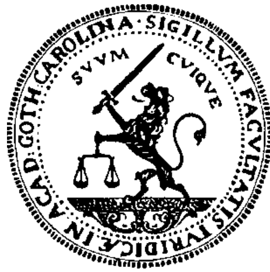

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Quantifying Competition Damages - EU Competition Law and the Right to Full Compensation

JURM02 Graduate Thesis

Graduate Thesis, Master of Laws Program
30 Higher Education Credits

Supervisor: Anneli Carlsson

Semester of Graduation: Spring 2019

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Summary

The European Union is a supranational cooperation between its Member States, and its main objective is a highly competitive internal market. Competition law is a vital tool in the protection of competition on the market. It is mainly enforced by the Commission. However, private enforcement through competition damages actions has become increasingly important. This development has resulted in a Directive, aiming to harmonize the conditions for bringing competition damages actions in the Member States.

Competition damages actions require a quantification of negative economic effects from distorted competition. Such effects, however, are typically difficult to estimate and attribute to the claimant. The Directive does not provide any harmonizing rules on the quantification of competition damages, and thus leaves it to the Member States to apply domestic rules governing the matter, as long as the principles of equivalence and effectiveness are respect. The Commission has issued a non-binding Practical Guide, containing methods and techniques for establishing a non-infringement scenario, with which the infringement scenario must be compared in order to quantify the damage. In the absence of binding EU law on the quantification of competition damages it is likely that national courts will seek guidance in the Practical Guide.

This thesis examines and evaluates whether the methods and techniques provided in the Practical Guide ensure the right to effectively claim and obtain full compensation for loss from competition law infringements in terms of economic inefficiencies from typical anticompetitive behavior.

It finds that, although the Practical Guide lists and explains a variety of different methods and techniques for quantifying competition damage, the appropriateness of any given method largely depends on certain conditions. These conditions include the availability of required data, the identification of relevant factors, which influence the economic variable in question, and, ultimately, the understanding of the market characteristics, which allows for making correct assumptions in economic modeling.

In conclusion, the methods and techniques in the Practical Guide do not ensure the right to effectively claim and obtain full compensation for loss from competition law infringements. Instead this depends on the given circumstances of the individual case. Consequently, competition damages actions as a means of competition law enforcement are not entirely effective. Nevertheless, there is an inherent problem in defining methods, which need to be generic enough to be applicable in any given case, and yet not too vague and complex to be applied practically.

Sammanfattning

Den Europeiska Unionen utgör ett överstatligt samarbete mellan medlemsstaterna och dess viktigaste mål är en konkurrenskraftig inre marknad. Konkurrensrätten utgör ett vitalt verktyg för EU:s upprätthållande av konkurrensen på marknaden och genomdrivs huvudsakligen av Kommissionen. Privata sanktionsmedel, särskilt konkurrensskadetalan, har emellertid fått ökad betydelse. Denna utveckling har resulterat i Konkurrensskadedirektivet, som syftar till att harmonisera förutsättningarna för att föra konkurrensskadetalan i de olika medlemsstaterna.

Konkurrensskadetalan innefattar beräkningen av negativa ekonomiska effekter till följd av konkurrensrättsliga intrång. Dessa effekter är dock typiskt sett svåra att uppskatta och tillskriva käranden. Direktivet innehåller inte några harmoniserande regler beträffande beräkningen av konkurrensrättslig skada, utan lämnar det åt medlemsstaterna att tillämpa sina inhemska regler, så länge som principerna om ändamålsenlighet och likvärdighet tillgodoses. Kommissionen har publicerat en icke-bindande Praktisk Guide som innehåller metoder och tekniker för att uppskatta ett kontrafaktiskt scenario utan intrång, med vilket intrångsscenariot bör jämföras för skadan ska kunna beräknas. I brist på bindande regler i EU-rätten rörande beräkningen av konkurrensrättslig skada är det troligt att nationella domstolar söker vägledning i den Praktiska Guiden.

Den här uppsatsen undersöker och utvärderar huruvida metoderna och teknikerna i den Praktiska Guiden garanterar rätten att kräva och utfå full ersättning för skada till följd av konkurrensrättsliga intrång i termer av ekonomiska ineffektiviteter från typiska konkurrensbegränsande beteenden.

Den finner att, även om den Praktiska Guiden listar och förklarar en mängd olika metoder och tekniker för att beräkna konkurrensrättslig skada, så är lämpligheten i en given metod starkt beroende av särskilda förutsättningar. Dessa inkluderar tillgängligheten av nödvändiga data, identifieringen av relevanta faktorer som påverkar den ekonomiska variabeln ifråga, och förståelsen för marknadens särdrag som tillåter en att göra korrekta antaganden i den ekonomiska modellen.

Avslutningsvis, kan konstateras att metoderna och teknikerna i den Praktiska Guiden inte garanterar rätten att kräva och utfå fullskalig ersättning för skada till följd av konkurrensrättsliga intrång. Istället beror denna rätt på förutsättningarna i det enskilda fallet. Följaktligen är konkurrensrättsliga skadeståndsmål inte helt effektiva som medel för upprätthållande av konkurrensrätten. Likväl finns det ett inneboende problem med att definiera metoder som måste vara allmängiltiga nog att kunna appliceras i det givna fallet men ändå inte för vaga eller komplexa för att praktiskt appliceras.

Preface

To Arvid

Abbreviations

Brexit	British exit from the European Union
CFREU	Charter of Fundamental Rights of the European Union
EC	European Community
ECJ	European Court of Justice
ECN	European Competition Network
et al	et alii, latin for “and others”
EU	European Union
NCA	National Competition Authority
SCP	Structure Concentration Paradigm
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
US	The United States of America

1 Introduction

1.1 Background

The European Union[1] is a collaboration, through which the Member States give up some of their own power, in order to achieve common objectives.[2] The core objective of the EU is arguably the internal market.[3] It is made up of a common market for all the Member States, with no internal frontiers and free movement of production factors within the EU.[4] The political model for the internal market is a highly competitive social market economy.[5]

Establishing the competition rules necessary for a functioning internal market falls under the exclusive competences of the EU.[6] The EU may, in other words, prohibit certain company behaviors, which are considered harmful to competition and the internal market. Competition law thus constitutes a vital tool in creating and working for a highly competitive internal market.

To ensure that EU competition laws are effective, there are different ways of enforcing them, including both public and private enforcement options. At the EU level it is the Commission that investigates, forbids and fines infringements that affect the internal market. In the recent years however, policy has shifted towards focusing increasingly on private enforcement options and moving them to a Member State level.[7]

Competition damages actions have particularly gained increased attention in the EU as a means of competition law enforcement. The absence of uniform rules within the EU has led to several initiatives, aiming at establishing a level and fair playing field for bringing such actions. This modernization process has resulted in a Directive[8], attempting at such harmonization.[9]

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[1] Hereinafter referred to as "EU".
[2] Article 1(1), Consolidated Version of the Treaty on European Union, 7.6.2016, OJ C 202/1. [Hereinafter referred to as "TEU"]
[3] Chalmers, Damian, Davies, Gareth, and Monti, Giorgio, *European Union Law: Texts and Cases,* Third Edition, Cambridge University Press, Cambridge, 2014*,* pp 668f.
[4] Article 26(2), Consolidated Version of the Treaty of the Functioning of the European Union 7.6.2016, OJ C202/1. [Hereinafter referred to as "TFEU"].
[5] Article 3(3), TEU.
[6] Article 3(1)(b), TFEU.
[7] Nikpay, Ali and Taylor, Deirdre (red.), *Faull & Nikpay: The EU Law of Competition*, Third Edition, Oxford University Press, Oxford, 2014, p 91f.
[8] Directive 2014/104/EU of the European Parliament and of the Council of 26 of November 2014 on Certain Rules Governing Actions for Damages Under National Law for Infringements of the Competition Law Provisions of the Member States and of the European Union, 5.12.2014, OJ L 349/1. [Hereinafter referred to as the "Directive"]
[9] Whish, Richard & Bailey, David, *Competition Law*, Ninth Edition, Oxford University Press, Oxford, 2018, p 307.

The Directive sets out procedural and substantive rules to ensure that anyone is able to effectively exercise the right to claim full compensation and obtain it, if they suffered harm caused by an infringement of competition law, throughout the EU.[10] Nevertheless, the underlying objective of the Directive is to ensure the effectiveness of EU competition law and hence the proper functioning of the internal market.[11]

In a competition damages action, the court must establish whether or not the claimant has suffered damage, caused by the defendant through a specific infringement of competition law. The damage consists of the claimant's total economic loss, including actual loss and loss of profit.[12] The court must then establish the size of the loss and a causality link between the loss and the infringement. In a so-called follow-on action*,* the infringement is already established, and the court must only establish the causation and the size or quantum of the loss.[13]

However, the quantification of competition damages is typically a complex matter. The reason for this is that the economic loss due to a competition law infringement generally is very difficult to estimate. On the one hand, estimating the loss requires not so easily attainable market information about prices, quantities and other circumstances, had the infringement not taken place – the so-called but-for scenario.[14] On the other hand, the economic loss from distorted competition in one market spreads onto others, upstream, downstream and on the same level of the supply chain. Because different market actors may be affected directly or indirectly, proving the distribution of the loss sometimes presents its issues. Consequently, the quantification of competition damages entails modeling distorted competition, calculating its effects and distribution. It requires an understanding of relevant economic theory on the negative economic effects of competition law infringements.[15]

There are several schools of thought within competition economics, with differing views on the negative effects from competition infringements, and which regulatory policy to adopt when aiming at reducing such negative effects. Given that the competition damages are ultimately made up by negative effects from distorted competition, there is also no generally recognized method for their quantification. The Directive does not provide any rules on the quantification of competition damages but leaves this to the national courts, as long as they respect the principles of equivalence and effectiveness.[16] The Commission has, however, issued non-binding

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[10] Article 1(1), the Directive.
[11] Article 1(1), the Directive and (1) and (54) of its preamble.
[12] Article 3(2), the Directive.
[13] Bailey, David, John, Laura Elizabeth, Bellamy, Christopher W. & Child, Graham D. (red.), *Bellamy & Child: European Union Law of Competition*, Eighth Edition, Oxford University Press, Oxford, 2018, pp 1383f.
[14] Ashton, David, *Competition Damages Actions in the EU*, Second Edition, Edward Elgar Publishing, 2018, p 459.
[15] Ashton, pp 402ff.
[16] Article 17 (1)-(3), the Directive.

guidelines[17] containing different methods and techniques to aid the national courts in determining quantum. Considering the lack of knowledge among courts and judges regarding the matter, it is probable that this Practical Guide will be used in determining quantum in competition damages actions throughout the EU, despite being legally non-binding. Therefore, it is highly relevant to examine the legal solutions offered in the Directive and the Practical Guide, in order to determine if EU law actually provides a right to effectively claim and obtain full compensation.

1.2 Purpose and Research Question

The aim of this thesis is to examine and evaluate EU law on the quantification of competition damages in relation to its objectives of ensuring the effectiveness of competition law and hence the proper functioning of the internal market. It focuses on the examination of whether, and if so, to what extent, EU law on quantification of damages due to competition law infringements in the EU ensure the right to effectively claim and obtain full compensation. This may be phrased as the research question of this thesis:

Does EU law on quantification of damages due to competition law infringements ensure the right to effectively claim and obtain full compensation?

One may derive from section 1.1, above, a set of underlying economic and political ideas on which the EU is based. Firstly, it is presumed that competition is necessary for the internal market to function properly. However, the anticompetitive behavior of one or several actors on the market may distort it. In the absence of competition, or when it is distorted, negative effects on the market are thought to follow.

Secondly, to safeguard competition on the market and avoid such negative effects, it is considered necessary to have a body of competition rules, which targets different kinds of anticompetitive structures and behavior. Effective competition laws thus guarantee an economically efficient internal market.

Thirdly, the mere existence of competition law is not deemed sufficient for protecting competition on the market. Competition law must also be upheld through an effective enforcement system, which deters and sanctions infringements thereof. The increasingly gained credence in private enforcement and damages actions reveals the underlying belief that negative effects stemming from infringements of competition law are quantifiable in numbers and able to be reversed or avoided (at least to some extent) through pecuniary compensation.

[17] Commission of the European Union, Staff Working Document – Practical Guide Quantifying Harm in Actions for Damages Based on Breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 11.6.2013, SWD(2013) 205. [Hereinafter referred to as the "Practical Guide"]

This thesis questions and examines the validity of these assumptions, to be able to assess the EU rules on quantification of competition damages. First, the role of competition on the market must be examined. This means deriving the economic effects of distorted competition, using both relevant economic and political theory – so-called *industrial economics*.

Secondly, it is necessary to study the typical, anticompetitive behaviors. Through describing these behaviors, it is possible to then identify their respective economic effects on the market, including tracing who they affect, directly or indirectly, using the economic tools provided by industrial economics.

Thirdly, it is necessary to tackle the assumption that the EU law on quantification of competition damages provides an effective enforcement measure for competition to remain undistorted on the market. In doing so, the relevant solutions must be accounted for. Ultimately, these solutions are evaluated through a comparison with the negative economic effects caused by the typical anticompetitive behaviors, identified in the previous step.

Answering the research question thus requires the questioning and the in-depth understanding of these assumptions. Therefore, the research question may be further divided into the following sub-questions:

i. Which are the economic effects from distorted competition?

ii. Which behaviors typically distort competition and how?

iii. Which are the legal solutions to quantifying competition damages provided in EU law?

1.3 Methodology and Materials

The methodology applied in answering the research question of this essay varies as it consists of a few but necessary steps. The main research question has interdisciplinary characteristics, as it comprises economic, political and legal elements. Therefore, it has been divided into sub questions, which are very different in their nature, and thus require the application of different methods when being answered. Ultimately, however, the research question is to be addressed and answered from a legal point of view, as it examines and evaluates the legal solutions to a specific problem.

The main legal method used in this thesis is a European legal method. There is much debate as to whether such a method exists.[18] However, it follows from the supra-national character of the EU that, however influenced by the various important legal traditions in and outside Europe, it comprises its

[18] See for example Neergaard, Ulla B., Nielsen, Ruth & Roseberry, Lynn M. (red.), *European legal method: Paradoxes and Revitalization*, DJØF, Copenhagen, 2011.

own legal system. Consequently, it must be interpreted according to its own doctrine of the sources of law, using its own methods of interpretation. This legal method is applied by courts but also in academic research of what is valid law.[19]

The teleological method of interpretation is not the only method of interpretation but certainly the most typical for the EU legal method.[20] Teleological interpretation is not the same as a purpose driven interpretation but rather an interpretation of the intention of the EU rules within the context of the constitutional intentions and goals. The reason for the teleological interpretation being so prevalent in the application of EU law is explained by the often-vague wordings used in law.[21] Another side to it is that the legal order of the EU, contrary to legal orders of nation-states, is built on a set of fundamental values and objectives, in many ways explaining and legitimizing the teleological interpretation of the sources of law.[22]

The hierarchical order of EU sources of law, from the most authoritative to the least, is as follows. Primary law of the EU is made up by the Treaty on European Union, the Treaty on the Functioning of the European Union, the Charter of Fundamental Rights of the European Union, the general principles of EU law, and international agreements. These sources basically have the same legal status.[23] Secondary law of the EU is derived from primary EU law, and is made up by different legal acts, such as regulations, decisions and directives.[24] EU case law is only considered binding in the specific case, however, the ECJ does not often depart from previous case law.[25] In addition to the above, there is also non-binding *soft law*, such as for example recommendations and guidelines. These provide guidance and tend to have certain practical influence.[26] European legal literature and doctrine is not an official source of law but like soft law it may provide arguments and guidance when interpreting and applying law.[27]

Economics may be characterized as a help science, which does not constitute its own source of law. Its worth lies in that it may explain and justify EU law.[28] The first sub-question, is hence answered using economics literature, particularly literature on market structures and the modeling of distorted competition and its effects. As this is a thesis with its main focus

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[19] Riesenhuber, Karl, *European Legal Methodology,* Intersentia, Cambridge, 2017, pp 2ff.
[20] Hettne, Jörgen & Otken Eriksson, Ida (red.), *EU-rättslig metod: teori och genomslag i svensk rättstillämpning*, Andra Upplagan, Norstedts Juridik, Stockholm, 2011, pp 158ff.
[21] Hettne & Otken Eriksson, pp 168ff; Bellamy & Child, p 10.
[22] Bernitz, Ulf, *Finna rätt: juristens källmaterial och arbetsmetoder*, Fjortonde upplagan, Wolters Kluwer, Stockholm, 2017, p 59.
[23] Bernitz, pp 63f and 67ff.
[24] Bernitz, pp 64ff.
[25] Bernitz, p 70.
[26] Bernitz, pp 66f.
[27] Bernitz, pp 70f.
[28] Hettne & Otken Eriksson, pp 122ff and 132; Hildebrand, Doris, *The Role of Economic Analysis in EU Competition Law: The European School,* Fourth Edition, Kluwer Law International, 2016, pp 33f.

on the legal solutions to partly economic problems, a general understanding of the economic issues is provided by general university economics textbooks, such as Krugman & Wells, as well as specialized literature with a legal perspective, such as that of Geradin *et al* or Chalmers *et al*. The first sub-question is further answered by placing the relevant economic theory in a historical and political context. This is possible by studying literature on competition economics and regulation policy. Attempting to account for the relevant schools of thought requires not only legal literature on competition economics but also economic and political historical overviews, given in sources such as for example *Bellamy & Child* and Hildebrand.

Answering the second sub-question entails studying different types of anticompetitive behavior and the specific negative economic effects on the market related to them. In attempting to account for these behaviors, the literature used becomes more specifically focusing on technical analysis of the behavior. Here the important and concise standard book on competition law, *Faull & Nikpay,* constitutes the main material used. The same typology account is found in most of the important standard works, which is why the source is deemed sufficient.

The two first sub-questions have in common that they require a theoretical approach, i.e. the study of existing theories, actual phenomenon and accounting for them. However, the third sub-question implies the examination of the contents of hierarchically ordered sources of EU law, starting from the most authoritative, in order to determine the legal situation. The materials used are EU primary and secondary sources of law, i.e. the Treaties, Regulations and the Directive. In addition, soft law, such as the issued Practical Guide is used. Literature on general competition law and particularly on quantification of competition damages also make up relevant material as far as their argumentative value goes.

Having answered the sub-questions finally allows for an application of the acquired knowledge in order to answer the over-arching research question. It may be characterized as a theoretical method of first establishing suitable parameters to apply in a discussion and the final analysis. More accurately, it means applying the economic models and regulatory policy ideas onto the actual legal solutions offered, in order to evaluate the latter. Considering the part of the thesis dedicated to the study of the economics of competition, it is very important to clarify again that the focus of this essay is to study the law, but that the economic background knowledge provide the necessary tools of assessment.

In summary, a method of analyzing the law has been used. It entailed establishing parameters using economic theory as a help science, establishing what is actually valid law, using a European legal method, and ultimately the analysis of valid law was made within the premises provided by economic theory.[29]

[29] Sandgren, Claes, *Rättsvetenskap för uppsatsförfattare: ämne, material, metod och argumentation*, Fourth Edition, Norstedts Juridik, Stockholm, 2018, pp 50ff.

1.4 State of the Art

The quantification of competition damages is a relatively new issue in EU law, which has gained increased attention due to a modernization of competition law enforcement and the adoption of the Damages Directive. Standard works on EU competition law have therefore very recently started to include considerations thereof. These are often very brief and mainly mention the scarce content on the subject provided by the Damages Directive and the Practical Guide. Chapter 14 in *Ashton*, written by Maier-Rigaud and Schwalbe, constitutes the most elaborate piece of recent literature, dealing specifically with the quantification of competition damages.

The negative effects of competition law have, however, been an important part of the subject of industrial economics (the application of microeconomic theory to areas of law) for almost a century. There is a considerable amount of research and literature covering the subject. This thesis has mainly used the university textbook *Microeconomics* by Krugman and Wells, which provides a thorough account on relevant economic theory. In addition, standard works on competition law, such as *Bellamy & Child* or *Faull & Nikpay*, provide detailed overviews of industrial economic theories and its different schools of thought.

Consequently, previous research on the specific subject of this thesis is quite scarce, but the economic and political theories for its analysis are vast. There is a clear difference in attitudes regarding what should be considered as harm caused by the distortion of competition in the different schools of thought of industrial economics. This translates into the attitudes regarding competition policy in the EU what shall be deemed as an economic loss due to infringements of competition law. Hildebrand's *The Role of Economic Analysis in EU Competition Law: The European School* argues that a European School of thought has emerged with social considerations in addition to the mere efficiency-based approach, dominating US antitrust considerations. It is for future research and legislation to determine how this will affect the development of quantification of competition damages.

The purpose of this thesis is to provide an easily accessible, yet solid understanding of the EU's current legislation and policy regarding the protection of competition on its internal market, focusing on how economic loss due to competition infringements is quantified in damages actions.

The value of this thesis has many layers to it. The scientific value mainly consists of the fact that it is a fresh contribution to the body of knowledge, including the most recent legislation, i.e. the Directive, which had to be incorporated into the Member States' national laws by 31 December 2016.

Of course, there are many years of vast research conducted in the field of competition economics, which has influenced regulatory policy on both sides of the Atlantic Ocean. However, this thesis is written from a legal

point of view, and unfortunately there is not a history of accessible in-depth literature on the application of this specific economic knowledge to distorted competition in Europe. With the exception of lawyers in possession of this particular economic expertise, it is established that both legislators and courts have lacked the in-depth knowledge, which would allow them to respectively institute and apply the law, in accordance with the objectives. This is probably because much importance has been paid to ideology rather than strict economic analysis in Europe.[30]

On another level, considering that the EU has an exclusive competence to legislate in matters of competition on the internal market and the enforcement thereof, it is important to shed light onto the legal solutions provided. Today, in the times of Brexit, it lies more than ever within the interest of both Member States and the EU to continuously evaluate its legislation, policies and any other efforts, created to enhance the internal market, in order to assess its accuracy and legitimacy. Ultimately, this brings more value to the debate and in extent to the democratic system.

1.5 Limitations

This thesis restricts itself to examining the legal conditions for effectively bringing damages actions at a EU level. However, it has been necessary to leave certain closely-related issues outside of its scope. First of all, because competition damages claims may be brought due to infringements of Articles 101 and 102 TFEU, this essay restricts itself to the examination of two types of anticompetitive behavior; anticompetitive coordination and abuse of a dominant position. This therefore excludes the examination of anticompetitive concentration and issues related to state aid.

The interplay between the quantification of damages and other implications of competition damages actions is of course decisive for the outcomes of the Directive and its application in practice. However, it is not possible to fit an in-depth examination all of these implications into this thesis. Such an example is the notion of passing-on of damages. However briefly presented, for the sake of a general understanding, the notion of passing-on constitutes a specific part of the quantification, which is a big and complex matter and, therefore, often dealt with on its own.

This thesis focuses on the damage suffered by actors in the upstream and downstream chain of supply, and on the same level of the supply chain. Because of the exclusion of the implications of passing-on, this means that, conceptually, only direct suppliers and customers are considered. The customer is then the end consumer. Economic effects of competition infringements also accrue to actors on other markets, up and down the chains of supply. This thesis excludes the consideration of such spill-over

[30] See for example Christiansen, A. and Kerber, W., 'Competition Policy with Optimally Differentiated Rules Instead of "per se rules versus rule of reason"', Journal of Competition Law and Economics, 2(2), 2006, pp 215 ff.

damage and umbrella effects, for the benefit of an in-depth examination of the damage suffered by the supplier, the customer and the competitor.

1.6 Terminology

In this essay, the terms *antitrust* and *competition law* are used as synonyms. The word *antitrust*, which is the term commonly used in the United States, is today used widely within as well as outside the EU, referring to rules and regulations aiming at ensuring competition in the market. However, this thesis mainly uses the term *competition law*, because the wording is more straightforward and clearer in relation to its meaning, at least in a European context. Furthermore, the essay uses the term *internal market* as a synonym for *single market* or *common market*, because it is the terminology used in the Treaties.

As for the use of the terms *efficiency* and *effectiveness,* it does demand a brief explanation. In everyday language and sometimes even in academic language, the two are used as synonyms, although in the context of this essay, they are not. *Effectiveness* refers to whether or not a certain policy or a rule is successful in achieving the overarching goal. If it is, the policy and rule may be deemed effective in relation to a certain wanted result. *Efficiency*, or specifically *economically efficient*, is the term referring to the extent to which that policy or rule has a positive effect on the economy.

Competition infringements are unlawful activities by undertakings. These undertakings may be held liable to pay damages if the infringement causes harm to anyone. In this context, the words *harm*, *loss* and *damage* refer to the same thing – namely the negative effects suffered by someone as a result from a competition law infringement. However, in the specific context of quantification the word *loss* or *economic loss* is preferred in this thesis as it specifically addresses the pecuniary magnitude of the *harm. Harm* is in comparison a more general and negatively connotated term. Lastly, *damage* in the singular refers to the loss or harm suffered while *damages* in plural refers to the amount of money sought or granted as compensation for the *loss/harm/damage*.

In the categorization of anticompetitive behaviors this thesis makes a primary distinction between *coordination* and *abuse*. *Coordination* entails all forms of cooperation between one or more undertakings, whether it be horizontal or vertical, independent of form. The word *cooperation* would be a synonym in everyday use but is avoided in this thesis, because it is for some reason mainly used in legal literature referring to agreements with specific procompetitive effects. *Abuse* refers to the anticompetitive behavior by (mostly) one dominant undertaking.

1.7 Outline

In the pursuit of answering the research question this essay consists of the following outline. Chapter 1 provides an introduction to the subject of the essay and its main implications. Chapter 2 presents an overview of the relevant economic theory for determining the effects of distorted competition. It then accounts for the main schools of thought in regulatory policy. Chapter 3 continues by accounting for typical anticompetitive behavior, focusing on two main types. First, the main anticompetitive coordination types are described, followed by the main anticompetitive abuse types. Chapter 4 presents the current legal context of the EU, EU competition law, a brief historical context and ultimately the law on the quantification of competition damages.

Chapter 5 comprises a two-step analysis of the body of knowledge, acquired in chapters 2 through 4. The first step is the application of economic theories and terminology from chapter 2 onto the anticompetitive behaviors described in chapter 3. This enables an explanation of how these behaviors distort competition, in terms of their respective inefficiencies. The second step is the analysis of the methods and techniques provided in EU law for quantification of competition damages, in relation to the negative efficiencies of typical anticompetitive behaviors of the first step.

Chapter 6 aims to answer the research question, namely whether or not EU competition law on quantification of competition damages actually captures all economic loss stemming from distorted competition on the market, by accounting for the findings of chapter 5 and drawing conclusions. The chapter is ended with the author’s personal reflection and suggestion for future research.

2 Competition Economics

2.1 Background

As argued in Chapter 1, EU competition law and the rules on quantification of competition damages are built upon the assumption that the internal market must be highly competitive to function properly. Hence, this chapter examines the role of competition on the market, using relevant economic theory, which provides tools to model the economic effects that arise when competition is distorted.

The first research question – *Does EU law on quantification of damages due to competition law infringements ensure the right to effectively claim and obtain full compensation?* – requires determining the entirety of the damage, which is to be fully compensated. This damage consists of the total economic loss suffered by the claimant due to that infringement.[31] In order to determine the economic loss due to a competition law infringement, any negative economic effects from the corresponding distorted competition on the market must be calculated. Through investigating whether or not the EU rules on quantification of competition damages encapsulate the entire negative economic effects of distorted competition, and whether the rules on quantification of damages allow for an estimation of the full amount, it is possible to answer the first research question.

i. Which are the economic effects of distorted competition?

The purpose of this chapter is to give the reader a basic understanding of the alleged harm that distortion of competition causes on a market. It therefore aims at providing a pedagogical overview of relevant economic theory, in the light of which, the following chapters should be read. Part 2.2 accounts for the main considerations of classical and neo-classical economic theory regarding the role of competition on a market. Through modeling and explaining different market structures, and highlighting the conditions they provide for competition, it presents their respective typical market behaviors and outcomes. The negative economic effects from these outcomes are derived in terms of economic efficiency.

Competition economics and policy offers a wide range of ideas on how to measure and categorize economic effects, as well as how to tackle distorted competition. The purpose and scope of competition law depend on the chosen theoretical stand. The former determine which negative effects may ultimately be deemed as economic loss, and thus how loss is quantified.

In other words, it is necessary to understand the regulatory policy targeting anticompetitive behavior, and whether or not it helps to prevent negative

[31] See Chapter 4, below.

effects from arising. Only with such a background comprehension of the political and economic theories behind competition law, is it possible to evaluate the enforcement measures of the Directive and place the conclusions in a wider context.[32] Therefore, under 2.3, below, the main arguments on *if* and *how* competition law should be used to safeguard competition are presented. This includes an overview on the different normative schools and their thoughts on regulatory policies. Lastly, a summary and concluding remark follow under 2.4.

2.2 Competition in Economic Theory

Economics is the study of the allocation of scarce resources. A society may choose to allocate its resources in a number of different ways. The two extremes are either a centrally planned economy, where the government makes all the allocation decisions regarding quantities and prices on the market, or a market economy, where the forces of supply and demand determine quantities and prices. Most economies use a hybrid form for their resource allocation, for example a regulated market economy.[33]

Simply put, when there is an optimal allocation of resources in an economy there is so-called *economic efficiency*. Thus, if resources are allocated in a suboptimal way, there is *economic inefficiency*.[34] However, the notion of efficiency has been much discussed in economic theory and alternative definitions have been suggested.[35]

Distorted competition in an economy is widely thought to cause inefficiency on both the macroeconomic and microeconomic level. At the macroeconomic level, it is said to negatively affect consumption, employment and growth. There is, however, no substantial empirical evidence to support that claim, because it is hard to isolate other factors that also have an impact on growth. Even though the studies that have been conducted vary tremendously in their results, there is consensus that strong competition enforcement reduces the cost of distorted competition on society. At the microeconomic level, distorted competition is thought to negatively affect the welfare of individual economic agents.[36] In the following, different types of economic efficiency (or rather, inefficiency) are accounted for and applied as a tool to measure the economic effects of distorted competition.

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[32] Chalmers *et al,* pp 943f; Faull & Nikpay, p 3.
[33] Geradin, D., Layne-Farrar, A. and Petit, N., *EU Competition Law and Economics,* Oxford University Press, Oxford, 2012, p 7.
[34] Chalmers *et al*, pp 944ff; Geradin *et al,* pp 66ff and 78f; Krugman, Paul & Wells, Robin, *Microeconomics,* Fifth Edition, Worth Publishers, New York, 2018, pp 13ff, 120f.
[35] Harrison, J. L, *Law and Economics in a Nutshell,* Fourth Edition, Thomson West, St. Paul, 2007, pp 28ff.
[36] Geradin *et al*, pp 5ff.

2.2.1 Competition in Economic History

The first to address competition in economics were the *classical economists* of the seventeenth century. Adam Smith, among others, believed that individual actors make rational economic decisions. The result of all economic decisions will be a goods' price on a market closely approaching the production cost. In other words, markets self-regulate with the help of an "invisible hand", which is the result of actors on the market naturally competing with each other. Competition is hence considered a behavioral process.[37]

In the later nineteenth and beginning of the twentieth century Alfred Marshall and other economists developed the *neo-classical price theory*. It implies a structural (rather than a behavioral) interpretation of competition, contrasting two extreme market structure models, namely *perfect competition* and the *monopoly*.[38]

The theory explains the "invisible hand" regulating the market as the *law of supply and demand*. Essentially, the argument is that the law of supply and demand will only regulate perfectly competitive markets. In a monopoly market structure, however, the absence of competition prevents the law of supply and demand from regulating the market. Instead, the market structure causes several types of economic inefficiencies and thus a suboptimal allocation of resources. In the end it is thought to impair social welfare.[39]

Neo-classical price theory assumes that consumers will normally demand a greater quantity of a product as the price of that product decreases. As shown below in Figure 1, this creates a downward-sloping demand curve (D). On the other hand, suppliers of that same good are willing and able to supply a greater quantity as the price increases. This, in turn, creates an upward-sloping supply curve (S). According to the law of supply and demand there is an equilibrium price (P) at which consumers will demand a quantity (Q) that suppliers will supply. It occurs where the supply curve and the demand curve intersect (E) on the graph. This equilibrium denotes the optimal allocation of resources, which in turn contributes positively to social welfare.[40]

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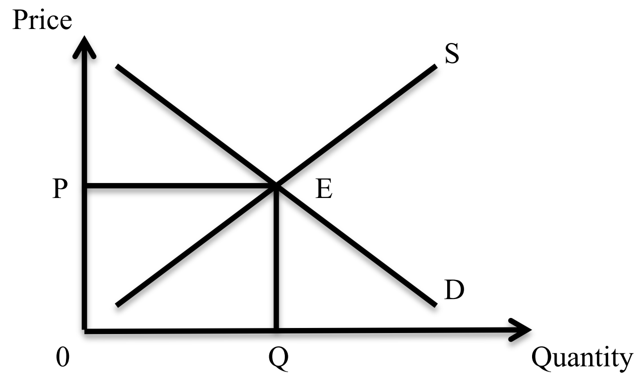
[37] Geradin *et al*, p 62.
[38] Geradin *et al*, pp 7ff and 62ff.
[39] *Ibid.*
[40] Geradin *et al*, p 62ff; Krugman & Wells, pp 84ff.

Figure 1. The Law of Supply and Demand

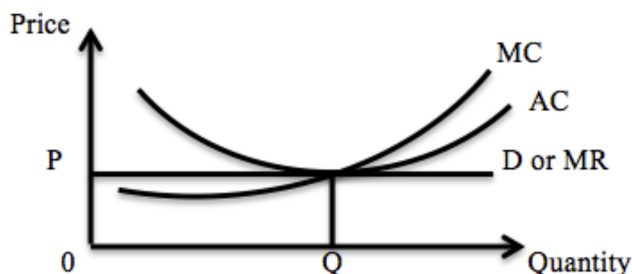


2.2.2 Perfect Competition

As will be explained in the following, the law of supply and demand will only allocate resources optimally under *perfect competition*. A perfectly competitive market structure is characterized by a multitude of suppliers on the market, which each all lack the market power to influence the price. There is perfect information on the market and the suppliers all sell homogenous products. Lastly there are no barriers for new suppliers to enter the market and no transportation costs.[41]

Since information is perfectly attainable to all actors on the market, consumers will purchase the good only from those suppliers who supply it to the equilibrium price. This creates a situation where the individual supplier is a price taker; it must either sell at the market price or exit the market. At the market price, however, the supplier may sell any quantity. This is graphically depicted by a perfectly elastic, horizontal, individual demand curve (D), as shown in Figure 2, below.[42]

Figure 2. Profit-Maximizing Under Perfect Competition



First, the supplier of a good must decide *whether or not* to enter the market. If its cost of production per unit of output produced, or in other words, the average cost of production (AC), is equal to or less than the market price at some quantity or quantities of output, the supplier will break even. This

[41] Geradin *et al*, p 64; Krugman & Wells, pp 66, 352ff.
[42] Geradin *et al*, pp 64f; Krugman & Wells, p 357.

means that the supplier will be profitable and hence it will make the rational decision of entering the market.[43]

Secondly, the supplier must decide what quantity of output to sell. Because the marginal revenue from producing an additional unit always equals the market price in perfect competition, the demand curve is also the marginal revenue curve (MR). An individual supplier maximizes its profit by selling the quantity of output at which the marginal revenue equals the marginal cost. This occurs at the quantity (Q), where the additional revenue of selling one more unit still covers the additional cost of supplying that unit.[44] The optimal output is graphically illustrated in Figure 2, above, where the marginal cost curve (MC) intersects the marginal revenue curve (MR), so long as this point occurs under or on the average cost curve (AC).[45]

2.2.3 Monopoly

The antithesis of a perfectly competitive market is the *monopoly* – a market structure with only one supplier of a good that has no close substitutes. Monopolies form either naturally or artificially, due to some sort of barrier, which inhibits other suppliers from entering the market.[46]

Barriers to entry give one supplier an advantage and force other suppliers out of the market as well as keeping any new ones from entering it. Such barriers may be technological advantages, network externalities or the control of input resources. When a monopoly forms and persists without government interference, it is natural. This happens when there are increasing returns to scale in the production of higher quantities of a good. It means that there is a very high fixed cost in the production of that good, which causes the average cost of production per unit to fall as output increases. Larger suppliers will then be more profitable, forcing smaller ones to exit the market and thus causing the natural monopoly to form. The high fixed cost also serves as a financial barrier to entry, sustaining the natural monopoly, as it prevents other firms from entering the market. However, in cases where government regulations allow only one supplier on the market, the monopoly is artificial.[47]

In a monopoly market structure, the law of supply and demand, as in the perfectly competitive market structure, does not determine the price and quantity of a good. This is because the monopolist holds the *market power* to manipulate the quantity supplied of a good, as well as the price of that good, in order to maximize its profits. By reducing the quantity supplied of

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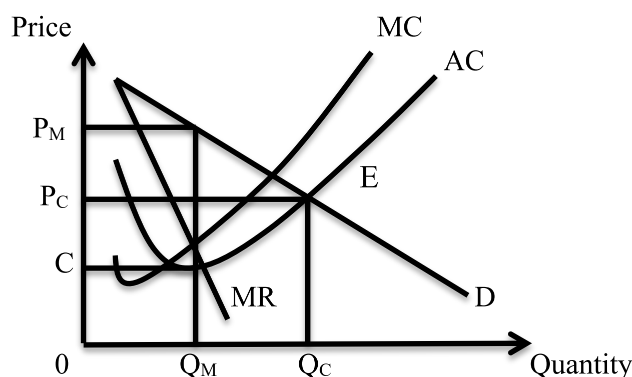
[43] Geradin *et al*, p 64; Krugman & Wells, pp 355ff.
[44] If the supplier would produce a greater quantity, it would lose money per every additional unit produced, and if it would produce a lower quantity, it would still be able to increase its profit by producing more.
[45] Geradin *et al*, pp 64f; Krugman & Wells, pp 358ff.
[46] Krugman & Wells, pp 380ff.
[47] Krugman & Wells, pp 383ff.

a good on the market, or simply charging a higher price per unit, the monopolist is able to increase its profits. As long as the profit from raising the price is higher than the loss from selling a smaller quantity, the monopoly will exert its market power.[48]

Because the monopolist is the only supplier on the market, the individual demand curve (D), as illustrated below in Figure 3, is the same as the market demand curve[49]. It is downward-sloping, which again means that the price paid for a good decreases as the quantity increases. The negative slope of the demand curve implies that the marginal revenue from producing an additional unit will decrease relatively more than the demand curve, with an increasing quantity. Graphically, that makes for a negative marginal demand curve (MR) with a steeper slope than the demand curve.[50]

The monopolist too, will choose to produce at the output, where the marginal revenue from producing an additional unit equals the marginal cost of producing that additional unit. This is where the marginal cost curve (MC) intersects the marginal revenue curve (MR). The monopolist will reduce the quantity supplied on the market accordingly from Q_C to Q_M and increase the price from P_C to P_M. Due to the wedge between the demand curve (D) and the marginal revenue curve (MR), which exists for any monopoly, the new profit will be the monopoly price (P_M) minus the average cost (AC), multiplied by the monopoly quantity (Q_M).[51]

Figure 3. Profit-Maximizing Under a Monopoly



2.2.4 Oligopoly

Although the models of perfect competition and monopoly are useful in understanding different market power structures and their respective economic effects, few real markets actually fit into these descriptions. However, the *oligopoly* constitutes an intermediate form of market structure, which more fittingly describes many actual market types. It is characterized by having only a few suppliers, which sell homogenous or heterogeneous

48 Geradin *et al*, pp 8f and 65ff; Krugman & Wells, pp 381f.
49 Referring to D in Figure 1.
50 Krugman & Wells, p 388.
51 Krugman & Wells, pp 390ff.

products. Each supplier has some market power and consequently their behavior has a direct influence on the price and quantity of the good on the market. This creates the characteristic interdependence between the suppliers in the oligopoly market structure.[52]

Nevertheless, the oligopoly is a far more complex market structure than perfect competition and monopoly. Even provided the number of suppliers on the market as well as other relevant market conditions, it is impossible to determine the suppliers' exact behavior and the market outcome regarding price and quantity. However, it is possible to gain some understanding into how certain conditions may influence oligopolists to engage in anticompetitive behavior or not.[53] An oligopoly arises for the same reasons as the monopoly. The main such reason is increasing returns to scale for larger suppliers – but to a weaker extent – creating and sustaining the imperfectly competitive market structure.[54]

The simplest form of oligopoly market structure is the duopoly, which consists of only two suppliers, and makes for an illustrative example. Assuming there is a fixed cost but no variable cost in supplying a good, the marginal cost equals zero beyond the first unit of output (and the average cost tends toward zero as the quantity increases). In perfect competition a supplier will supply the quantity at which its marginal revenue (and the price) equals the marginal cost, so long as it covers the average cost. Given a negative market demand curve and the marginal cost of zero, the good will ultimately be provided for free, yielding no profits.[55]

In the duopoly, however, the two suppliers are not price takers. Instead they have the market power to influence the market outcome and raise their profits. This is done by limiting the output on the market and raising the price of the good, similarly to how a monopolist does. Assuming the marginal cost is still zero, the optimal output in order to maximize the joint profit is the one that yields the maximum total revenue.[56]

In Figure 4, below, the quantity of 50 units and the corresponding price of 5 result in the maximum total revenue (TR_{max}) of 250. The duopolists would thus have to limit their production to a quantity of 25 units each, to yield a profit of 125 each. This requires that both suppliers do the same, because otherwise the firm limiting its supply will lose all sales to the competitor who does not. In other words, initially the suppliers have an incentive to cooperate in order to raise their profits, compared to competing perfectly. Then they each have an incentive to behave non-cooperatively to capture more profit from the other supplier.

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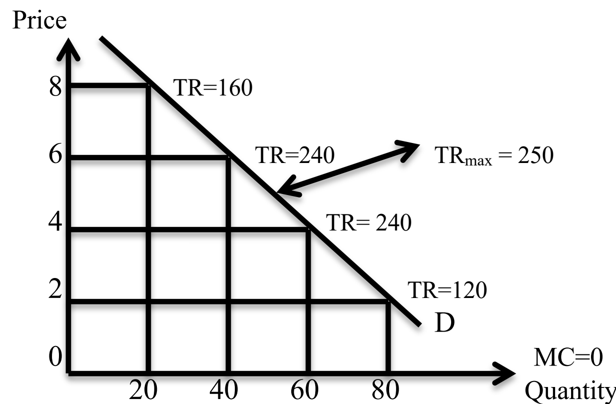
[52] Krugman & Wells, pp 416ff; Decker, Christopher, *Economics and the Enforcement of European Competition Law,* Edward Elgar, Cheltenham, pp 13f, 40ff.
[53] Faull & Nikpay, pp 25f.
[54] Krugman & Wells, p 416.
[55] See under 2.4, above, and Krugman & Wells, p 418ff.
[56] Krugman & Wells, pp 418f.

Figure 4. Profit-Maximizing Under a Duopoly



This scenario is explained in game theory as the so-called "Prisoners' Dilemma" and means that each supplier has an incentive to cheat and produce more output than 25, but both suppliers are actually worse off if both cheat. This is illustrated using a pay-off matrix in Figure 5, below. If duopolist A decides to cheat and supply 40 instead of 25 units, it increases its profit from 125 to 140, while duopolist B loses profit from 125 to 87.5 (and vice versa). However, if both A and B cheat they each just make a profit of 80.[57]

Figure 5. Payoff Matrix for a Duopoly

		Duopolist A.	
		Supplies 25 units	Supplies 40 units
Duopolist B.	Supplies 25 units	Q = 50 units P = 5 A's profit: 125 B's profit: 125	Q = 65 units P = 3.5 A's profit: 140 B's profit: 87.5
	Supplies 40 units	Q = 65 units P = 3.5 A's profit: 87.5 B's profit: 140	Q = 80 units P = 2 A's profit: 80 B's profit: 80

This game is played repeatedly over time, as long as the two suppliers stay on the market. Therefore, they may engage in strategic behavior, taking into account the other supplier's possible future behavior. If one supplier cheated by increasing its output, it is likely the other supplier will retaliate and cheat in the future. Knowing this, a "tit for tat" strategy, in which the supplier starts by cooperating in the hope that the other supplier will too, and then adjusts to the behavior of the other supplier, is often favorable for both suppliers. Such behavior is called tacit collusion and has the same economic effect as a cartel would have. Collusion can happen in different ways and a

[57] Krugman & Wells, pp 422f.

common distinction is that between *explicit* and *tacit* collusion. Explicit collusion is, as the word suggests, some sort of formal agreement between firms to coordinate their behavior, usually a cartel. Tacit collusion is when firms somehow coordinate their behavior implicitly, through interpreting the moves of competitors as messages to cooperate.[58]

Accordingly, firms operating on an oligopolistic market face the trade-off between the profits they would make if they competed with each other, and the profits they would make if they chose to collude instead. Choosing to compete will turn the market towards perfect competition while colluding will turn it toward a monopoly. Conditions which may influence the choice between competition and collusion are the barriers to entry and the state of technological innovation. High barriers to entry and a static technological innovation rate both work as incentives for firms to collude.[59]

As stated initially, it is much harder to predict the market outcome of an oligopoly. There are often more than two suppliers and a series of factors that influence their behavior. For instance, high market transparency, symmetry in market shares and high barriers to entry provide a greater incentive to collude. Factors such as cost asymmetries between oligopolists, product differentiation and more suppliers on the market, lower the incentive to collude. If tacit collusion fails there may be a price war, in which the oligopolists lower their prices in order to capture profit from each other. However, this is often not very beneficial to any of them and they may therefore prefer to engage in product differentiation, price leadership or nonprice competition instead.[60]

2.2.5 Inefficiencies

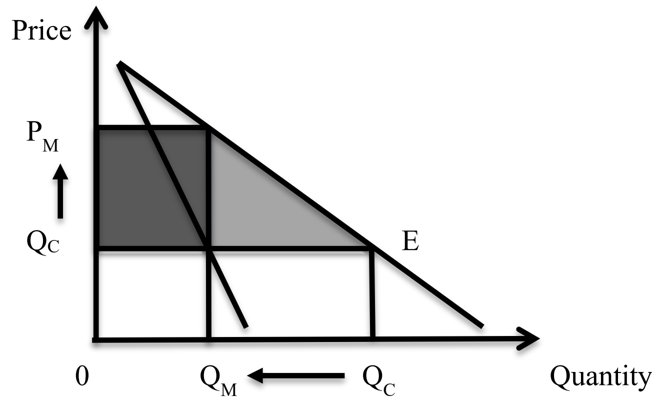
The neo-classical price theory claims that structures of market power, with the monopoly as its most extreme example, lead to inefficiencies and a suboptimal allocation of resources. This is illustrated in Figure 6, below.[61]

There is *allocative efficiency* on a market when a good is sold at a market price that equals the cost of producing and supplying the good. As previously explained, monopolies are, however, able to reduce the quantity supplied on the market, which leads to an increased price. Some customers, who would have been willing and able to pay a price higher than the competitive price, but a lower one than the monopoly price, are not supplied, although the producer would be able to profitably meet that demand. This effect is hence an allocative inefficiency, or a *dead weight loss*, as depicted by the light grey triangle, in Figure 6, below. It equals the difference between the monopoly price (P_M) and the competitive price (P_C),

[58] Krugman & Wells, pp 425f; Decker, pp 16f.
[59] Decker, p 14.
[60] Krugman & Wells, pp 431ff.
[61] Geradin & Wells, pp 65ff.

multiplied by the difference between the competitive quantity (Q_C) and the monopoly quantity (Q_M), and then divided by 2.[62]

Figure 6. The Allocative and Distributive Inefficiencies of a Monopoly



Productive efficiency exists on a market when goods are produced at the lowest possible cost. The absence of competition and the threat of being forced to exit the market creates less incentive for monopolies to do so, which often results in productive inefficiency in structures of market power.[63] In some cases, however, one large firm may be more productively efficient than many small firms. An example is when an expensive machine is able to produce very large amounts of a good and this creates a lower average cost than any small firm is able to produce at. Whereas neither of the small firms may be able to afford the high fixed cost in acquiring the machine, a large monopolist actually may, and is hence able to supply a good at a lower price than any form in a perfectly competitive market. Yet, the initial argument, that the monopolist may still choose to limit its production in order to maximize its profit, again applies.[64]

Allocative as well as productive efficiencies are static measures of efficiency, because they measure efficiency at a given point in time. *Dynamic efficiency,* however, exists when there is incentive for innovation and productivity to increase over time. It is a controversial question even today, whether or not market power structures create dynamic inefficiencies, because of their lack of competition. Some namely argue that there is no need for a monopoly to innovate, since their profit is secure due to their position as sole supplier on the market. Others, however, claim that the large-scale profits of a monopoly are exactly what enable research and other investments in innovation. In any case, it is important to distinguish between industries, which due to innovation quickly disintegrate and are replaced by

[62] Ashton, David, pp 405ff; Chalmers *et al*, pp 944ff; Geradin *et al*, pp 66ff; Krugman & Wells, pp 394ff.
[63] Chalmers *et al*, p 945; Geradin *et al*, pp 66f.
[64] Harrison, pp 284ff.

new industries, and industries, which develop due to innovation, when analyzing the dynamic efficiency.[65]

In addition to the previously mentioned negative impacts on welfare, monopoly market structures also cause a transfer of wealth from consumer to supplier, because of the higher price that the consumer has to pay for the same product. This effect is often called the *overcharge*. It is depicted as the dark grey area in Figure 6, above, and equals the difference between the monopoly price (P_M) and the competitive price (P_C), multiplied by the new quantity (Q_M) sold on the market.[66]

It is because of these inefficiencies that neo-classical price theory considers market power structures to impair social welfare. Although there is predominantly consensus regarding distorted competition leading to economic inefficiencies, there is much discussion on the extent of those inefficiencies, and, last but not least, what should be done about them.[67]

2.3 Economic Policy

Competition laws, as means of regulatory policy, date as far back as to Rome and India 2000 years ago.[68] Today, the arguments as to whether, and if so how, competition law should be used, are many. Different schools of thought have arisen and dominated different times and parts of the world. Below follows a brief summary of the main normative movements and their thoughts on the use of competition law, with their corresponding policy recommendations.

Welfare economics developed as a school of thought that built on the neo-classical price theory. According to it, sometimes the "invisible hand" does not allocate resources optimally in the market, which causes a market failure. The natural monopoly, which can arise out of economies of scale, is an example of such a market failure. Public intervention is then needed to correct it. This was how competition laws started developing. Modern day economic theory, however, also includes that government intervention can be imperfect and lead to even greater inefficiencies than those of the original market failure.[69]

In the 1930s, German scholars developed *ordo-liberalism*; a school of thought, which argued that state intervention is necessary to ensure competition on the market. To avoid imperfect government intervention, it suggested intervention in the form of a constitution that would force actors with dominant market positions to behave as if in a perfect market

[65] Ashton, pp 409f; Chalmers *et al*, pp 945f; Geradin *et al*, pp 66ff, 78; Faull & Nikpay, pp 37ff.
[66] Ashton *et al*, pp 406f; Geradin *et al*, pp 68f.
[67] Chalmers *et al,* pp 244ff; Geradin *et al*, pp 67f, 70 and 78.
[68] Geradin *et al,* p 12.
[69] Geradin *et al*, pp 9f.

structure.[70] Ordo-liberalism did not rely on economic efficiency as a guiding star in implementing competition law. It rather argued that the goal of competition law is the protection of the individual economic freedom as a value on its own.[71]

In the 1950s' United States, the then new discipline *competition economics* evolved as a result of academics beginning to consider antitrust policy as a tool for implementing their classical and neoclassical price theories.[72]

According to the structuralist *Harvard School*, which dominated in the 60s, competition law should be used to prevent actors with market power, such as monopolies or oligopolies, from being part of the market structure.[73] The movement used an empirical method, which implied observing factual markets, and came up with the so-called *SCP paradigm*. The SCP paradigm claims that there is a casual correlation between high market concentration, suboptimal market behavior and performance as to social progress. Some argued that high profits signify unreasonable market power, and thus market concentration. The Harvard School recommended government monitoring of market structures to detect concentrations. There was, however, differing views within the movement, on whether an appropriate legal measure would be the prohibition of monopolies or a law that would allow deconcentration of a market structure at any time.[74]

The Harvard School was quite criticized and soon lost its influence, which paved the way for the behavioralist *Chicago School*. The latter, which came to be influential in the 1970s, agreed that actors with market power might cause disruptions in the market, but that the market will often self-regulate. The movement revived some neo-classical theory, and used it instead of empirical methodology, in suggesting that the main goal of competition is promoting economic efficiency. It argued that concentrations and high profits per se are not necessarily bad. For instance, a monopoly may involve economies of scale, which in turn allow for low production costs and higher efficiency. In such a case, other things than supra-competitive market prices explain high profits. Introducing competition law could then disrupt the market. Instead, competition law should be used to battle anticompetitive behavior on concentrated markets, and to ensure free entry to the market, as it will otherwise not self-regulate.[75]

In the 1980s, the new industrial economics *Post-Chicago School* introduced the argument that market failure does not necessarily correct itself, and therefore competition law should be directed at activities that are typically harmful to competition. The Post-Chicago School moved away its focus from monopoly to oligopoly market structures, which are relatively more

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[70] Geradin *et al,* pp 15f.
[71] Chalmers *et al*, pp 950f.
[72] Faull and Nikpay, p 5; Geradin *et al,* p 60.
[73] Chalmers *et al,* pp 945ff.
[74] Faull and Nikpay, pp 5f; Geradin *et al,* pp 71f.
[75] Chalmers *et al*, pp 946f; Faull and Nikpay, pp 6ff; Geradin *et al,* pp 72ff.

abundant in the modern day than monopolies. An oligopoly is a market structure with just a small number of producers, which produce either a homogenous or slightly differentiated good. Typical anticompetitive behaviors include both non-cooperative and cooperative strategies. The big difference between the Post-Chicago School and The Harvard and Chicago Schools is that the Post-Chicago School lacks generalizing evaluations. On the contrary, its teachings depend very much on the individual circumstances of each case.[76]

In the 1990s the EU Commission and EU Courts started to include more economically theoretical considerations in their decisions and judgments. This modernization is often referred to as the "effects-based approach".[77] Of course, the modernization was somewhat influenced by US antitrust considerations. However, what evolved was a European school of thought, which differed much from the Chicago and Post-Chicago movements. Today, the European School distinguishes itself in its focus, not only on economic efficiencies, but on social equality and fairness objectives.[78] It contains clear ordoliberal elements insofar that it applies a holistic approach with respect to certain underlying values.[79]

To summarize, competition laws are used as legal intervention into how markets work. Their purpose is according to some, to protect the competitive process, and according to others, to protect consumer welfare or economic efficiency.[80] Building on the considerations of the schools of thought, above, there is much debate as to if and how competition laws should be used. In all theories, there is much uncertainty on how to identify the structures or behaviors in practice, which cause the unwanted effects, in order to formulate an appropriate regulatory policy. No matter which regulatory policy is chosen in the end, the competition law reflects it and thus the considerations behind it influence the assessment of damages due to infringements of that competition law. It is for this very reason that understanding the economics behind competition policy is so crucial when evaluating the rules regarding quantification of competition damages.

2.4 Concluding Remarks

As shown in this chapter, different circumstances make for very different market structures, with different respective competitive climates. These in turn enable many different behaviors and economic outcomes. The perfect competition and monopoly market structure are the extremes on the market spectrum, seldom represented by real life markets. Nevertheless, they facilitate a basic understanding of the economic effects of varying degrees of competition.

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[76] Chalmers *et al*, pp 947f; Faull and Nikpay, pp 8f; Geradin *et al*, pp 74ff.
[77] Geradin *et al*, pp. 60-61.
[78] Hildebrand, pp 1ff and 5.
[79] Hildebrand, pp 7f and 34f.
[80] Chalmers *et al,* p 944.

The oligopoly market structure, on the other hand, is much more prevalent in real life. However, it is far more difficult to analyze an oligopoly market outcome, compared to both the former market structures. This is because of the difficulty in knowing if a specific market outcome is the result of one or more actors' anticompetitive behavior, or of the market structure and the given circumstances as such.

This difficulty additionally means that it is very hard to assess the negative economic effects on the given market outcome, as it must be compared to the so-called *but-for scenario*. That is to say: *What would the market outcome be, were it not for the given set of circumstances or the given behavior?* When taking as many of the given circumstances into account, and having enough data available, it is arguably possible to make educated guesses about but-for market outcomes. This would allow an estimation of the negative economic effects as compared to a possible competitive scenario. Such estimation would of course require access to relevant data, which may prove difficult in practice.

The negative economic effects of distorted competition may be defined as economic inefficiencies on the market. However, there are different kinds of inefficiencies. Because of the difficulty in assessing the complex market outcomes of reality, different ideas have emerged on assessing the economic inefficiencies. Is there, for example, an automatic productive inefficiency in any market power structure or does the market power come with an economic capacity of productive efficiency? Also, the overcharge is regarded as a negative effect from a consumer welfare point of view, but it is not economically inefficient per se, as it actually constitutes a transfer of wealth, as opposed to a decrease in wealth.

The answer to the first sub question is hence that the economic effects from distorted competition are the estimated economic efficiencies or inefficiencies, caused by anticompetitive behavior by one or more market actors, or by a market power structure alone. In addition to the different kinds of inefficiency, the transfer of welfare from the consumer is sometimes also regarded as a negative effect.

Reality is often very complex, which makes it difficult to model economically with an absolute certainty. The fictitious but-for scenario is impossible to model economically with full certainty. However, if the lack of data and uncertainty in an attempt to estimate the negative effects of distorted competition are taken into account, the knowledge presented in this chapter and in other places may actually provide useful insights in quantifying the harm caused by anticompetitive behavior. Thus, understanding the limitations that exist in estimating said negative economic effects, may still provide a basis for calculating a reasonable compensation for such harm.

Even managing to take into account many of the decisive circumstances, different ideas about the role of competition on the market contribute to which inefficiencies are and to what extent they are deemed harmful. With this in mind, this thesis lies close to the Post-Chicago school of thought in its attempt to calculate the negative economic effects with consideration to the particular circumstances in each individual case. This effects-based approach demands taking into account the uncertainty and inaccuracies of estimation. As competition damages actions are ultimately brought against those who behave anticompetitively, we must distinguish between negative economic effects stemming from the existence of structural market power and such that may be traced to the different anticompetitive behaviors of one or several individual economic agents. Such anticompetitive behaviors will be identified and addressed with regard to their respective economic effects in the following chapter.

3 Anticompetitive Behavior

3.1 Background

As concluded in Chapter 2, real life provides many complex market structures, with varying degrees of competition. A given market structure, its different circumstances, and the behavior of the actors on the market, together affect the market outcome. If the market outcome is economically inefficient, for example through a goods price highly exceeding the cost of production, this may hence be due to a variety of influencing factors.

Competition law and competition law enforcement in the form of competition damages actions, target the anticompetitive behavior of one or more market actors. However, the market structure as such, and the circumstances on it, do not constitute infringements of competition law, and are not necessarily the consequences of such an infringement. In the EU, an infringement of either Article 101 and/or 102 must be at hand if someone wants to claim damages for loss due to that infringement. The Articles are not exhaustive and may include more anticompetitive behavior than they explicitly capture. Nonetheless, if an anticompetitive behavior is not covered by at least one of the said Articles, it is still not possible to claim damages for loss due to that behavior. Therefore, it is important that the existing competition rules capture all such anticompetitive behavior, which has or may have negative economic effects on competition in the internal market.

With the purpose of this thesis being the evaluation of the EU rules on quantification of competition damages, on the basis of their effectiveness in awarding full compensation, and with Chapter 2 having identified the main negative economic effects of distorted competition, this chapter aims at describing the behaviors, which typically give rise to inefficient market outcomes, and in which way they do so. The chapter focuses on two main types of anticompetitive behavior – anticompetitive coordination and the abuse of a dominant position. It hence excludes concentrations and matters related to state aid and public procurement. It may be summarized as answering the second sub-question of this thesis:

ii. Which behaviors typically distort competition on the market and how?

The outline of this chapter includes this introductory piece and continues with a presentation of different forms of anticompetitive cooperation under 3.2. It deals with horizontal and vertical coordination separately, although a behavior may sometimes constitute both. In 3.3 the different forms of abuses of a dominant position are dealt with. A similar division is made to distinguish between exploitative and exclusionary abuses. In 3.4 then follows a brief summary and some concluding remarks.

3.2 Anticompetitive Coordination

Different types of coordination between undertakings make up a big group of anticompetitive behavior. This group includes horizontal as well and vertical coordination. The difference is that horizontal coordination entails all coordination between undertakings on the same level of the production chain, for example between two or more producers of the same good.[81] Vertical coordination implies coordination between undertakings on different levels of the production chain, for example between the producer of a good and one of its distributors.[82]

3.2.1 Horizontal Coordination

Horizontal coordination is entered into by market actors, which operate on the same level of the production chain. Some of this coordination is efficiency enhancing and procompetitive while some of it is anticompetitive. It may even be both.[83]

The most known example of anticompetitive coordination is - for a number of different reasons – the cartel. A cartel is a "collective organization whose members make an agreement to suspend competition among themselves"[84]. There are different kinds, including price-fixing cartels, where competing firms agree on minimum prices, quota cartels, where they agree on how much each firm should produce, market-sharing arrangements, where the firms divide the market geographically between them, and bid-rigging arrangements, where firms agree on prices and other conditions for the bids submitted in public procurement.[85]

Cooperation in research and development or standardization of products exemplifies coordination that is typically efficiency enhancing. This is because pooled know-how and skill may lead to innovation, better products, and finally lower costs. An individual firm would maybe not have been able to manage this by itself. Through cooperating, on the other hand, two or more firms share the risk and costs involved in research and product development. Although this type of coordination does not necessarily have the purpose of restricting competition, it still may.[86] At the same time as horizontal coordination may result in positive effects, such as economies of scale and innovation, it may also result in increased market power on the relevant market as well as spillover effects on other markets.[87]

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[81] Faull & Nikpay, p 884, Geradin *et al,* p 423.
[82] Faull & Nikpay, p 884, Geradin *et al*, p 463.
[83] Faull &Nikpay, pp 884–886.
[84] Geradin, p 391.
[85] Ashton, p. 212 f; Geradin *et al,* pp 396ff.
[86] Faull & Nikpay, p 884, also see chapter 2 for discussion about the controversy of this issue.
[87] Geradin *et al*, p 423f, 426.

Horizontal coordination, which involves any kind of price-fixing, market sharing, limitation of output or foreclosure of competitors, is typically anticompetitive. It may take place in several forms, such as for example cartels, informal meetings, joint ventures or even tacit collusion.

There is a variety of *price-fixing arrangements*, but they have in common the coordination between two or more sellers to fix the price on a market occurs when they set the purchasing or selling price level of a good, the timing of price increases or other trading conditions.[88]

One technique is establishing uniform prices or specific schemes for calculating the price. Another technique is establishing minimum prices, from which the participants of the cartel may only deviate upwards. In addition, techniques for price-fixing, such as establishing target prices to be achieved within a certain period of time, or recommended prices, constitute anticompetitive behavior. An agreement to coordinate just a part of the price of a good or service may be enough to disrupt competition on the market. In the same way, coordinating rebates and discounts, affects competition negatively. In addition to price fixing, firms may agree on other trading terms and conditions, which have a direct or indirect impact on the selling price. Such a condition could for example be terms of payment.[89]

Price-fixing may also occur when buyers coordinate and agree upon maximum prices, which they are willing to purchase their product input with. If a processing company agrees with its competitors that none of them will pay more than a given price for their raw material, the price of the raw material will be less than the competitive price. The processing companies are not likely to adjust the price of the processed product accordingly and will therefore make profits while the end consumer does not benefit from this efficiency gain. The product is by definition produced at a lower cost and thus productively efficient. However, the productive efficiency does not benefit the end consumer. If the market for raw material was somewhat competitive before the buyers' cartel, the producer of raw material may now be incurring a loss in the short run and shut down in the long run.

Another way of fixing prices is exchanging information with the competitors of future price increases, such as the size and time of the increase. The intention is not always to achieve similar prices, but rather to maintain a status quo between the market actors and their percentage market shares, even after a price increase.[90]

Another form of horizontal coordination involves the *limitation of production* in order to achieve a subsequent effect on the market price. The demand for a normal good is such that a lower quantity on the market will make people willing to pay more per unit, which raises the market price. Market actors may achieve this by either agreeing on production or sales

[88] Faull & Nikpay, pp 1027f.
[89] Faull & Nikpay, pp 1028ff.
[90] Faull & Nikpay, pp 1032f.

quotas, which means that competitors agree to produce no more than a certain amount among them, and how much each of the participants is allowed. The same may be agreed upon regarding sales, whereby certain sales volumes or customers are allocated to the respective sellers.[91]

It is further possible to achieve the same goals by agreeing to control or limit investments in for example technology or advertising. An improvement in either technology or advertisement may boost sales and, thus, disturb both the total sales volume on the market and the division of production or sales volumes among the parties to the agreement.[92]

Agreements, through which the parties grant each other exclusive rights to specialize their respective productions in favor of each other, through which they channel their total output through certain members, or, through which they partake in joint selling arrangements, are also forms of indirectly controlling the market price through the limitation of output.[93]

Another means of horizontal coordination is setting certain industry standards, which inhibits competition by product differentiation. Another aspect is that standard agreements may foreclose competitors who are unable to meet the requirements of the standard agreement.[94]

Market-sharing agreements, through which the parties partition markets between them, are often the result of different price-fixing and output-limiting schemes. Nonetheless, such coordination may also exist on its own, as a means to achieve anticompetitive effects. There are a multitude of ways to do this. Coordination may for example entail the allocation of market shares among the parties. Another way is to allocate different territories or distribution channels to the different parties.[95] The very same may be done regarding customers. Specifically, agreements about rigging bids in public procurement allocate different customers to different parties of the agreement.[96] In addition to the just mentioned, competitors may agree to divide among themselves the supply sources of a certain raw material, and thus partition the market.[97]

Last but not least, horizontal coordination between two or more market actors may also consist of *agreements about foreclosure* of competitors from the market. This kind of coordination may prevent new competitors from entering the market or retaliate at existing competitors who refuse to partake in coordination. In the former case, foreclosure may for instance occur through import restrictions or through measures, which gives the competitor competitive disadvantages. In the latter case, foreclosure of

[91] Faull & Nikpay, pp 1033f.
[92] Faull & Nikpay, p 1035.
[93] Faull & Nikpay, pp 1035f.
[94] Faull & Nikpay, p 1037.
[95] Faull & Nikpay, pp 1038ff.
[96] Faull & Nikpay, pp 1040ff.
[97] Faull & Nikpay, p 1043ff.

competitors who refuse to comply with the anticompetitive agenda may be achieved through boycotts.[98]

The following types of horizontal coordination are such that they may have *specific economic efficiency gains*. This does however not exclude them from having negative economic effects, either solely or in addition to the positive economic effects.[99]

Joint ventures may be defined as such agreements, whereby two or more independent undertakings partially integrate their businesses under joint control to achieve a commercial objective.[100]

Research and development agreements include a multitude of different forms of cooperation, either aiming at improving existing products or technologies or at developing entirely new ones. The cooperation may entail different levels of integration between the partaking undertakings and the results may be paid for by an outside party or benefit only the parties to the cooperation.[101] In the same way, production agreements include a variety of forms of cooperation regarding production, between two or more undertakings.[102]

Joint selling agreements involve the cooperation between actual or potential competitors in the selling of products or services. The forms of commercial policies include prospecting of markets to reciprocal assistance in distribution.[103] As regards joint purchasing agreements, also these take different forms, but have in common that they usually aim at creating buying power.[104]

Information exchange agreements entail such arrangements, which gather information from participants and then process it and supply it back. This may be a key element in an efficiency-enhancing cooperation, such as the just mentioned examples, but unaccompanied by an agreement like that they are likely anticompetitive.[105]

Standardization agreements between undertakings are yet another form of cooperation, which may have positive economic effects. In such a situation, where the standard setting is vital for entry to the market, it may pose an anticompetitive barrier.[106] *Standard terms agreements* sound somewhat similar to standardization agreements, but instead target terms in relation to customers.[107]

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[98] Faull & Nikpay, p 1043f.
[99] Faull & Nikpay, pp 884ff.
[100] Faull & Nikpay, p 890.
[101] Faull & Nikpay, pp 917f.
[102] Faull & Nikpay, p 941.
[103] Faull & Nikpay, p 961.
[104] Faull & Nikpay, p 971.
[105] Faull & Nikpay, p 981.
[106] Faull & Nikpay, pp 1005f.
[107] Faull & Nikpay, p 1018.

3.2.2 Vertical Coordination

In addition to horizontal cooperation, different vertical restraints also comprise a big part of all anticompetitive behavior. Vertical agreements are generally agreements between undertakings which operate on different levels of the production or supply chain.[108] Examples of such agreements are exclusive contractual relationships, where a party agrees not to contract with third parties, and resale price maintenance, where the supplier dictates the resale price downstream. They all have in common the negative effects on competition from imposing supracompetitive prices and foreclosing competitors.[109] In the following, some distinguished types of vertical coordination are accounted for. Descriptions of such behaviors, which overlap in nature and effect with the above-mentioned horizontal types of coordination, are not repeated.

Starting with so-called *single branding*, this type of vertical coordination between a supplier and distributor entails an agreement that the distributor exclusively or mainly sells the supplier's products. Either the distributor is bound by a non-compete obligation, which means it should not sell other suppliers' products, or the same goal is achieved through less explicit means. For example, there are financial incentives, such as non-linear pricing schemes, which encourage the distribution of the good in question. Quantity and fidelity rebates are examples of such non-linear pricing schemes. In addition, a slightly more hands on way to achieve single branding is the requirement from the supplier that the distributor purchase at least a minimum quantity, which in practice makes it impossible to distribute any products of competitors.[110]

Exclusive distribution agreements are such agreements which consist of on the one hand the supplier agreeing on their part to only sell their products to one distributor within a specific territory, and on the other hand the distributor agreeing not to distribute actively outside of that territory.[111] Vertical coordination involving the same set of reciprocal commitments, but regarding *exclusive customer allocation* instead of geographical territory, has essentially the same effects.[112]

Selective distribution occurs when a supplier agrees to sell a product only to certain distributors, fulfilling some minimum quantitative or qualitative criteria, and the distributor agrees not to distribute that product outside the distribution network.[113]

A *franchising* agreement involves an agreement whereby the supplier licenses a business method, meaning for example its trademarks and know-

[108] Faull & Nikpay, p 1372.
[109] Geradin *et al,* pp 463f, 465ff and 475ff.
[110] Faull & Nikpay, pp 1421f.
[111] Faull & Nikpay, p 1426.
[112] Faull & Nikpay, p 1429.
[113] Faull & Nikpay, p 1429.

how, to some licensees, sometimes implying different levels of selective distribution, exclusive distribution and single branding.[114]

Exclusive supply agreements mean that the supplier may sell its products only or mainly to one buyer.[115]

Upfront access payment and *category management* agreements are practices which have become more and more common in retail. Upfront access payments are fixed fees payable by the supplier in order to get access to a distribution network. Particular examples are slotting fees and pay-to-stay fees, whereby the supplier reserves a certain shelf space at the retailer.[116] Category management agreements involve suppliers being entrusted by distributors with the marketing of a category of products, including competitors' products.[117]

A *tying* agreement is an agreement by which the supplier makes the sale of one product dependent on the buyer also buying another distinct product. If the tied product would not normally be bought together with the first product it is considered as distinct. [118]

The r*ecommended* and *maximum prices*, used in resale by the buyer, may be agreed upon between the supplier and buyer of a product. In cases where such prices amount to minimum prices, which in theory are higher than the competitive prices, they are harmful to competition.[119]

3.3 Abuses of a Dominant Position

A second form of anticompetitive behavior are different abuses of a dominant position on the market.[120] Abusive conduct by an undertaking that is dominant on a market may take place in different ways. Usually it is categorized either as *exploitative* or *exclusionary*. *Exploitative* abuse means that a dominant firm raises its prices directly in order to increase its profits – hence, it exploits its own dominant position. *Exclusionary* abuse refers to inhibiting one's competitors from expanding on the market, or from entering the market at all, and shifting its market power onto neighboring markets. Hence, the abuse excludes or forecloses competitors from the market. All exclusionary abuse arguably entails an indirect approach by the dominant undertaking in the ultimate goal of raising its profits.[121]

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[114] Faull & Nikpay, pp 1434f.
[115] Faull & Nikpay, p 1435.
[116] Faull & Nikpay, pp 1437f.
[117] Faull & Nikpay, p 1438.
[118] Faull & Nikpay, p 1439.
[119] Faull & Nikpay, pp 1440f.
[120] Geradin *et al*, p 175.
[121] Ashton, pp 404, 425ff.

3.3.1 Exploitative Abuses

Exploitative abuses by a dominant undertaking mainly entail the practice of *excessive pricing*. Economically speaking, excessive pricing means setting the price at a level above the competitive price. This may be done because the dominant undertaking holds the market power to. In the same way, the dominant undertaking may also impose unfair trading conditions, resulting in the same effect.[122]

By using its buyer's power to extract unfairly low prices in relation to its own supplier, a dominant undertaking may engage in abuse also upstream the supply chain.[123]

Exploitative abuse by a dominant undertaking may occur through the *limitation of production, markets or technical development*, in addition to such anticompetitive behavior achieved through agreements and concerted practices.[124]

3.3.2 Exclusionary Abuses

Predatory pricing is the practice by a dominant undertaking of lowering its price so that it incurs a loss or lower profits, such as to force competitors to exit the market, or to prevent potential competitors from entering it. In the absence of competition, the same dominant undertaking may then increase its price.[125] Another way of abusing one's dominant position is to *squeeze one's margins*, through setting the input price and the output price, such that the profits made are insufficient for the other competitors to cover their costs.[126]

Exclusive dealing is the practice, whereby the customer is obligated to buy all or a large extent of the products on the market from the dominant undertaking. They may take the form of explicit exclusivity obligations or as loyalty rebates or other non-linear pricing.[127]

Tying and bundling together make up the practice of joint selling of two or more products. Tying specifically refers to the supplier making the sale of one product dependent on the customer buying also another product. It may occur through the technical incompatibility of the first product with others than the one tied to it, or it may solely be tied by the sales contract in question. Bundling refers to the proportionate sale of the two tied products. However, mixed bundling means that the products are available for sale also separately, but then to a higher price.[128]

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[122] Faull & Nikpay, pp 512f and 516f; Geradin *et al,* pp 291f.
[123] Faull & Nikpay, p. 522.
[124] Faull & Nikpay, pp 522f.
[125] Faull & Nikpay, p 397.
[126] Faull & Nikpay, p 480; Geradin *et al,* pp 238f.
[127] Faull & Nikpay, p 420, and note 90, above; Geradin *et al*, pp 212f.
[128] Faull & Nikpay, p 439, and note 98, above; Geradin *et al,* pp 231f.

The *refusal to supply* may constitute an abuse of an undertaking's dominant position in certain cases. An example may be when the practice is meant to work as punishment for customers also dealing with competitors of the dominant undertaking. Thus, the refusal to supply may actually be a way to enforce an exclusive dealing or tying agreement. The refusal to deal may be explicit or a consequence of unreasonable trading conditions imposed by the supplier.[129]

The abuse of a dominant position through *price discrimination* means selling the same product at different prices to different buyers, while the price difference is not instigated by any cost difference. This may include different conditions, as well as prices. As prices normally vary over time, price discrimination implies that the products are sold to the different buyers during the same time period.[130]

3.4 Concluding Remarks

It must be said that it is impossible to identify all sorts of anticompetitive behavior, because there are infinite ways of negatively affecting competition, and these ways are constantly evolving, as the economy does. It is also impossible, in the context and within the purpose of this thesis, to describe even the most typical behaviors in an in-depth way, because there are so many variations, all demanding specific considerations. However, anticompetitive behavior does cover some typical forms of conduct, identified in this chapter as coordination between undertakings and abuses by (mainly) a dominant undertaking. Within these two groups, further divisions have been made according to type. Matters regarding the form of coordination, such as explicit or tacit collusion, are excluded from this chapter, as form is mostly irrelevant in terms of achieved negative effects.[131]

Anticompetitive coordination may occur between competitors as well as between actors in different levels of the supply chain. The most important horizontal and vertical coordination types, which are emphasized in most standard competition textbooks, have thus been listed and described. Some of these types of coordination may have pro-competitive elements and efficiency gains sometimes. It is in such cases important to assess whether these efficiency gains benefit the end consumer. Nevertheless, such coordination types are also used as disguised efforts of anticompetitive behavior and have therefore been included in this chapter.

Studying the list of anticompetitive coordination, one may find a natural division on the basis of how the coordination types affect the market, independently of their character as horizontal or vertical, and possible efficiency-enhancing or not. This division consists in behaviors which

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[129] Faull & Nikpay, pp 463ff; Geradin *et al,* pp 250ff.
[130] Faull & Nikpay, p 523; Geradin *et al,* pp 293ff.
[131] See above under 2.2.4 and below under 4.3.2 for relevant considerations regarding form.

directly set the price to a supra-competitive level, behaviors which limit output in different ways and thus achieve supra-competitive prices indirectly, and behaviors which reduce competition on the market through different ways of foreclosure of competitors.

When it comes to abuses by dominant undertakings, the usual division into exclusionary or exploitative abuses, already reflects the different ways of negatively affecting the market. Exploitative abuses correspond to horizontal and vertical agreements, which have as their effect or object to set supra-competitive prices and limiting output. Exclusionary abuses correspond to different types of foreclosing coordination.

Consequently, it is a fair conclusion, based on the effects of all anticompetitive behaviors listed and described in this chapter, that they may be divided according to the way that they affect the market. In essence, they all aim at supra-competitive profits but seek and achieve it differently. The answer to the second sub-question, *"Which behaviors typically distort competition on the market and how?"*, is thus that there is an infinite number of ways distorting competition on a market, but they may typically be categorized as such, which directly raise the price, such which limit output or such which foreclose competitors. Of course, it is possible for one type of behavior to affect the market in more the one of these ways.

4 Damages Actions in EU Competition Law

4.1 Background

Having acquired an understanding, in chapter 2 and 3, of the different behaviors that typically distort competition and their respective economic effects, chapter 4 of this thesis proceeds with an examination of the legal solutions to quantifying competition damages, provided in EU law. The aim of this chapter is hence to provide the last piece of the puzzle in enabling an analysis of EU law on quantification of damages. This entails answering the third sub question:

iii. Which are the legal solutions to quantifying competition damages provided in EU law?

The outline of this chapter is as follows. First, in this introductory piece, the nature and the main objectives of the EU are presented along with a description of the central substantive EU legislation on competition law. Secondly, follows an account in 4.2 of the most important developments in EU private enforcement and the right to damages, leading up to the adoption of the Directive. In 4.3, the main implications regarding bringing competition damages actions in the EU, as addressed in the Directive, are described. Thus far, the chapter provides the context as well as important conceptual insights for reading and understanding the rest of this chapter and thesis. In 4.4, the solutions in the Practical Guide are presented, accounting for the different methods and techniques for quantifying competition damages, along with their respective strengths and weaknesses. The whole chapter and its main findings are then summarized and commented in a concluding remark under 4.5.

4.1.1 The EU and its Objectives

The EU is a collaboration, to which its Member States confer certain competences, in order to attain common objectives.[132] It is today founded on the TEU, the TFEU and the Charter of Fundamental Rights of the European Union[133], which all have the same legal value, and together constitute some of the primary sources of EU law.[134] The common objectives of the EU have increased in number and the scope of the collaboration has significantly broadened since the original treaties of the 1950s.[135] The general goal is to create a union among the peoples of Europe, which

[132] Article 1(1), TEU.
[133] Charter of Fundamental Rights of the European Union, 7.6.2016, OJ C202/2
[134] Articles 1 and 6, TEU.
[135] Bernitz, Ulf & Kjellgren, Anders, *Europarättens grunder*, Sixth Edition, Norstedts Juridik, Stockholm, 2018, pp 35ff and 50ff.

continuously grows closer.[136] Throughout the evolvement of the cooperation, however, the *internal market* has remained a specific core objective.[137]

The EU is to establish the internal market, which is to work for the sustainable development of Europe. It should be achieved through balanced economic growth, price stability and a highly competitive social market economy. The aims of it are full employment and social progress, along with a high level of environment improvement and protection. In addition, scientific and technological advance should be promoted.[138] The territory comprised by the internal market is an area without internal frontiers. Within this area the EU is to ensure the free movement of goods, persons, services and capital.[139]

The handing over of power by the Member States to EU's common organs, to make binding decisions on their behalf makes the EU a supranational cooperation. It means that, as opposed to regular intergovernmental cooperation, where the states maintain their sovereignty, the Member States have, in some areas, actually given up their sovereignty in favor of institutionalized decision-making on a supranational level.[140]

There are a few principles to ensure that the EU does not exceed the limits of its competences. Firstly, the principle of subsidiarity states that the EU should only use its competence to achieve a certain goal if the Member States are not able to sufficiently meet that goal on a national level.[141] Secondly, the principle of proportionality states that measures by the EU should in neither form nor substance go beyond what is necessary to meet the treaties' objectives.[142] Thirdly, the EU must also respect the national identities of the Member States. This means respecting their regional self-determination and national security issues.[143] Lastly, the principle of loyalty demands that the EU and the Member States collaborate loyally and mutually assist each other.[144]

4.1.2 Overview of EU Competition Law

The internal market should be achieved through, among other things, a highly competitive social market economy.[145] It comprises an order, which ensures that competition law remains undistorted.[146] Accordingly, the Member States have attributed to the EU the exclusive competence,

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[136] Article 1(2), TEU.
[137] Bernitz & Kjellgren, pp 35 and 264; Chalmers *et al,* p 668.
[138] Article 3(3), TEU.
[139] Article 26(2), TFEU.
[140] Bernitz & Kjellgren, p 23.
[141] Article 5(3), TFEU.
[142] Article 5(4), TFEU.
[143] Article 4(2), TFEU.
[144] Article 4(3), TFEU.
[145] Article 3(3), TEU.
[146] Protocol no 27 to the TEU and TFEU, referring to Article 3(3), TEU.

mentioned above in the previous section, of establishing the necessary competition rules for the functioning of the internal market.[147] In addition, the EU and its Member States must act in accordance with the principle of an open market economy with free competition, which promotes efficient resource allocation.[148]

In Europe cartels and national champions were tolerated until the 1950s and 60s. When the Treaty of Rome was being negotiated, however, the United States, whose competition law dates back to the *Sherman Act*[149] from 1890, and part of the European academic community, pushed for an antitrust regulation. Such rules were introduced as a complement to the internal market rules, as they encouraged competition and inhibited distorting activities.[150] Today, articles 101 through 106 of the TFEU aim at undertakings, whose activities distort competition in different ways. Out of these, the rules relevant to this thesis are first and foremost articles 101 and 102 TFEU, which constitute the main substantive rules in EU competition law, capturing most kinds of anticompetitive behavior by undertakings.[151]

In order to ensure the effectiveness of articles 101 and 102, article 103 TFEU states that the Council is to adopt the appropriate regulations and directives, specifying, among other things, the relationship between national law and EU competition law. In addition, the Commission is empowered in different regulations to set out further rules and guidance on the respective issues.[152] In addition, the European Court of Justice has provided extensive case law, covering most of what comprises EU competition law. Thus, a large body of secondary legislation, including both substantive and procedural rules, has evolved.[153] In the light of this, follows an account for the main substantive competition rules in EU law, regarding anticompetitive behavior by undertakings.

4.1.3 The Central Substantive Rules

Articles 101 and 102 TFEU are applicable in cases of anticompetitive behavior by undertakings. The term "undertaking" has been widely interpreted in case law and constitutes, in the context of competition law, any economic activity by an entity, regardless of its legal status.[154]

EU law covers any anticompetitive behavior, which may affect trade between the Member States. This is thus a rule of jurisdiction. The

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[147] Article 3(1)(b), TFEU.
[148] Article 120, TFEU.
[149] The Sherman Act prohibited competition-distorting activities like coordination between firms and attempts at monopolizing the market.
[150] Bernitz & Kjellgren, p 412; Chalmers et al, p 944.
[151] Bellamy & Child, p 4.
[152] Bellamy & Child, pp 5f.
[153] Rodger, Barry, Sousa Ferro, Miguel & Marcos, Francisco Marcos (red.), *The EU antitrust damages directive: transposition in the member states*, Oxford university press, Oxford, 2018, p 7.
[154] Bellamy & Child, pp 88ff.

conditions for the application of the rule are further specified in case law, and guidelines[155] by the Commission.[156] It is enough that the effect on trade is potential as opposed to actual, if this is shown to be probable and appreciable. According to case law, the effect on trade is appreciable if it is not insignificant. The guidelines state that agreements between undertakings, which do not exceed certain threshold values[157], are presumed not to have an appreciable effect on trade. This presumption is however rebuttable and only applies to Article 101 TFEU.[158] As regards Article 102 TFEU, the effect on trade must be caused by the alleged abuse.[159]

All agreements between undertakings, decisions by associations of undertakings and concerted practices, are prohibited, if they may affect trade between Member States and the object or effect thereof is the prevention, restriction or distortion of competition within the internal market.[160]

Such agreements particularly include those, which directly or indirectly fix purchase or selling prices or any other trading conditions, limit or control production, markets, technical development, or investment, and those, which share markets or sources of supply. In addition to said horizontal agreements, such vertical agreements include those, which apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage, and such agreements, which make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations, which, by their nature or according to commercial usage, have no connection with the subject of such contracts.[161]

Hence, provided the requirements of an effect on trade between Member States and the addressees of the article being undertakings in the context of competition law, there must be an agreement between undertakings, a decision by associations of undertakings or a concerted practice. The rule is thus meant to encapsulate many different forms of coordination and collusion. Independent unilateral conduct falls outside of the scope of the rule, according to case law.[162]

An agreement constitutes a faithful expression of at least two parties' concurring intentions, regardless of form. An agreement could therefore be a written or oral contract, a gentleman's agreement or any legally or morally non-binding arrangement.[163] A concerted practice is when two or more undertakings concert together and behave accordingly on the market, given

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[155] Commission Notice – Guidelines on the Effect on Trade Concept Contained in Articles 81 and 82 of the Treaty, 27.4.2004, OJ C101/07. [Hereinafter referred to as "Effect on Trade Guidelines"]
[156] Bellamy & Child, p 58.
[157] Effect on Trade Guidelines, paragraph 52.
[158] Bellamy & Child, pp 64ff.
[159] Bellamy & Child, p 69.
[160] Article 101(1), TFEU.
[161] Article 101(1), TFEU.
[162] Bellamy & Child, pp 106 ff.
[163] Bellamy & Child, pp 107ff.

there is causation between concertation and the subsequent behavior. The concerted practice may entail direct or indirect contact between the undertaking as well as unilateral disclosure of information, if the other requisites are satisfied.[164] Even the case of mere parallel behavior may constitute a concerted practice if there is not any other plausible explanation for it.[165] Decisions by associations of undertakings are decisions by entities, consisting of undertakings of the same kind, which represent or defend their common interest against the public or others.[166]

Provided, in addition to the effect on trade and the addressees being undertakings, that there is an agreement or concerted practice, the object or effect needs to be the prevention, restriction or distortion of competition within the internal market. If the object is to prevent, restrict or distort competition, there is no need for the cooperation to have an effect on competition. Otherwise, however, case law has established that the effect must be appreciable.[167] A notice[168] from the Commission specifies that the effect on competition is presumed not appreciable unless it exceeds some lower thresholds. The goods or services affected by a horizontal agreement should amount to at least 10% of the relevant market and, in vertical agreements, to 15%.[169]

Even if an agreement, decision or concerted practice falls under the scope of Article 101(1) TFEU, it may be exempt if it contributes to improving the production or distribution of goods, or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit. Further, it must not impose restrictions on the undertakings concerned, which are not indispensable to the attainment of these objectives, nor afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.[170] There are guidelines[171] from the Commission on the application of the exception.[172]

In addition to the exception in Article 101(3) TFEU, an agreement, decision or concerted practice may be also be considered lawful and enforceable, if included in one of the block exemptions adopted by the Council or Commission. Examples of such block exemptions, which are currently in

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[164] Bellamy & Child, pp 121ff.
[165] Bellamy & Child, p 127.
[166] Bellamy & Child, pp 147f.
[167] Bellamy & Child, pp 194f.
[168] Communication from the Commission - Notice on Agreements of Minor Importance Which Do Not Appreciably Restrict Competition Under Article 101(1) of the Treaty on the Functioning of the European Union, 30.8.2014, OJ C 291/01. [Hereinafter referred to as the "De Minimis Notice"]
[169] Bellamy & Child, pp 200ff.
[170] Article 101(3), TFEU.
[171] See the Communication from the Commission – Notice – Guidelines on the Application of Article 81(3) of the Treaty, 27.4.2004, OJ C101/08.
[172] Bellamy & Child, pp 205f.

force, are those on vertical restraints[173], research and development[174] and specialization agreements[175]. These block exemptions entail a presumption of legality for relevant agreements.[176]

An agreement, decisions or concerted practice, which is prohibited according to Article 101(1) and not exempt according to Article 101(3), is automatically void.[177]

In addition to agreements which may distort competition, any abuse by one or more undertakings of a dominant position, within the internal market or in a substantial part of it, is prohibited in so far as it may affect trade between Member States. Such abuse particularly consists in directly or indirectly imposing unfair prices or other trading conditions, limiting production, markets or technical development to the prejudice of consumers. Abuse further consists of the application of different conditions to equivalent transactions and thereby putting some trading parties at a competitive disadvantage. In addition, a particular form of abuse occurs when the conclusion of a contract is subject to the acceptance by the parties of supplementary obligations, which are not related with the subject of such contracts, either by nature or according to commercial usage.[178] This is a non-exhaustive list.[179]

Case law has identified a dominant position on the relevant market as one of economic strength, allowing the undertaking to act independently of other market actors and thus hinder effective competition. In other words, a dominant position on the relevant market demands substantial market power. The first step in determining whether or not an undertaking holds such a position is to determine the relevant geographic and product market, and if in turn it constitutes a substantial part of the internal market. The second step is to assess the degree of market power of the undertaking. This entails considering different factors, such as market share and the circumstances on the market.[180]

Abuse is not defined in article 102 TFEU, merely exemplified with the non-exhaustive list, above. However, case law has defined the concept of abuse as behavior, which has the effect of hindering the maintenance of existing

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[173] Commission Regulation (EU) No 330/2010 of 20 April 2010 on the Application of Article 101(3) of the Treaty on the Functioning of the European Union to Categories of Vertical Agreements and Concerted Practices, 23.4.2010, OJ L102/1.
[174] Commission Regulation (EU) No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to Certain Categories of Research and Development Agreements, 18.12.2010, OJ L335/36.
[175] Commission Regulation (EU) No 1218/2010 of 14 December 2010 on the Application of Article 101(3) of the Treaty on the Functioning of the European Union to Certain Categories of Specialisation Agreements, 18.12.2010, OJ L335/43.
[176] Bellamy & Child, pp 247ff.
[177] Article 101(2), TFEU.
[178] Article 102, TFEU.
[179] Bellamy & Child, p 893.
[180] Bellamy & Child, pp 869ff. For an in-depth account on the application of the dominance criterion, see Chapters 4 and 10.2.b. of the same source.

competition on the market through methods different from those which characterize normal competition, when it is already weakened by the very presence of the dominant undertaking. The behavior does not have to affect consumers directly, but it suffices if it is detrimental to consumers through its impact on competition. A dominant undertaking is especially responsible for not impairing competition.[181]

Article 102 does not include any exceptions, however, case law has established that, even if the behavior of a dominant undertaking seems like an abuse, the undertaking may submit an objective justification for the behavior.[182]

4.2 Competition Damages Actions in the EU

4.2.1 Briefly on EU Competition Law Enforcement

As established earlier, it is not enough to legislate on the prohibition of activities which distort competition on the internal market, however well said legislation captures anticompetitive behavior. In order to ensure that competition laws are effective and to protect competition on the internal market, it is as vital to legislate on the enforcement of these rules.[183]

There are many ways of enforcing the competition rules and a distinction that is commonly made is that between public enforcement and private enforcement. By public enforcement one usually means the application of competition rules by competition and other public authorities. Private enforcement is a term referring to the application of competition rules in civil disputes between private parties and in civil proceedings. The different forms of private enforcement are nullity, injunctive relief and damages actions.[184]

In the EU, the enforcement of competition laws has mainly been the task of the Commission. Before 2004, the Commission was responsible for investigating and fining infringements of what are now articles 101 and 102 TFEU. On the basis of article 103 TFEU, the Council then adopted a new regulation[185] on the implementation of the competition rules, thus replacing the former regulation[186] from 1962. The new regulation introduced a new

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[181] Bellamy & Child, pp 893f. See Chapter 10.3 of the same source for an in-depth account on different kinds of abuse and how to determine them.
[182] Bellamy & Child, p 901.
[183] See for example Article 103 TFEU.
[184] Ashton, pp 1f.
[185] Council Regulation (EC) No 1/2003 of 16 December 2002 on the Implementation of the Rules on Competition Laid Down in Articles 81 and 82 of the Treaty, 4.1.2003, OJ L 1/1.
[186] Council Regulation (EEC) No 17/1962 of 6 February 1962, First Regulation Implementing Articles 85 and 86 of the Treaty, 21.2.1962, OJ 13/204.

decentralized enforcement regime, sharing the Commission's competences with national competition authorities (NCAs) and national courts. This was probably necessary, considering the inclusion of several new Member States at the same time, and the anticipation of an increased workload for the Commission.[187]

As opposed to public enforcement[188], private enforcement in the EU is therefore a relatively new phenomenon. In particular, competition damages actions have become an increasingly important form of enforcement within the EU since the beginning of the millennium, a least theoretically.[189]

4.2.2 The Notion of Damages

It is of relevance to this thesis to understand the main functions of damages. The respective meaning and importance of these functions vary between different legal systems. However, some general features are distinguishable and of significance in evaluating the EU rules on quantification of damages, thus answering the third sub-question and consequently the research question.

The *reparative* function of damages is the pecuniary compensation and restitution for the claimant's losses. The difference between compensation and restitution is that the former covers actual losses due to the liable conduct, and the latter places the claimant in the position but for the liable conduct, as for example the loss of profit.[190] The preventive function of damages is to deter unwanted conduct, through people's wish to avoid liability for losses due to such conduct.[191] Determining liability to pay damages also corresponds to the punitive function of sanctioning unwanted behavior. Different legal orders have variating relationships between damages and criminal punishment.[192]

When considering whether the wanted functions of damages are achieved in economic terms, according to the Coase Theorem, the transaction cost of awarding damages should be taken into account.[193]

4.2.3 The Right to Competition Damages in EU Law

The right for individuals to claim damages due to breaches of EU competition law is something which has evolved mainly through the

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[187] Rodger et al, pp 5ff, and Whish & Baily, p 306.
[188] See Bellamy and Child, Chapters 13-15 for a comprehensive account on public enforcement by the Commission, NCAs and national courts.
[189] Ashton, p 3f, and Rodger et al, p 9.
[190] Hellner, Jan & Radetzki, Marcus, *Skadeståndsrätt,* Tionde upplagan, Norstedts juridik, Stockholm, 2018, pp 37f and 50.
[191] Hellner & Radetzki, pp 40ff.
[192] Hellner & Radetzki, pp 55, 59f and 68f.
[193] Hellner & Radetzki, pp 52ff.

jurisprudence of the ECJ. The doctrine of *direct effect* has in ways been the first stepping stone in the development of today's right to damages for non-compliance with EU law. The meaning of the concept of direct effect has been widely discussed. One recognized definition is the ability of binding EU sources of law to be invoked and relied upon by individuals before national courts, as well as – in some cases – to confer rights on individuals.[194]

The concept of direct effect was first established by the ECJ in the famous case *Van Gend en Loos*[195], where the Court held that Treaty Articles may be invoked and relied on by individuals before national courts, if they are sufficiently clear, precise and unconditional.[196] This view would automatically internalize the Treaty rules within the national legal systems and thus fortify the effectiveness of EU law as well as its private enforcement.[197] The principle laid down in *Van Gend en Loos* has subsequently been broadened through a loosening of the conditions and through horizontal application (in addition to vertical application).[198] The principle applies to all binding sources of EU law. However, the direct effect of directives is a specifically complex matter.[199]

In the *Francovich*[200] judgement, were the possibilities of direct effect of the directive in question were exhausted, the ECJ held that the Member State could still be liable to pay damages to the individual for loss suffered due to a non-implementation of the directive, for which the State is responsible. Thus, the ECJ established a principle of State liability for harm caused to individuals through breaches of EU law.[201]

The conditions for state liability set forth in the judgement are that the directive confers specific rights on the individual, that the content of the right must be identifiable in the directive, and that there be causality between the breach of EU law and the loss suffered by the individual.[202] In its reasoning, the ECJ stressed that the Treaty creates rights for individuals, which must be protected by the national courts. Otherwise the full effectiveness of EU law would be impaired. The principle of state liability is therefore inherent in the system of the Treaty.[203]

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[194] Craig, Paul & De Búrca, Gráinne, *EU Law: Text, Cases, and Materials*, Sixth Edition, Oxford University Press, Oxford, 2015, pp 184f.
[195] Judgement of the Court of 5 February 1963, C-26/62, *NV Algemene Transporten Expeditie Onderneming van Gend en Loos v Nederlandse Administratie der Belastingen,* [1963] ECR 1, EU:C:1963:1.
[196] Craig & De Búrca, pp 190ff.
[197] Craig & De Búrca, pp 189f.
[198] Craig & De Búrca, pp 190ff.
[199] The direct effect of directives falls outside the scope of this thesis. For those interested, it is thoroughly accounted for in Craig & De Búrca, pp 200-222.
[200]Judgment of the Court of 19 November 1991, C-6/90 and C-9/90, *Andrea Francovich and Danila Bonifaci and others v Italian Republic*, [1991] ECR I-5357, EU:C:1991:428.
[201] Craig & De Búrca, p 251.
[202] *Francovich*, paras 39-40b.
[203] *Francovich*, paras 30-35.

In the case *BRT v SABAM*[204], the ECJ stated, specifically regarding the main substantive competition rules, Articles 101 and 102 TFEU, that these articles tend to produce direct effects between individuals and thus create rights for individuals, which the national courts have to safeguard.[205]

A very important milestone in the developments of the right to claim damages for breaches of EU competition law was the case *Courage v Crehan*[206], wherein the right was extended to include breaches by private parties.[207] In the preliminary ruling, the ECJ held that a party to a contract in breach of Article 101 TFEU, who suffered a loss due to that contract, may claim compensation.[208] The reasoning of the ECJ was that the full effect of Article 101 would be compromised if a party to the contract in breach of the article would not be able to claim damages for loss due to that contract.[209]

In the joined cases *Manfredi*[210] the ECJ confirmed that anyone can claim damages for a loss due to an infringement of article 101 TFEU.[211] In addition, the ECJ specified that there must be a causal link between the harm and the breach, as well as certain procedural conditions.[212] The judgement thus shed light on the fact that with no applicable EU rules on competition damages actions, the applicable national procedural and substantive rules could prevent successful claims.[213]

4.2.4 Further Developments of EU Private Enforcement

In the light of the ECJ's jurisprudence, establishing and developing the right to damages for breaches of competition law, and the partly parallel decentralization of EU competition law enforcement through the Regulation 1/2003, a process of modernization of EU competition law enforcement had definitely started.[214]

However, in the 1990s the Commission had already begun to implement "a more economic approach". The development from a "forms-based

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[204] Judgment of the Court of 27 March 1974, C-127/73, *Belgische Radio en Televisie and société belge des auteurs, compositeurs et éditeurs v SV SABAM and NV Fonior*, [1974] ECR 51, EU:C:1974:25.
[205] *BRT v SABAM*, para 16.
[206] Judgment of the Court of 20 September 2001, C-453/99, *Courage Ltd v Bernard Crehan and Bernard Crehan v Courage Ltd and Others*, [2001] ECR I-6297, EU:C:2001:465.
[207] Whish & Bailey, p 309.
[208] *Courage v Crehan*, paras 3-16.
[209] *Courage v Crehan*, paras 17-33. See also for example *Van Gend en Loos* and *Francovich*, above.
[210] Judgment of the Court (Third Chamber) of 13 July 2006, C-295-298/04, *Vincenzo Manfredi v Lloyd Adriatico Assicurazioni SpA (C-295/04), Antonio Cannito v Fondiaria Sai SpA (C-296/04) and Nicolò Tricarico (C-297/04) and Pasqualina Murgolo (C-298/04) v Assitalia SpA*, [2006] ECR I-6619, EU:C:2006:46.
[211] *Manfredi*, para 61.
[212] *Manfredi*, paras 70–90.
[213] Whish & Bailey, p 310.
[214] Geradin, p 18; Whish & Bailey, pp 310f.

approach" to a more "effects-based approach" essentially meant an increased focus on the economic analysis of competitive harm rather than the form of a specific practice.[215]

As a first real initiative towards a legislative act on bringing competition damages actions, the Commission gave a private group of lawyers and economists the task of identifying the obstacles in bringing such claims. This initiative resulted in the Ashurst Study[216], published in 2004. The study identified an underdevelopment of the system for bringing such actions in the EU.[217]

In 2005, the Commission published a Green Paper[218] and a Commission Staff Working Paper[219], which addressed the different obstacles identified in the Ashurst Study, and proposed measures to tackle these obstacles.[220] The response to the Green Paper was considerable, and led the Commission to order another external study[221] in 2007.[222]

In 2008, the Commission came out with a White Paper[223] on damages actions for breaches of the EC antitrust rules, together with a Staff Working Paper[224] and an Impact Report[225]. The White Paper recognized that despite the existing right to compensation, victims of EC competition law infringements still forewent several billion euros of compensation every year. It further contained detailed proposals with policy choices and specific measures to tackle the identified impediments to bringing competition damages actions.[226]

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[215] Geradin, p 19.
[216] External Study by Ashurst, *Study on the Conditions of Claims for Damages in Case of Infringement of EC Competition Rules*, 31 August 2004, accessed on 24.5.2019 at http://ec.europa.eu/competition/antitrust/actionsdamages/economic_clean_en.pdf.
[217] Whish & Bailey, p 310.
[218] Commission of the European Communities, Green Paper – Damages Actions for Breach of the EC Antitrust Rules, 19.12.2005, COM(2005) 672 final, [SEC(2005) 1732].
[219] Commission of the European Communities, Staff Working Paper – Annex to the Green Paper – Damages Actions for Breach of the EC Antitrust Rules, 19.12.2005, COM(2005) 672 final, [SEC(2005) 1732].
[220] The Green Paper, pp. 3-4.
[221] External Study by a project team, *Making Antitrust Damages Actions More Effective in the EU – Final Report*, 21 November 2007, accessed on 24.5.201 at http://ec.europa.eu/competition/antitrust/actionsdamages/files_white_paper/impact_study.pdf#page=1.
[222] Whish & Bailey, pp 310f.
[223] Commission of the European Communities, White Paper on Damages Actions for Breach of the EC Antitrust Rules, 2.4.2008, COM(2008) 165 final, [SEC(2008) 404,405,406].
[224] Commission of the European Communities, Staff Working Paper Accompanying the White Paper on Damages Actions for Breach of the EC Antitrust Rules, 2.4.2008, COM(2008) 165 final, [SEC (2008) 405, 406].
[225] Commission of the European Communities, Staff Working Document Accompanying the White Paper on Damages Actions for Breach of the EC Antitrust Rules - Impact Assessment, 2.4.2008, COM(2008) 165 final, [SEC(2008) 404, 406].
[226] White Paper, p 2.

In 2009, another external study was commissioned and published, this time, on the quantification of competition damages.[227] A workshop on the quantification of antitrust harm in actions for damages, wherein economists partook after the publication of the study on quantification of antitrust damages, was held 26 January 2010. After the publication of the Draft Guidance Paper[228] in 2011, another workshop was held by as a public consultation on the former, on 27 February 2011.[229]

In 2013 the Commission finally presented its preliminary results in a communication[230] on quantifying competition damages, accompanied by the Practical Guide, and the proposal[231] for a Directive.

4.3 The Directive

The Council is to lay down the appropriate regulations and directives to give effect to the principles in Articles 101 and 102 TFEU.[232] So, on the 26th of November 2014 the Directive[233] on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union was signed into law by the Council, on proposal by the European Commission. The Directive was to be implemented by the Member States no later than the 27th of December 2016. [234]

4.3.1 The Scope of the Directive

The subject matter and scope of the Directive is to establish the rules necessary to ensure that anyone who suffers harm throughout the EU, due to a competition law infringement, is able to effectively exercise their right to claim full compensation for that harm. By ensuring equivalent protection to those who suffer such harm, the rules of the Directive foster undistorted competition and remove obstacles to the proper functioning of the internal

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[227] External Study by Oxera, *Quantifying Antitrust Damages – Towards Non-Binding Guidance for Courts*, December 2009, accessed on 23.5.2019 at http://ec.europa.eu/competition/antitrust/actionsdamages/quantification_study.pdf.
[228] Commission of the European Union, Draft Guidance Paper Quantifying the Harm in Actions for Damages Based on Breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union – Public Consultation, Brussles, June 2011.
[229] Information accessed on 23.5.2019 at http://ec.europa.eu/competition/antitrust/actionsdamages/quantification_en.html.
[230] Communication from the Commission on Quantifying Harm in Actions for Damages Based on Breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union, 11.6.2013, OJ C167/07.
[231] Commission of the European Union, Proposal for a Directive of the European Parliament and of the Council on Certain Rules Governing Actions for Damages Under National Law for Infringements of the Competition Law Provisions of the Member States and of the European Union, 11.6.2013, COM(2013) 404.
[232] Article 103, TFEU.
[233] See note 8, above.
[234] http://ec.europa.eu/competition/antitrust/actionsdamages/directive_en.html on 23.5.2019.

market.[235] In addition, the rules also coordinate the enforcement of competition rules by competition authorities with that of the national courts.[236]

The Directive states that any person – legal or natural – who has suffered harm due to an infringement of competition law, has the right to claim and obtain full compensation.[237] Full compensation means placing the claimant in the position he or she would have been in, had the infringement not occurred. It therefore includes compensation for actual loss, loss of profit and interest, no more, no less. The Directive explicitly rejects the notion of punitive and multiple damages of any kind.[238] So far, the Directive basically codifies the right to damages for infringements of competition law, established in EU case law.[239]

The Directive goes on to codify the principles of effectiveness and equivalence. It should thus not be practically impossible or excessively difficult to exercise the right to full compensation because of the design or application of the national rules and procedures regarding damages claims based on infringements of Articles 101 and 102. These national rules and procedures should also not be any less favorable to the alleged injured parties, than the rules governing infringements of national law.[240]

4.3.2 The Disclosure of Evidence

National courts must be able to order the defendant or a third party to disclose evidence, which is relevant and within their control, if the claimant justifies the claim with sufficient evidence to make it plausible. In the same way, the national courts may order the claimant or a third party to disclose evidence upon a request by the defendant. The article does however not go beyond the rights and obligations set out in Regulation (EC) No 1206/2001.[241]

The disclosure of evidence also has to be proportionate. This implies considering the legitimate interests of all parties, including the evidence in support of the disclosure request, the scope and cost of the disclosure and if the evidence sought contains confidential information. Such confidential information should not prevent a court from ordering the disclosure of evidence containing it, but there must be effective measures in order to protect the information in question.[242] The rules on disclosure of evidence include evidence found in files of competition authorities. However, the national courts must take into consideration, among other things, whether

[235] Article 1.1, the Directive.
[236] Article 1.2, the Directive.
[237] Article 3.1, the Directive.
[238] Articles 3.2. and 3.3, the Directive.
[239] See 4.3.3, above.
[240] Article 4, the Directive.
[241] Article 5.1, the Directive.
[242] Article 5.2-8, the Directive.

the need to safeguard public enforcement weighs heavier. The Member States have to ensure that evidence regarding leniency statements and settlement submissions remains protected.[243] There are further limits on the use of evidence obtained solely through access to the file of a competition authority.[244]

4.3.3 Penalties

The national courts shall be able to impose penalties on those failing to or refusing to comply with a disclosure order or the obligations protecting confidential information, those destroying relevant evidence or on those breaching the limits on the use of evidence.[245] The penalties are to be effective, proportionate and dissuasive. If needed, the national courts may even dismiss a claim, presume a claim proven, or order the payment of costs, on the basis of the behavior of a party to the proceedings.[246]

4.3.4 Effects of National Decisions

A final decision of an infringement of competition law by an NCA or a review court is irrefutable in an action for competition damages before a national court.[247] Such a final decision, which comes from another Member State, is to at least have the effect of prima facia evidence for the infringement, along with other evidence adduced by the parties.[248]

4.3.5 Limitation Periods

The Member States have to determine the start, duration and suspension of limitation period for bringing actions for competition damages. The limitation period may not begin before the infringement has ceased, and the claimant knows or can reasonably be expected to know of the infringement, of the harm caused to him or her, and the identity of the infringer.[249] The limitation period has to be at least five years.[250] It further has to be suspended for at least a year after a decision is final or otherwise terminated, if a competition authority starts an investigation or proceeding relating to the infringement in question.[251]

4.3.6 Joint and Several Liability

Undertakings who have jointly infringed competition law are also jointly severally liable for the harm caused, thus that each of them is bound to

[243] Article 6, the Directive.
[244] Article 7, the Directive.
[245] Article 8.1, the Directive.
[246] Article 8.2, the Directive.
[247] Article 9.1, the Directive.
[248] Article 9.2, the Directive.
[249] Article 10.1-2, the Directive.
[250] Article 10.3, the Directive.
[251] Article 10.4, the Directive.

compensate the injured party until he or she is fully compensated.[252] There are some exceptions for small or medium-sized infringers, under certain circumstances.[253]

4.3.7 The Passing-on of Overcharges

Indirect as well as direct purchasers have the right to claim full compensation for harm suffered due to an infringement of competition law.[254] Such a claim should not lead to any overcompensation.[255] However, the injured party has the right to claim and obtain compensation for loss of profits due to a full or partial passing-on of the overcharge.[256] The equivalent applies to upstream effects.[257] National courts must have the power to estimate the share of any passed-on overcharge.[258]

The defendant has to be able to invoke the passing-on defense, meaning the counterclaim that the claimant has passed on the whole or part of the overcharge, and thus suffered less harm due to the infringement. The defendant has the burden of proof for the passing-on.[259]

When the claimant is an indirect purchaser, however, he or she has the burden of proof regarding the existence and scope of a passing-on of the overcharge.[260] This burden of proof shifts to the defendant if the claimant shows that the defendant has committed an infringement of competition law, that the infringement has resulted in an overcharge for the direct purchaser and finally that the claimant has purchased the relevant goods or services or such derived from or containing them.[261]

To avoid multiple liability or the absence of liability of the infringer, national courts must be able to control if there are any other actions for damages or judgements, relating to the same infringement, or other relevant public information from the public enforcement of competition law.[262] The Commission is to provide the guidelines for national courts on the estimation of passed-on overcharges.[263]

4.3.8 The Quantification of Damages

Neither the burden nor the standard of proof required for the quantification of harm should compromise the exercise of the right to damages by making

[252] Article 11.1, the Directive.
[253] Article 11.2-6, the Directive.
[254] Article 12.1, the Directive.
[255] Article, 12.2, the Directive.
[256] Article 12.3, the Directive.
[257] Article 12.4, the Directive.
[258] Article 12.5, the Directive.
[259] Article 13, the Directive.
[260] Article 14, the Directive.
[261] Article 14.2, the Directive
[262] Article 15.1, the Directive.
[263] Article 16, the Directive.

it impossible or excessively difficult. If it is established that the claimant suffered harm, but it is practically impossible or excessively difficult to quantify, the national court has to be able to estimate it.[264] It is presumed that cartels cause harm.[265] An NCA may, on the request by a national court, assist in quantifying damages, if it deems it appropriate.[266] In the absence of further rules on the quantification of damages it is up to the Member States to establish their own rules on the matter so long as they pay respect to the principles of effectiveness and equivalence. For the purpose of coherence and predictability the Commission is to issue guidelines on the quantification of competition law damages.[267]

4.3.9 Some Conclusions

To summarize, the attempt at leveling the playing field in bringing damages actions due to competition law infringements still leaves some difficulties for those who wish to do so. The Commission did issue a non-binding practical guide[268] on quantifying damages and national courts may indeed seek the assistance of an NCA when quantifying damages. However, national rules on access to evidence and the burden and standard of proof may inhibit successful claims (although not really rendering the practically impossible or excessively difficult) because the claimant must still prove the casualty between the infringement and the damage as well as the extent of the damage. This may lead to forum-shopping as different rules my apply throughout EU.[269]

All in all, the general incoherency of the Directive, the probable interpretation problems due to its vagueness, and bias, insofar that it focuses mainly on follow-on actions, damage caused specifically by cartels and such damage which flows downstream, add to its shortcomings.[270] It has been suggested that a marginal improvement in the position of victims due to the Directive, may be positive in terms of consumer welfare, but does not improve deterrence. In some cases, however few, the Directive is making consumers worse off because infringers do not apply for leniency.[271]

Despite the criticism just mentioned, the Directive remains an important codification of the modernization process of competition enforcement,

[264] Article 17.1, the Directive.
[265] Article 17.2, the Directive.
[266] Article 17.3, the Directive.
[267] Preamble (46), the Directive.
[268] See note 17, above.
[269] Ezrachi, Ariel, *EU Competition Law – An Analytical Guide to the Leading Cases*, Sixth Edition, Hart Publishing, Oxford, 2018, pp 617ff; Rodger et al, pp 34ff; Slotte, Lisa, ”Ny Konkurrensskadelag – Om möjligheter och svårigheter att få ersättning för konkurrensskada”, Juridisk Publikation, Stockholm, Häfte 1/2017, p 75.
[270] Rodger et al, pp 55.
[271] Buiten, Miriam C, van Wijck, Peter and Kees Winters, Jan, “Does the European Damages Directive make consumers better off?”, Journal of Competition Law & Economics, Oxford, January 2018, pp 113f.

described in this chapter. In this chapter we have seen the sometimes parallel and sometimes consequential developments in EU case law and competition policy, which the Directive makes reference to and builds on. In a wider context, the Directive may just be a first fumbling effort in a greater development of competition law enforcement.

4.4 The Quantification of Competition Damages

As the national courts of the Member States are free (within certain limits) to determine the quantum of the damage, the Practical Guide aims at providing the national courts and their judges with methods and techniques for the task. The Practical Guide hence accounts for a number of methods and techniques used to create a suitable but-for scenario, which are appropriate for using in different situations, depending on several circumstances given at hand.

The Practical Guide firsts lists and accounts for so-called comparator-based methods. These include comparisons over time on the same market, comparisons with data from other geographic markets, comparison with data from other product markets and also combining comparisons over time and across markets. Then follows an account for different techniques for implementing the comparator-based methods including simple techniques, regression analysis, and a piece on which of these to choose.

The guide continues with an account for simulation models, cost-based and finance-based methods, and some other methods. After follows a chapter on choosing between the methods. The guide distinguishes between quantifying harm caused by a rise in price and quantifying harm caused by exclusionary practices and deals with the particularities of each in two chapters.

4.4.1 Comparator-based Methods

Comparator-based methods or "benchmark methods" may be used to compare the price in an infringement scenario with a price in a non-infringement scenario. Depending on the circumstances at hand in a specific case one may also compare other economic variables such as market shares, profit margins, rate of return on capital, value of assets, or costs. Likewise, comparisons may be made using aggregate market data or firm-level data. The benefit of comparator-based methods, assuming the comparator scenario is representative for the non-infringement scenario, lies in the real-life data used. In cases where there are considerable differences between the markets or time periods used, there are several techniques to account for such differences.[272]

[272] Practical Guide, pp 15f.

The comparator-based method may be used to compare relevant variables over time on the same market. Either one may compare an infringement variable with one from before the infringement, after the infringement or even with both. The biggest benefit of comparisons over time is that one uses data from the same geographic market and product market, which at least in theory eliminates differences in market characteristics with possible effects on the comparison.[273]

However, if differences do arise and they are not due to the infringement, it is possible to make adjustments to account for the differences in question. Similarly, an infringement period may start and cease gradually in some cases. This may be identified using econometrics. Still, it is unlikely that a certain reference period is going to be perfectly representative for the infringement period, had it not taken place. We therefore aim at a reasonable approximation of the non-infringement scenario using a sufficiently similar reference period.[274]

Another method, which is also called the "yardstick method", entails comparing infringement data with data from other geographic markets. The data may relate to the whole geographic market or to specific market actors, depending on the circumstances. This method may be particularly suitable in cases of exclusionary practices. The more similar the two (or more) geographic markets, the better for comparison purposes. However, when too similar, a neighboring geographic market may also be affected by the infringement.[275]

A third comparator-based method entails observing data from another product market that is sufficiently similar to the infringement market in terms of relevant market characteristics. As when comparing data in different geographic markets, it is important to choose the comparator product with careful consideration of the nature of the product as well as the market characteristics. Again, there may be effects from the infringement in the comparator product market too.[276]

Combining comparisons over time *and* across markets is a fourth option when trying to establish a but-for scenario using real-life data. In concrete, it means comparing the development over time of a certain economic variable in different product or geographic markets. The method therefore estimates the "difference in differences" over time and hence cancels out any factors affecting both of the markets equally. If a factor (or several), other than the infringement, affects the two markets unequally, the use of econometrics may serve as a control tool for it. Typically, this combined method requires a lot of data from different markets and time periods. However, it may still be useful in trying to find a lower-bound estimate of the but-for scenario.[277]

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[273] Practical Guide, pp 16f.
[274] Practical Guide, pp 17f.
[275] Practical Guide, pp 19f.
[276] Practical Guide, pp 20f.
[277] Practical Guide, p 21.

There are different techniques at hand when implementing the chosen comparator-based method in practice. The techniques require different amounts of data. The easiest technique is to use the raw data observed and to then estimate a value for the economic variable in the non-infringement scenario. Where there are many observations it may also be possible to use the average value as the comparator. Whenever the relevant economic variable is influenced by other factors than the infringement, simple or more sophisticated adjustments need to be made. The chosen adjustments depend on the applicable law on the standard of proof and casualty. Simple techniques, where no adjustments are needed, may be suitable in cases where the infringement market and the comparator market are similar.[278]

In cases where there is a series of comparator data from before and after the infringement period it is possible to use linear interpolation. It entails drawing a straight line between the last pre-infringement value to the first post-infringement value. The advantage of linear interpolation over using averages is that it takes into account if there is a trend that has nothing to do with the infringement. Linear extrapolation either continues a line starting and the end of the pre-period or before the beginning of a post-period.[279]

When simple techniques do not suffice to adjust for influence from non-infringement factors, regression analysis is a suitable tool. It is a statistical technique, which determines degrees of correlation between sets of data, provided they are enough in quantity. In extent, regression analysis may be used to establish the degree to which an economic variable is influenced by another.

Regression analysis in the quantification of damages may be carried out in two ways. If there is only data from before or after the infringement, this data is used in the regression equation to forecast the values during the infringement. If data from the infringement period and/or market is also used in the regression equation, the infringement effect will be accounted for through a so called "dummy variable".[280]

In the case where a price increase in the infringement period compared with a pre non-infringement period may also be due to another variable than the infringement itself, *univariate regression analysis* is used to establish the correlation between the price and the other variable. This way it is possible to deduce how much of the total price increase was due to the infringement and how much was due to the other variable. This is done by studying a series of data from a non-infringement period and establishing the statistical relationship between the variable of interest and the influencing variable. Once this relationship is estimated, it may be accounted for when looking at the values for the variable of interest in the infringement period.[281]

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[278] Practical Guide, p 22.
[279] Practical Guide, pp 23f.
[280] Practical Guide, pp 24ff.
[281] Practical Guide, p 26.

In cases where the price increase may be the result of several variables other than the infringement itself, multiple regression analysis may be used instead. It is then necessary to have series of data for all of the relevant, influencing variables. These data series then need to be analyzed. Oppositely, irrelevant variables, which have no effect on the price, may bias the results if included.[282]

It is not only important to have knowledge of statistical methods for creating a regression equation, but also to understand the relevant industry and which influencing variables to include in the analysis. In addition, regression analysis requires the range of a used data set to be sufficiently wide. The level of aggregation of the used data sets should also meet a certain standard. If these parameters are somehow insufficient, this needs to be taken into account when interpreting the analysis. In real life, however, data may be difficult to access and may therefore sometimes be incomplete. As long as any data insufficiencies are accounted for in terms of data reliability and data relevance, a lack in the quantity or quality of a data set should not hinder an economic analysis from being interpreted accordingly.[283]

Exceeding a 95 % threshold of probability regarding the confidence interval is normally considered statistically significant. The probability may however vary a bit and still be considered useful depending on the number of observations in the data set, as statistical significance increases with the number of observations, other things being equal.[284]

In a damages action, the choice of technique for estimating the size of the damage depends on several factors. First of all, the actual circumstances, such as the nature of the industry and the accessibility of data, may make some techniques more suitable and others not. The simple techniques require less data but the circumstances in the comparator market and/or period must then be sufficiently similar. Econometric techniques on the other hand require more data for a reliable outcome, but may adjust for uncertainties, which simpler techniques may not. An alternative to the uncertainty adjustment in regression analysis would be to grant a safety discount when using simple techniques.[285]

4.4.2 Simulation Models

Another way of estimating damages due to competition law infringements is to use a simulation of market outcomes for a non-infringement scenario. The simulation is then based on economic models of market behavior. As seen in chapter 2, above, the study of industrial economics has identified several main market structures with their own typical market characteristics. Ranging from monopoly to perfect competition market structures, the

[282] Practical Guide, p 28.
[283] Practical Guide, p 29f.
[284] Practical Guide, p 31.
[285] Practical Guide, pp 32f.

economic models allow predictions of likely market outcomes, such as prices, quantities and profits. In real life, different oligopolistic market models are usually the most representative.[286]

The simulation model has to reflect the significant factors, which influence supply and demand. These factors include the relevant production cost structures and competitive interactions as well as the price elasticity of demand. However, they need to be identified in the individual case to best reflect the scenario without the infringement. In practice, the relevant factors then need to be expressed in a set of equations. By knowing, estimating or assuming the values for the different influencing factors, it is possible to, for instance, solve for the price at different quantities. The last step is then to compare the prices in the non-infringement and the infringement scenarios, at the same quantity. Assuming that the set of equations captures all the relevant influencing factors, the difference in price may reveal a possible overcharge in the infringement scenario. It is also possible to simulate the sales volume and market share in cases of exclusionary practices and compare them with those under the infringement.[287]

Obviously, it is impossible to completely model a market situation, even more so a hypothetical one. Simulation models may nevertheless offer useful insights into the non-infringement scenario and hence the economic effects of the infringement, provided the simulations are carefully made, capturing the very specific features of the relevant market. The suitability of the simulation model in a damages action again depends on the circumstances in the individual case and the legal requirements.[288]

4.4.3 Cost-based Methods

The cost-based method basically entails estimating the production costs per unit for a good in a non-infringement scenario and then adding what would have been a reasonable profit. First the infringer's total production cost at the relevant production level is divided by the total number of units produced.[289]

In the case where said production costs are not likely in the non-infringement scenario, this may be due to productive inefficiencies (and theoretically even dynamic inefficiencies) in the infringement scenario, caused by a lack of competition, where the market actors do not have enough incentive to keep their costs down. It may also be due to the restriction of output, to be able to maintain high prices, which in extent make the infringing firms forgo possible economies of scale from higher output levels. In these cases, adjustments need to be made. Otherwise the

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[286] Practical Guide, p 33, and Chapter 2, above.
[287] Practical Guide, pp 34f.
[288] Practical Guide, p 35.
[289] Practical Guide, p36.

cost-based method only provides a lower-bound estimate for the overcharge.[290]

Secondly, after the average cost at the infringement production level has been established, the cost-based method entails adding a reasonable profit margin. Either existing data from comparator markets/periods, or simulated data, derived using economic models, may be used to estimate this profit margin. Typical influencing factors are for example the competition characteristics of the market, the cost structure and the capacity utilization and constraints. Again, data may be hard to come about for a claimant, as it is mainly in the hands of the infringer. However, other methods including the "net present value" of the claimant undertaking may yield insight into likely profit margins in the non-infringement scenario.[291]

4.5 Concluding Remarks

With the insights hopefully acquired in the previous chapters, about the nature of different economic losses stemming from competition law infringements, this chapter aims at describing the implications in trying to recover such losses through damages actions, and the set of solutions to these implications, which the EU has chosen.

Generally, the Directive is meant to enable a more unified EU in terms of how competition damages actions are brought and what it will mean for both legal and private persons' prospects of obtaining full compensation when having suffered an economic loss due to a competition infringement. As competition damages actions are brought before the national courts of the Member States, and the substantive and procedural laws of the Member States have varied quite extensively, theoretically, the Directive has a greater impact on some than others.

As for the quantification of competition damages, the Directive has not included any rules, leaving it to the Member States to legislate on rules to govern such implications. The requirement of respecting the principles of equivalence and effectiveness when determining quantum are minimum requirements and do not provide any real guidance on how to quantify competition damages.

The methods and techniques listed and explained in the Practical Guide are the only provisions of guidance on the EU level, making their use among courts and others quite probable. However, their appropriateness depend very much on the data available and small errors in assumptions or estimations may produce very different results. The complexity of some of the methods and techniques may render their usage difficult without extensive economic and mathematical knowledge.

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[290] Practical Guide, pp 36f, Chapter 2.
[291] Practical Guide, pp 37f.

5 Quantifying competition damages

5.1 Introduction

Having answered the three sub-questions in Chapters 2, 3 and 4, respectively, the purpose of this chapter is to analyze these answers in relation to the overarching purpose of this thesis, namely the examination and evaluation of EU law on quantification of competition damages and the right to effectively claim and obtain full compensation. In concrete, this means analyzing whether or not the given quantification methods in EU law, as described in Chapter 4, allow for a full compensation for the identified negative effects of anticompetitive behavior, described in Chapters 2 and 3. The results will provide an answer to the over-arching research question of this thesis:

Does EU law on quantification of damages due to competition law infringements ensure the right to effectively claim and obtain full compensation?

The analysis of these answers consists of two steps. The first step entails identifying the negative economic effects of the typical anticompetitive behaviors described in Chapter 3 by applying the economic tools provided in Chapter 2. The second step of the analysis implies evaluating EU law regarding the quantification of competition damages, described in Chapter 4, using the results of the first step of the analysis.

In 5.2, an effects analysis of anticompetitive coordination is made, followed by an effects analysis of abusive conduct under 5.3. In 5.4, the methods and techniques for quantifying damage due to price-raising and output-limiting practices are analyzed. In 5.5, the same methods are analyzed regarding the quantification of foreclosing practices. The chapter is then commented and concluded under 5.6.

5.2 Coordination Effects Analysis

As seen in Chapter 3, anticompetitive coordination may involve a wide range of practices. These may be categorized as price-raising or output-limiting or foreclosing arrangements. The participants to any such coordination aim to increase their profits above competitive profits. In the cases where the infringement consists in raising the price or limit the quantity supplied, it achieves higher profits directly. In the cases where the infringement forecloses competitors, higher profits are only achieved after the competition on the market has already been reduced or eliminated. The infringers then go on to raising the prices or limiting the output.

The three categories of anticompetitive coordination produce different negative economic effects, affecting indirect and direct customers, as well as suppliers, competitors, and in some cases even actors on other markets. These negative effects may be explained in terms of the economic inefficiencies identified in Chapter 2. They include allocative, productive and dynamic inefficiencies. In addition, a transfer of wealth may occur as a result of the infringement.

In the following, the negative effects will be analyzed in terms of said inefficiencies and transfer of wealth, with regard to the direct supplier, the direct customer and the competitor. The direct customer is assumed to be the end consumer, because this thesis excludes the implications of damage which is passed on. It further excludes actors on other markets, as the complexity and extensiveness of such an analysis would not fit within the scope of the thesis.

The first category of anticompetitive coordination, namely such which directly sets the price to a supra-competitive level, includes price-fixing arrangements through minimum prices, pricing schemes, and more. A transfer of wealth from the customers to the infringers constitutes the main negative effect from an increased price. Although this is not an efficiency per se, in the light of European competition policy, parting from certain goals regarding fairness and economic freedom, it may be regarded as a distributive inefficiency. This transfer of wealth is calculated through multiplying the difference between the infringement price, p_i, and the competitive price, p_c, with the infringement quantity, q_i. In the quantification of the overcharge to the customer, the difference in price is multiplied by the quantity bought.

In addition to the overcharge, there is an allocative inefficiency in the form of lost utility for consumers, due to the quantity not sold on the market, which would have been bought under the competitive price. This lost utility for consumers is calculated by taking the difference between the infringement price, p_i, and the competitive price, p_c, multiplying it by the difference between the competitive quantity, q_c, and the infringement quantity, q_i, and then dividing the product by 2. The quantification of the lost utility of the individual consumer, would theoretically be the share of the total lost utility on the market. The scenario is however obsolete as it would require knowing what quantity would have been bought by the specific consumer and to which price.

Productive inefficiency is a third negative economic effect, which may arise within price-raising and output-limiting practices. This occurs because the infringers do not have the same incentive to lower their production costs, as they would, to maximize their profits, as price takers. The same applies to the negative economic effect of reduced innovation in technology and choice, known as dynamic inefficiency. It is more difficult to calculate the productive and dynamic inefficiencies because it is so hard to know in what

way innovation, technology and production costs would have evolved were it not for the infringement. In theory, however, the difference between the infringement average cost, ac_i, and the competitive average cost, ac_c, multiplied by the infringement quantity, q_i, constitutes a measurement of the productive inefficiency, if the infringement is not productively efficient. From a static point of view, this inefficiency is captured by the overcharge as it already covers the difference between the infringement price and the competitive price, assuming that the competitive price is productively efficient. From a dynamic point of view, however, the productively inefficient infringer may forego advances in technology and other innovation, which would ultimately have benefitted the end consumer, with lower prices and variety in choice of products. This inefficiency is very difficult to measure, as it is impossible to estimate the technological advances in a but-for scenario. The inefficiency as such is also claimed by many to be a merely theoretical one, as market power structures may well have opposite effects, such as the network effects and economies of scale produced by.

Secondly, the rise in price also causes negative effects attributed to the supplier of input products. As the overcharge is borne by the customer of the infringers, the rise in price does not cause a transfer of wealth directly affecting the supplier. However, the allocative inefficiency, which was suffered by all those customers willing to buy the product at the competitive price, but could or would no longer at the infringement price, caused a reduced demand for the infringement product. Since the infringer likely does not need that same quantity of inputs to produce a lower quantity of the infringement product, the supplier experiences a reduced demand. This supplier does not receive a higher price per unit of sold input and thus incurs a loss of profits. This negative effect is calculated by multiplying the average profit margin with the difference in quantity sold.

If the infringement is not productively efficient, it does not affect the supplier immediately. If the infringer is not trying to keep input prices down, it may even be beneficial for the supplier, who may receive a higher price and thus higher profits. In the long run, however, the foregone chances at innovation are likely to be negative in some way for all levels of the supply chain.

Thirdly, a rise in price also affects competitors of the infringer. Having established that the overcharge is borne by the consumer of the infringement product, it follows that it does not affect competitors of infringers. A coordinated increase in price, however, affects all competitors on that particular market, whether they partake in the infringement or not. It is easy to imagine that these competitors will then capture all the sales that the infringers forego, due to the higher price. Depending on circumstances, such as the homogeneity of the products and the production capacity of the competitors, to some extent this does happen. However, in most markets this diversion of demand is not met with a corresponding supply increase, because then the coordination would not have happened in the first place.

The reduced total quantity on the market creates allocative inefficiency, borne by those customers not supplied, who would have bought the product at the competitive price. Maier-Rigaud and Schwalbe argue that the competitors (and producers of substitute goods) in fact mitigate the allocative inefficiency.[292] The infringement competitor, however, benefits from the consumer surplus situation through increased sales. The negative effects from the reduced quantity on the market are instead borne by upstream actors who lose profits.

Productive inefficiencies, which may exist in an infringement scenario, actually create a competitive advantage for competitors who wish to maximize their profits, when the infringers do not. Regarding dynamic inefficiencies, these may perhaps affect competitors of an infringement, insofar as the potential innovation, which did not take place, might have actually become available to the competitors in the form of new technology. This theoretical thought experiment is however obsolete in practice.

The third category of anticompetitive coordination is such which forecloses competitors on the market. This may entail the prevention of entry to the market of new competitors, or the foreclosure of existing competitors, resulting in a reduced market share or even market exit. Foreclosure is achieved through different coordination practices, such as standard agreements or single branding. After the infringement has caused a reduction in the market shares of competitors or their exit from the market, the infringers act to raise prices or reduce quantities to make profit.

The economic effects of foreclosure of competitors, through anticompetitive coordination, do not directly affect the infringement customers, as there are no increased prices or reduced quantities in the first stage. Once the foreclosure has taken place, however, the infringement customers suffer the same damages as identified in the price-fixing and output-limiting scenarios. The same goes for the infringement suppliers.

As the name suggests, those who are directly affected by foreclosure through anticompetitive coordination are the competitors of the infringers. Single branding agreements, for example, foreclose competitors, as the latter are prevented from using the same distribution channels as the infringers, and thus encounter more difficulty in selling their products. This results in a reduction of the competitors' market share, with a corresponding increase for the infringers. This may be characterized as an equivalent to the overcharge, as analyzed above, as it is essentially a transfer of wealth from competitor to infringer. Competitors who are forced to exit the market also forgo potential profits, which the infringers may capture.

[292] Ashton, pp 416f.

5.3 Abuse Effects Analysis

Similarly to the different categories of anticompetitive coordination, different types of abusive conduct also trigger anticompetitive effects. These effects harm the customer, supplier and competitor, respectively. In Chapter 3, abusive behavior was categorized in a similar way to that in the coordination effects analysis above, namely according to exploitative and exclusionary outcomes. Exploitative abuses consist of practices which raise prices and limit output. Exclusionary abuses, however, are such, which foreclose competitors in the first stage, to be able to exploit the market in the next stage.

The first category of abusive behavior on the market, exploitative conduct through for example excessive pricing, results in the same negative effects as price-raising and output-limiting coordination. Its effects analysis will therefore not be repeated.

The second category of abusive behavior is exclusionary conduct, such as for example predatory pricing, tying or refusal to supply. Exclusionary conduct causes the competitors of the infringer to incur higher costs and to sell their products at lower prices and quantities in the first phase of the exclusionary practice. This means that the competitors lose profits and market shares. They may even be forced to exit the market. In the case of a new potential competitor, it may be foreclosed from entry.

Sunk costs, that is, costs which the new entrant had in order to enter the market from which it was later foreclosed, constitute part of the damage suffered by a potential competitor. However, a claimant of competition damages is to be placed in the same position as had the infringement not taken place. Assuming the competitor would not have been prevented from entry absent the infringement, the damage actually consists of the lost profits, that is, the difference between the non-infringement revenues minus the non-infringement costs, the latter including the sunk costs.

In the case of existing competitors, whether affected through reduced market shares or complete elimination, the negative economic effects from the infringement is the transfer of wealth in terms of lost profits.

5.4 Quantifying Damage from Price-Raising and Output-Limiting Practices

The effects analyses show that both anticompetitive coordination and abusive conduct consist of two main types of anticompetitive practices – such practices which raise prices and limit output, and such which foreclose competitors. In the following, the methods and techniques, listed and explained in the Practical Guide, will be analyzed with respect to how well they are able to quantify the identified effects from price-raising and output-limiting practices.

Quantifying these effects in a damages action ideally allows for full compensation to take place. This, in turn, is meant to contribute to the enforcement of competition laws, which exist to protect a highly competitive internal market. However, in a competition damages action, the court must compare the infringement scenario with the non-infringement scenario in order to quantify the damage. In the absence of evidence, for example in the form of an agreement, which literally states that the parties shall raise the price of a product to a certain level above the competitive price by a certain point in time, the non-infringement scenario must be estimated in some way. The non-infringement scenario is thus a hypothetical scenario, which is established through the use of different methods and techniques. These are suitable in different situations, depending on the circumstances and in particular, availability of data.

From the customer perspective, the predominant damage suffered is the overcharge. It is quantified by multiplying the quantity purchased with the difference between the infringement price and the non-infringement price. The quantification thus requires an estimate of the non-infringement price. The Practical Guide lists comparator-based methods, simulation methods and financial methods as means of establishing comparison values in the non-infringement scenario.

Quantifying the overcharge using a comparison over time has the benefit of using data from the same market. However, comparisons over time require establishing when the infringement started and/or ended, so that comparator data may be used from time periods not affected by the infringement. In the case of other relevant factors influencing the data, these must be accounted for, as there may otherwise be an overestimation of the damage. In the case of quantifying the overcharge, the method may be suitable because price data may likely be available.

A second comparator-based method entails the use of another geographical or product market (or average data from several markets) as a representative for the non-infringement scenario. The choice of such a market should try to replicate the relevant factors which influence the price. However, if the comparator market is too similar it is possible that it is also infringed. In addition, a nearby geographical comparator market or a similar product market may be affected by the infringement through an increase in demand, due to the higher prices of the infringement market. In such a case the overcharge would be underestimated.

A combination of a comparison over time and across different markets may compare the development of prices in the different markets, cancelling out such relevant factors which may have affected the price, other than the infringement. If the markets are however affected differently by such factors, there is a need to adjust for that influence, using econometrics. Another implication of this combination of methods is that it requires more data.

Depending on the availability of price data from before and/or after the infringement, linear interpolation and extrapolation may be used, determining values for the price during the infringement with the use of a trend line. If these simple techniques cannot adjust for the influence from factors other than the infringement, one may resort to regression techniques. It allows for the estimation of the influence of one or more variables on for example price. This requires an understanding of which relevant factors influence the price and which do not. Wrongful assumptions at this stage, however small, may result in comparator values which are completely off. In addition, these methods require a lot of data, which may not be accessible to the claimant of competition damages. Insufficiencies in for example the range of the data do not automatically impede an economic analysis, as long as the insufficiencies are accounted for in the analysis.

If the mentioned methods are deemed inappropriate for some reason, simulation models may be used to provide an estimate for the price charged in a non-infringement scenario. A prerequisite is that all significant factors, influencing supply and demand are included in the model.

Cost-based and other financial methods provide another way of determining the price in the non-infringement scenario. These methods essentially add a reasonable profit margin to the cost of production to estimate the non-infringement price. They are inappropriate if there is productive inefficiency in the infringement scenario.

From the perspective of a supplier to the infringer or infringers, rice-raising and output-limiting practices of all sorts produce reduced demand, which travels up the value chain and causes reduced sales and thus a loss of profit for the supplier. When quantifying this negative effect in order to establish the damage suffered, any of the methods from the Practical Guide may be used, depending on the circumstances in the individual case, with the exception of cost-based methods. Thus, the availability of data required for the different methods along with the insights into the relevant influencing factors of the economic variable, other than the infringement, determine the suitability of the different options, just as in the overcharge case.

As the effect from price-raising infringements is mainly increased sales for the competitor of an infringer, it is excluded from this quantification analysis.

5.5 Quantifying Damage from Foreclosing Practices

In 5.3 above the negative economic effects of foreclosing practices were analyzed in terms of economic inefficiencies and the transfer of wealth, in relation to the suppliers, customers and competitors of the infringer or infringers. It was found that the competitors suffer the bulk of the damage due to foreclosing practices. This is because foreclosing practices distort

competition through reducing the market shares of competitors, forcing competitors to exit the market and/or preventing the entry of new competitors. The competitor may be faced with higher costs, lower prices charged, and lower quantities sold than absent the infringement. This results in lost profits. In practice, this means that the damage may be quantified by comparing the profits in the infringement scenario with those in a non-infringement scenario.

The comparison over time is theoretically an appropriate method for establishing the profits (costs and revenues) or market shares, which would have prevailed in the non-infringement scenario, for a foreclosed competitor, provided there is enough data. Certain care needs to be taken with regard to the end of the infringement and whether or not it may still affect the competitive climate on the market. Again, any relevant factors which may have influenced the profits, other than the infringement, must be accounted for, in order for the quantification to capture a representative development of the profit or market share over time. This and the availability of data determine, together with the advantages and disadvantages, explained in the case of quantifying overcharge, the appropriateness of each method.

5.6 Concluding Remarks

The purpose of this chapter is to analyze the answers to the three subquestions, in order to determine whether EU law on quantification of competition damages ensure the right to claim and obtain full compensation. The first step identifies the negative economic effects of the typical anticompetitive behaviors described in Chapter 3, by applying the economic tools provided in Chapter 2. The second step of the analysis implies evaluating EU law regarding the quantification of competition damages, described in Chapter 4, using the results of the first step of the analysis.

The main findings are that anticompetitive behavior may be categorized according to whether it raises prices and limits output or whether it forecloses competitors. Price-raising and output-limiting infringements generally cause a transfer of wealth, borne by the customer to the infringer(s), in the form of an overcharge. The supplier of the infringer(s) experiences reduces sales and therefore, incurs a loss of profit. The competitor generally benefits from the shortage of supply and captures some sales from the infringer, making the question of damages obsolete. In foreclosing infringements, the competitor suffers damage due to a transfer of wealth to the infringer(s), in the form of lost profits and market share.

In the analysis of the methods and techniques provided by the Practical Guide, it is found that the suitability of a specific method in quantifying the negative effects from the previous effects analyses, depends very much on the availability of data as well as making the right assumptions about the relevant factors of influence on the market.

6 Summary and Conclusions

6.1 Summary and Conclusions

This thesis sets out to examine EU law on the quantification of competition damages and evaluate it in relation to its objective of ensuring the right to effectively claim and obtain full compensation for harm suffered due to competition law infringements. The research question of this thesis is thus:

Does EU law on quantification of damages due to competition law infringements ensure the right to effectively claim and obtain full compensation?

Answering the research question entails answering three sub-questions. The first sub-question, *Which are the negative economic effects from distorted competition?,* is answered in Chapter 2 through an account of microeconomic and industrial economic theory. Using relevant economic models, negative economic effects are derived in terms of different economic inefficiencies, caused by anticompetitive structures and behavior. The answer to the sub-question identifies three inefficiencies, including allocative inefficiency, productive inefficiency and dynamic inefficiency. A fourth negative effect of distorted competition, although not technically an inefficiency, is the transfer of wealth.

The second sub-question, *Which behaviors typically distort competition and how?,* is answered in Chapter 3, through examining the common typology of the different anticompetitive behavior of undertakings. These anticompetitive behaviors are listed according to type, explained and then categorized according to how they affect the market and competition. Three groups of behavior are identified among the different cases of anticompetitive coordination and abuse of a dominant position. These behaviors are such which set a supra-competitive price, behaviors limiting output and behaviors which foreclose competitors.

The third sub-question, *Which are the legal solutions to quantifying competition damages provided in EU law?,* is answered in Chapter 4, through examining and interpreting sources of EU law according to hierarchy and chronology. The issue of quantification of competition damages does not exist in a vacuum and therefore the first part of the chapter provides context by accounting for the foundation and objectives of the EU, followed by its relevant competition laws. The second part accounts for the notions and respective developments of EU competition law enforcement and the right to damages. The third part presents the secondary sources of law, containing binding rules and non-binding guidance regarding quantification of competition damages. The answer to the third sub-question is that, with the exception of Article 17 and Article 4, the EU has neglected to include any quantification rules in the Directive. It thus

leaves the issue to be dealt with under the domestic legal systems of the Member States, as long as the principles of equivalence and effectiveness are respected, and as long as full compensation equals no more than actual loss, loss of profits and interest. However, the non-binding Practical Guide provides the national courts and others with methods and techniques for quantifying damages. These include time series analysis, cross-market analysis, difference in difference analysis, simulation analysis and financial analysis and some recommendations as to their appropriate usage. This non-binding Practical Guide is, due to the general lack of guidance and economic knowledge among judges and practitioners, at the very least, likely to serve as a source of inspiration when quantifying the damage in a competition damages action. It is therefore analyzed as a determinant of whether or not the Directive will ultimately ensure the right of claiming and obtaining full competition through such actions.

In order to answer the research question, the answers to the sub-questions are analyzed in two steps in Chapter 5. The first step entails an effects analysis of the three different categories of anticompetitive behavior, as identified in Chapter 3, in terms of the three inefficiencies and the transfer of wealth, explained in Chapter 2. The effects are then attributed to the supplier, customer and competitor of the infringer on the market. The findings on the analysis are summarized in the table below.

	Raising Price/Limiting Output	Foreclosure
Customer/ End Consumer	Transfer of Wealth → Overcharge	-
Supplier	Reduced Demand → Loss of Profit	-
Competitor	Transfer of Wealth → Gained Profits	Transfer of Wealth → Loss of Profits

The second step entails an analysis of the quantification methods provided in the Practical Guide, with respect to their ability to provide full compensation in relation to the damages established in the first step.
The findings consist in that almost any method for establishing the non-infringement scenario may be suitable, regardless of type of loss, as long as the different requirements on sufficient and representative data, sufficiently accurate assumptions about prevailing market conditions and characteristics, and the inclusion of relevant factors influencing the economic variable in question, are met. Unfortunately, it is an inherent characteristic of competition damages actions that data needed for the establishing of a but-for scenario often is not available to the claimant.

In conclusion, the methods and techniques in the Practical Guide do not ensure the right to effectively claim and obtain full compensation for loss from competition law infringements. Instead this depends on the given circumstances of the individual case. Consequently, competition damages actions as a means of competition law enforcement are not entirely

effective. Nevertheless, there is an inherent problem in defining methods, which need to be generic enough to be applicable in any given case, and yet not too vague and complex to be applied practically.

6.2 The Author's Comments

If the quantification rules are found to ensure the right to claim and obtain full compensation, it is still important to examine the EU competition laws, which determine what is deemed as an infringement. Otherwise, however effective, the quantification rules may not target harm that falls outside the scope of EU competition laws. A second step in future research may therefore be the evaluation of whether the effectiveness of EU competition law, in turn, guarantees an economically efficient internal market.

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