, Setting of Fines for Cartels in ICN Jurisdictions (2017) (n 45) 19-20.

⁴⁸ Connor, 'The Rise of Anti-Cartel Enforcement in Africa, Asia, and Latin America' (n 33) 8. Connor also mentioned that for ROW authorities, there is a wide gap between fines imposed and fines actually collected.

2.6 International Coordination of Fines

Over the past few decades, global cartel enforcement – and competition law enforcement in general – is characterised by increasingly closer inter-agency cooperation. This is illustrated by the long lists of competition cooperation agreements signed by the European Commission and the DOJ since the mid-1990s.⁴⁹ More practically, it is demonstrated by the coordinated and simultaneous inspections that have been carried out by multiple authorities in several global cartel cases, including *Marine Hoses*, *Cathode ray tubes*, *Freight forwarders*, *High voltage power cables*, *Refrigeration compressors*, *Auto parts* and *Maritime car carriers*. Such international coordination of cartel enforcement is strongly supported by the advocacy of the International Competition Network (ICN) and the OECD.

While significant steps have been made to assist one another in the investigation of global cartels, the sanctioning of cartels is still very much a matter that authorities leave to themselves. Cartel fines are determined by individual authorities or courts in accordance with national fining methodologies. These methodologies generally do not consider enforcement of the same conduct elsewhere to be a relevant factor for determining the level of the fine.⁵⁰ The main reason for this has often been repeated by the European Commission: fines imposed by other authorities only concern the anti-competitive effects produced in the territory of their own jurisdictions.⁵¹

In the absence of international coordination of cartel fines, global cartel sanctioning simply entails the piling on of multiple independent cartel penalties, each merely taking into account national punishment considerations. Some may argue that this should not be an issue, because authorities do not need to be bothered with foreign enforcement as long as they are not overstepping their own jurisdictional boundaries. But this approach can be challenged from the perspective of overall proportionality of punishment.⁵² For cartel offenders, each individual fine will add to the overall deterrence and retribution targeting the same cross-border conduct. It is therefore difficult to maintain that overall proportionate punishment can be achieved by simply piling on national fines, without assessing the extent to which sanctioning objectives have already been met by foreign penalties.

There are more and more signs indicating that the international cartel enforcement community is willing to move away from a purely national and isolated approach to fining international cartel conduct:

- First, there are cases where authorities have made unilateral adjustments to the fine calculation to avoid overlapping punishment on an international level through double counting of relevant sales.⁵³ In *Air cargo* for example, the European Commission applied a 50 per cent reduction on sales between the European Economic Area (EEA) and third countries to take into account the fact that on these routes part of the harm of the cartel fell outside the EEA.⁵⁴ While one can argue that this merely ensures that only effects felt in the EEA are sanctioned, it does reveal self-restraint in identifying the value of sales to which the infringement directly or indirectly relates.⁵⁵
- Second, there are a few examples of authorities and courts actually taking into account penalties already imposed elsewhere in setting their own fines. In *TFT-LCD*, the US District Court in San Francisco set the fine for AU Optronics at USD 500 million – half the figure requested by the DOJ – *inter alia* because of the fines that the company had already paid and

⁴⁹ Available at <<https://ec.europa.eu/competition/international/bilateral/>> and <<https://www.justice.gov/atr/antitrust-cooperation-agreements>>.
⁵⁰ ICN, *Setting of Fines for Cartels in ICN Jurisdictions* (April 2008) (n 45) 32.

⁵¹ See eg European Commission decision 2001/418/EC in *Lysine* (Case COMP/36.545/F3) [2001] OJ L 152/24, para 311.

⁵² See Chapter 6 of this dissertation.

⁵³ John Terzaken and Pieter Huizing, 'How Much Is Too Much? A Call For Global Principles to Guide The Punishment Of International Cartels' (2013) 27 *ABA Antitrust Magazine* 2, 55.

⁵⁴ European Commission decision of 9 November 2010 in *Air cargo* (Case COMP/39258), para 1217.

⁵⁵ Especially in comparison with the DOJ, which had tackled the issue by calculating the volume of commerce on the basis of (i) outbound shipments and (ii) an upward adjustment for the harm to inbound shipments. The DOJ did not acknowledge that fully including outbound and inbound sales would have been disproportionate. Instead, the approach was justified in reference to the desire to avoid the complexities of litigating the issues. Terzaken and Huizing (n 53) 55.

would still be paying.⁵⁶ In *Maritime car carriers*, the Federal Court of Australia considered the penalties previously imposed abroad to be a mitigating circumstance, while noting that these penalties generally only concerned the cartel conduct insofar as it impacted those foreign jurisdictions.⁵⁷ The same court had previously followed the ACCC in taking into account foreign penalties in *Air cargo*.⁵⁸

- Third, authorities may defer prosecution altogether in view of penalties already imposed in other jurisdictions. Brazil's CADE may for example close or choose not to open a case if the domestic effects were already targeted by penalties imposed in other jurisdictions.⁵⁹
- Fourth, there are some exceptional examples of actual fine coordination between different authorities rather than mere unilateral deference. In *Auto parts*, the Canadian Competition Bureau agreed to abandon further enforcement against a producer of automotive body sealing products because the US fine took into account both the US and the Canadian affected commerce. Therefore, the Competition Bureau considered the single fine imposed in the US to be an effective remedy also for its own jurisdiction. This outcome was reached following close coordination between the DOJ and the Competition Bureau.⁶⁰

These ad hoc attempts to recognise the broader context of global cartel enforcement are in line with increasingly louder voices calling for greater international coordination of cartel fines. In the past few years, such calls have been made by the International Bar Association⁶¹, the American Bar Association⁶², the Japanese Ministry of Economy, Trade and Industry⁶³, and several delegates to the OECD Roundtable on Cartels Involving Intermediate Goods⁶⁴. This advocacy appears to start to find its way into the fining policies of cartel enforcement regimes. In March 2018, the DOJ announced a new policy to address the concern of the 'piling on' of multiple fines imposed by different authorities for the same conduct.⁶⁵ The policy encourages DOJ officials to coordinate with other authorities seeking to resolve a case with a company for the same misconduct, and to evaluate whether multiple penalties serve the interests of justice in a particular case.

It is clear that inter-agency coordination aimed at reaching adequate and overall proportionate penalties for global cartel conduct is still in its infancy. This may still be the case for the foreseeable future, as authorities will not easily give up full prosecutorial discretion for the benefit of multilateral coordination. Willingness to do so may even diminish as a result of stronger political voices emphasizing strict interpretations of national sovereignty. Still, with greater numbers of authorities seeking to impose increasingly severe fines on the same overall cartel conduct, I expect the international enforcement community to face increasing pressure to enhance the international coordination of fines.

⁵⁶ Transcript of Proceedings, *United States v AU Optronics*, No 3:09-cr-00110-SI (N.D. Cal. 20 September 2012) 16.

⁵⁷ Summaries of the judgements of the Federal Court of Australia in *Commonwealth Director of Public Prosecutions v Nippon Yusen Kabushiki Kaisha* [2017] FCA 876 and *Commonwealth Director of Public Prosecutions v Kawasaki Kisen Kaisha Ltd* [2019] FCA 1170.

⁵⁸ See eg Federal Court of Australia, *Australian Competition and Consumer Commission v Qantas Airways Limited* [2008] FCA 1976, para 42.

⁵⁹ ICN, Setting of Fines for Cartels in ICN Jurisdictions (April 2008) (n 45) 32.

⁶⁰ DOJ, 'Nishikawa Agrees to Plead Guilty and Pay \$130 Million Criminal Fine for Fixing Prices of Automotive Parts' (20 July 2016) <<https://www.justice.gov/opa/pr/nishikawa-agrees-plead-guilty-and-pay-130-million-criminal-fine-fixing-prices-automotive>>.

⁶¹ IBA, comments on proposed update to the Antitrust Guidelines for International Enforcement and Cooperation (December 2016) 6 <<https://www.ibanet.org/Document/Default.aspx?DocumentUid=57AFCE72-2189-4E28-9758-DE17F7B64949>>.

⁶² ABA, comments on proposed update to the Antitrust Guidelines for International Enforcement and Cooperation (1 December 2016) 18-21 <<https://www.justice.gov/atr/page/file/915786/download>>.

⁶³ The Japanese Ministry conducted a study in the context of the 'growing concern about overlapping application of competition laws or imposition of multiple surcharges by several countries'. English summary of the METI Report on Research for Case Examples concerning the Implementation of Regulations on International Cartel Cases among Overseas Competition Regulatory Authorities (3 June 2016) <http://www.meti.go.jp/english/press/2016/0603_02.html>.

⁶⁴ The delegates highlighted 'the importance of taking into account fines or sanctioning decisions already imposed by other competition agencies to minimise concerns about the fairness and proportionality of fines levied in multi-jurisdictional cases'. OECD, Working Party No. 3 on Co-operation and Enforcement, Roundtable on Cartels Involving Intermediate Goods - Executive Summary (27 October 2015) 4 <[https://one.oecd.org/document/DAF/COMP/WP3/M\(2015\)2/ANN3/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/WP3/M(2015)2/ANN3/FINAL/en/pdf)>.

⁶⁵ DOJ, 'Deputy Attorney General Rod J. Rosenstein Delivers Remarks at the American Conference Institute's 20th Anniversary New York Conference on the Foreign Corrupt Practices Act' (9 May 2018) <<https://www.justice.gov/opa/speech/deputy-attorney-general-rod-j-rosenstein-delivers-remarks-american-conference-institutes>>.

2.7 Conclusion

This chapter has addressed the first research sub-question formulated in Section 1.2 of this dissertation: *What is the current state of parallel enforcement of international or global cartels? How has this evolved over time?* It has applied a quantitative approach, relying on two linked data sets of contemporary international cartels, along with other sources, to identify 41 cartels with global characteristics that have been subject to fines in the last thirty years.

The data shows that these cartels have widely diverging features. Some purely focus on price fixing while others include market sharing and output limitation. Some include only two or three participants, while others have more than ten. Some have lasted for less than two years while others have lasted for more than a decade. Some relate to distinct industrial or chemical products while others relate to global transport services or widely used components for consumer products.

What all global cartels have in common is that they have affected markets across the world. One may therefore expect most jurisdictions with established competition law regimes to jump on these cartels. But parallel enforcement of global cartels by more than a few authorities is a fairly recent phenomenon. For cartels discovered before 2004, it was quite unlikely for any authority outside of North America and Europe to impose fines. Since then, it is common that the conduct is targeted in parallel in more than five jurisdictions, sometimes even more than ten. Thus far, at least seventeen jurisdictions have penalised one or more global cartels. Only the DOJ and the European Commission have sanctioned more than half of the 41 global cartels. Most authorities have imposed fines for less than five global cartels. In addition, many jurisdictions have only recently entered the stage of global cartel enforcement. Still, there are major economies that have yet to show their willingness and capability to pursue global cartel conduct.

It is not surprising that along with the higher number of jurisdictions actively going after global cartels, fine levels have sharply increased. The average combined fine imposed by all pursuing authorities for global cartels discovered after 2004 is six times as high as that for global cartels discovered between 1994 and 2003. There have thus far been nine global cartels with a combined fine amount exceeding USD 1 billion. These fine levels are only partly explained by the piling on of multiple fines imposed by different authorities for the same conduct. They are also caused by more aggressive fining policies and by the large volumes of commerce being affected by the relevant cartel conduct.

The foregoing confirms a statement implicitly included in the main research question: the world is indeed characterised by increasingly widespread and active cartel enforcement.

This chapter has also explored part of the third sub-question of this dissertation: *Do authorities or courts take into account penalties imposed elsewhere for the same overall cartel?* It finds the increasingly crowded landscape of global cartel enforcement has set the stage for some forms of greater inter-agency coordination. Significant steps have already been made in respect of the investigative stage of cartel enforcement. But when it comes to the sanctioning of global cartels, authorities still act as if they prefer to maintain a purely national perspective. Observing prosecutions from the outside, attempts to coordinate the outcome of proceedings in order to reach an overall proportionate fine appear to be both ad hoc and rare.

