The economic analysis of the interaction between the fines and the damages under European and American antitrust laws

Abstract

Administrative bodies, courts, companies and lawyers widely accept in our days the significant and central role of the economy in antitrust law which is highly helpful to better understand the market structure, including the market players and the forces of demand and supply. Moreover, applying the economic analysis in antitrust helps to unify and globalize the competition rules.

For a long time, the European competition enforcement policy refers to the public enforcement of antitrust law. The European law makers took in mind the importance of opening the door for the private enforcement of antitrust law. To achieve this, they started by introducing the 2005 Green paper followed by the 2008 white paper; finally in 2014, the European parliament adopted a directive to facilitate the private action of damages. The deadline to transpose this directive to the national legal systems was in December 2016. This deadline was respected by many European States who in turn, adopted special national provisions to apply it.

The European antitrust law, unlike that of America, is enforced by no criminal sanction. Moreover private parties lack discovery, treble damages, and developed class action procedures. It is for this reason that follow on action becomes very significant and has become a cornerstone for antitrust action of damages.

The new directive set rules to facilitate access to the documents and materials which are in the hand of the public authorities, which may be very helpful for the success of private action of damages.

It's widely accepted that to have an effective deterrence policy, the penalty must not be limited to the disgorgement of benefit as a fruit of the violation of the antitrust law. This may be achieved by doubling or tripling the damages, as it is done in the USA. By contrast punitive damages is forbidden by the European law. We should still keep in mind the need to avoid over deterrence because it could have a negative effect on the market structure. That's why it's become highly important to define the optimal levels of deterrence. Good private action of damages policy could enhance the deterrence.

After the new European rules, numerous conferences and papers have been presented to quantify the private damages. By contrast, very little attention has been paid to the risk of cumulation of liability.

Notwithstanding the new European and national package of rules which open the door more and more to the private action of damages, we still strongly believe that the majority of future private action of damages will still refer to follow on action. In consequence, the defendant who loses in damages judgment previously often has been condemned by a decision of the public antitrust authority to pay fines. Those fines, according to some economic models, take into consideration the consumers’ damages.

The important legal and economic question here is if the antitrust authority must take into consideration the probable amount of damages when imposing any fines.
In this paper, we discuss the new relationship between the fines imposed by the antitrust authorities and the damages which may be accorded by the European national courts. More precisely, we take the French example in the light of the American experience in this matter. 

This paper is organised as follows: we start by presenting the European antitrust enforcement system which refers to the public enforcement. Then we discuss the American antitrust enforcement system which basically refers to the private enforcement.

In the first section, we focus on the European economic models to calculate the fines by presenting some high-profile cases. In the second subsection we focus on the French rules by analyzing the economic models used by the court to quantify the damages. In addition, we highlight the possible increase on private follow on actions especially after the ordonnances and decret of 9th March, 2017 which transposed the 2014 European directive. 

In the second section of this paper, we present the American rules on this subject. We start by presenting the economic models used by the American antitrust public authorities to calculate the fines. In the second subsection, we focus on the economic models used to quantify the damages by highlighting some case laws. In the third section of this paper we present the optimal deterrence theory and we discuss the possibility to reach the optimal deterrence by referring to the monetary sanction. In the second subsection, we discuss the cumulation between fines and damages under the new European rules.

We conclude that cumulation of fines and damages may increase the deterrence; by contrast, according to the European law, it may lead to double sanction as some economic models consider the consumers’ harm when calculating the fines. Those consumers, under the new European rules, may sue for damages.
I wish to express my gratitude to David Bosco for his feedback in the early draft of this paper.

In this comparative study, we will use terms such as antitrust and competition, as substitute to facilitate reading. I do not intend to show a preference of one above the other.

[Introduction]
The European antitrust law is basically composed of four main conducts. The first one is related to the prohibited agreement between undertakings, which is organized by Article 101 of the Treaty of the functioning of the European union (TFEU). The second conduct is the abuse of dominant position which is forbidden by Article 102 of TFEU. The third main issue of the European antitrust rules is the merger control which was accorded to the European commission. The fourth and last important European antitrust conduct is the State aid which is organized by Articles 107 to 109 of the TFEU.

Around 90% of the antitrust enforcement actions of the European antitrust law are provided by the public authorities. The European commission is the main public body to enforce the European antitrust law. In addition, the 28 European antitrust national authorities may also enforce the European antitrust rules. The European enforcement procedures are regulated by the regulation 1-20031.

The private enforcement of European antitrust law actions represents around 10% of the total antitrust enforcement actions. The rights of the victim of antitrust infringements to obtain damages under the European rules are recognized by different judgments of the European court and under certain European principles. In 2014, the European parliament passed the directive on certain rules governing actions for damages under national law2. The deadline to transpose this directive to the European national legal system was December 2016. France transposed this directive through two legal texts: the ordonnances3 and the décret4 of the 9-3-2017. The role of the new legal rules is to enhance the private enforcement of the European antitrust law. Some of the ways to achieve this include, facilitating access to the document and materials that are in the possession of public authorities or private parties, as these documents are helpful to approve the private party’s claimant rights in action of damages; requiring the European States to adopt class action procedures. Also, the new rules provide the claimants with some legal presumptions which enable him to prove his rights in a private action of damages before the national European courts.

3Ordonnance n° 2017-303 du 9 mars 2017 relative aux actions en dommages et intérêts du fait des pratiques anticoncurrentielles, JORF n°0059 du 10 mars 2017 texte n° 29
NOR: JUSC1636691R
4Décret n° 2017-305 du 9 mars 2017 relatif aux actions en dommages et intérêts du fait des pratiques anticoncurrentielles, JORF n°0059 du 10 mars 2017 texte n° 31
NOR: JUSC1624992D
Despite all these developments, we still do not believe that the new rules will radically change the private enforcement of the European antitrust law, especially with the absence of treble damages, strong discovery procedures and class action experience. Yet the establishment of a standalone private action of damages in majority of the European States remains a very hard task. By contrast, we can anticipate a high increase in the follow-on of the private action of damages after the adoption of the new European rules by the European national legal systems. The scope of the private actions is to compensate the victims of antitrust infringements.

In the United States of America, around 90% of antitrust enforcement actions are private therefore the Federal Trade Commission and the American Department of Justice are considered as the main public authority to enforce the antitrust law. The Sherman act of 1890 didn't provide much enforcement tools. As the Clayton Act promised in 1914, treble damages encouraged the private parties to play more significant roles to enforce the antitrust law. In the same year, the federal trade commission act provided the FTC with more power to publicly enforce the American antitrust law. In the US, to establish a violation of antitrust law before the court, the claimant, notwithstanding if it's a private or public party, must present an actual or threatened harm. However, even though the quantification of this harm is not required to establish a violation, it is important to obtain recovery. All the damages estimation must be built on sufficient facts and data. The US law allows the party to refer to many sources to obtain this data. The US liberal Discovery rule is one of the main sources to obtain any relevant document and data. In addition, the claimant under the US law has access to various public resources.

The new European antitrust rules will lead to increase using the public antitrust authorities’ decisions, in the private action of damages. It will produce more monetary obligations on the defendants’ undertakings. Those undertakings, in the near future will, on one hand, pay the European commission fines and on the other hand, pay the private damages. In this paper, we would examine if the increase on the monetary obligations of the undertakings will be in the level of the optimal deterrence or if it will be considered as over deterrence.

1. The European economic models to quantify fines and damages

In the second subsection of this section, we will focus on the economic models used by the French court in quantifying damages of antitrust private action of damages. Furthermore, we will examine some European courts’ decisions which approve the European national courts’ practice. But before we start with the European commission quantification of fines methods, we will also examine how the European commission employed those rules in practice.

1.1 The European economic models to quantify the fines in the European commission decisions

The European commission, just as the European competition enforcement authority, imposes fines in cases of any violation of Article 101 or 102 of the TFEU. The European commission has no authority to impose any criminal sanction under the actual European treaty rules. The fact there is no criminal sanction is among the reasons to explain the high increase of European commission fines in recent years. It’s easy to observe that there are very limited number of binding rules imposed on the European commission concerning the quantifying of commission fines.
The sole legal limit to the European commission’s power to impose fines on the anti-competitive conduct is the Article 23-2 of the European Regulation on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty (Text with EEA relevance). This article states that the fines imposed by the European commission shall not exceed 10% of the total of turnover of the preceding business year of the undertaking.

The European commission in 1989 published a guideline which presents the methods of quantification of fines models. In 2006 the European commission replaced the guidelines by a new one. The new four-page guideline provides some changes concerning the European commission fines policy in order to enhance the deterrence of the Commission fines System. We can summarize these changes in three main points, in order to enhance the deterrence of the Commission fines strategy.

- The basic fines could reach up to 30% of the total undertaking annual sales of the relevant sector to which the infringement relates, multiplied by the number of years of the company’s participation in the infringement, with a limit of 10% of the total annual turnover of the undertaking and the preceding year.
- The commission can impose between 15 up to 25% of yearly relevant sales as fines, which called “entry fee”, irrespective of the duration of anticompetitive behaviors.
- The European commission can impose stronger fines for repeat offenders in three different ways. The commission can take into consideration the infringement of Articles 101 or 102 which is stated by the national antitrust authorities to apply the repeat offenders’ fines. Moreover, the repeat offenders’ fines percentage could be increased up to 100%. Finally the increase in fines may be justified on the basis of any previous antitrust infringement.

The European guidelines are not binding on the commission or any European antitrust authorities. By contrast, these guidelines increase the clearance of the commissions’ fining policy which leads to enhance the transparency between the citizen and the European institutions.

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6 The Commission may by decision impose fines on undertakings and associations of undertakings where, either intentionally or negligently:
(a) they infringe Article 81 or Article 82 of the Treaty; or
(b) they contravene a decision ordering interim measures under Article 8; or
(c) they fail to comply with a commitment made binding by a decision pursuant to Article 9.
For each undertaking and association of undertakings participating in the infringement, the fine shall not exceed 10 % of its total turnover in the preceding business year.
Where the infringement of an association relates to the activities of its members, the fine shall not exceed 10 % of the sum of the total turnover of each member active on the market affected by the infringement of the association.

Information from the Commission - Guidelines on the method of setting fines imposed pursuant to Article 15 (2) of Regulation No 17 and Article 65 (5) of the ECSC Treaty


As we mentioned previously, the only limit on the commissions’ fine is the Article 23-2 of regulation 1-2003. Furthermore, the court of justice of European Union (CJEU) which practices the judicial review of the European commission decisions 10 confirms that the commission enjoys a particularly wide discretion by considering the factors to determine the amount of fines.

According to the guideline, to define the amount of fines, there are two steps to be followed. In the first step, the commission sets the basic amount of fines regarding the gravity and duration of the infringement. In the second step, if it's appropriate, the commission considers the adjustments of additional factors which may increase or decrease the amount of fines 11. in the last step before imposing the final amount to find the commission may consider the specific adjustment circumstances, which may drive to increase the final amount of fines or may limit the maximum total amount of fines imposed on the concerned undertaking of the total amount of fines.

1.1.1 The first step: defining the basic amount of fines

In this step, the commission defines the basic amount of fines. To do so, the main issue is to choose a reference which represents the negative effect of the antitrust infringement. The antitrust infringement may affect the price of the product but may also have a negative impact on the volume of sales. Furthermore, it may reduce the market share or exclude some or all competitors from the relevant market. According to the guideline, to define the basic amount of fines, the commission respects four different stages.

1. Identify the volume of sales of the product or service

The commission uses the volume of sales of the product or service in the last full business year of the infringement by the under taking as a reference to quantify the amount of fines 12. The Commission will take into consideration the value of sales of the product or services which are directly or indirectly related to the infringement 13, however, some recent cases show that the


11 European Commission, Competition, op. cit.

9 Without prejudice to point 37 below, the Commission will use the following two-step methodology when setting the fine to be imposed on undertakings or associations of undertakings.

10 First, the Commission will determine a basic amount for each undertaking or association of undertakings (see Section 1 below).

11 Second, it may adjust that basic amount upwards or downwards (see Section 2 below).”

Also see p.5 the author presents different references point to start quantification of fines.


“One of the most important goals of antitrust fines is deterrence and hence, an appropriate system to calculate the proper level of fines is necessary. Theoretically, antitrust fines deter market players from committing violations by raising the expected cost to become higher than expected gains, assuming that they are rational and their primary goal of business is making profits. From this traditional economic perspective, the optimal level of fines depends on the probabilities of detection and externalities of the violations. As such, strategies to improve deterrence are by increasing the level of fines and/or raising the probability of detection.”

13 OJEU, Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003, (2006/C 210/02)
commission considers the captive sales\textsuperscript{14}. The total value of sales which will be considered by the Commission will be set before the VAT or any other taxes\textsuperscript{15}. For defining the relevant geographic markets, the commission considers all the volume of sales in the European Economic Area (EEA)\textsuperscript{16}.

2. Setting the proportion of the value of sales.
Depending on the gravity of the case, the commission will set a percentage up to 30\% of the volume of sales to determine the basic amount of fines. To assess the level of the gravity of the infringement, the commission takes into account all the circumstances relevant to the case\textsuperscript{17}, to estimate the percentage, case by case\textsuperscript{18}.
The guidelines provide some factors which help to determine the level of the gravity of the case such as the nature of the infringement, the combined market share of all the undertakings concerned, the geographic scope of the infringement, and whether the infringement has been implemented or not\textsuperscript{19}.

More precisely, the guideline presents some of hard core infringement examples such as, horizontal price-fixing, market sharing and output limitation which are dangerous and must be strongly condemned\textsuperscript{20}. In MARINE HOSES case, the commission set the proportion of the value of sales at 25\% which reflects the gravity of this case. The undertaking behavior, in this case, is qualified as bid rigging price fixing, geographic market sharing and exchange of commercial-sensitive information. These behaviors cover 90\% of the EEA geographic market\textsuperscript{21}.

3. Identifying the duration of the infringement

"In determining the basic amount of the fine to be imposed, the Commission will take the value of the undertaking's sales of goods or services to which the infringement directly or indirectly\textsuperscript{6} relates in the relevant geographic area within the EEA. It will normally take the sales made by the undertaking during the last full business year of its participation in the infringement (hereafter 'value of sales')."

\textsuperscript{14}Geradin, Damien and Sadrak, Katarzyna, \textit{op. cit.}, p.7

\textsuperscript{15}OJEU. \textit{Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation No 1/2003, (2006/C 210/02)}

"The value of sales will be determined before VAT and other taxes directly related to the sales."

\textsuperscript{16}ibid

"In determining the basic amount of the fine to be imposed, the Commission will take the value of the undertaking's sales of goods or services to which the infringement directly or indirectly relates in the relevant geographic area within the EEA. It will normally take the sales made by the undertaking during the last full business year of its participation in the infringement (hereafter 'value of sales')."

\textsuperscript{17}"In fixing the amount of the fine, regard shall be had both to the gravity and to the duration of the infringement."

\textsuperscript{18}ibid

"The assessment of gravity will be made on a case-by-case basis for all types of infringement, taking account of all the relevant circumstances of the case."

\textsuperscript{19}ibid

"In order to decide whether the proportion of the value of sales to be considered in a given case should be at the lower end or at the higher end of that scale, the Commission will have regard to a number of factors, such as the nature of the infringement, the combined market share of all the undertakings concerned, the geographic scope of the infringement and whether or not the infringement has been implemented"


\textsuperscript{20}OJEU, \textit{op. cit.}

"Horizontal price-fixing, market-sharing and output-limitation agreements, which are usually secret, are, by their very nature, among the most harmful restrictions of competition. As a matter of policy, they will be heavily fined. Therefore, the proportion of the value of sales taken into account for such infringements will generally be set at the higher end of the scale."

\textsuperscript{21}Geradin, Damien and Sadrak, Katarzyna, \textit{op. cit.} p.7
Thirdly, the commission defined the duration of the infringement for each undertaking participating in this infringement. According to the guideline and the European decisions, the duration of the infringement should play a significant role in quantifying the amount of fines. After identifying the number of years which the undertaking participated in the anticompetition behaviors, the commission will multiply the result of the first and second stage with the number of years. In order to consider the full duration of the undertaking’s participation in the infringement period, the commission will consider less than six months as half of a year period. More than six months but less than one year will be considered as a full year. In recent commission decisions, this estimation was abandoned because it may contradict with the principle of proportionality.

4. Identifying the entrance fees
The last stage is to add the result of the previous stages to the entrance fees. The entrance fee is a percentage between 15% up to 25% of the total volume of sales which the commission sets to enhance the deterrence from participating in any dangerous anti-competition behaviors. The guideline provides some examples of those behaviors such as horizontal price-fixing, marketeering, limitation of output agreements. The Commission will add this amount to the result of the previous stages.

1.1.2 The second step: the adjustment of the basic amount of fines
The European commission after setting the basic amount of fines may take into consideration some factors which could lead to increase or decrease in the amount of fines. Below we start by

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presenting some important aggravating factors used by the European commission, then we move to focus on the litigating factors which has been accepted by the European commission decisions.

The European aggravating factors of the basic amount of fines

The commission can increase the basic fines if one or more aggravating factors exist in the case. The guideline presents some examples of those factors but the commission can consider any other factors which is not provided in the guidelines to enhance the general and special deterrence.

If the same undertaking continues or repeats the same or similar infringement, after the European commission or any national antitrust authority stated that the undertaking infringed article 101 or 102 of TFEU, the commission can increase the basic amount of fines up to 100%. The recidivism factor justifies the increase in fines, after all, it’s for the same reason that the undertaking paid the fines the first time yet he didn't abstain from engaging in similar unlawful behaviors. To apply this factor, the commission does not require that the infringement concerns the same relevant product or geographic markets. Furthermore, the commission doesn't care about the long period of time between decision of the previous condemnation and the new one Since the year 2000, the European commission has applied this factor on 25 cases of cartel and abuse of dominant position.

- If the undertaking refuses to cooperate with or obstructs the commission from carrying out its investigation, the commission can increase the basic amount of fines. This factor is derived from the obligations to cooperate with the commission.

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28OIEA, op. cit.

"The basic amount may be increased where the Commission finds that there are aggravating circumstances, such as:

—where an undertaking continues or repeats the same or a similar infringement after the Commission or a national competition authority has made a finding that the undertaking infringed Article 81 or 82: the basic amount will be increased by up to 100% for each such infringement established;

— refusal to cooperate with or obstruction of the Commission in carrying out its investigations;

—role of leader in, or instigator of, the infringement; the Commission will also pay particular attention to any steps taken to coerce other undertakings to participate in the infringement and/or any retaliatory measures taken against other undertakings with a view to enforcing the practices constituting the infringement."

29The undertaking has been previously condemned for abuse of dominant position by a judgment in 1983 for it’s system of loyalty and using a discount: COMP/E-2/36.041/PO—Michelin "Article 15(2) of Regulation No 17 states that the Commission may, by decision, impose on undertakings or associations of undertakings fines not exceeding 10% of the turnover in the preceding business year of each of the undertakings participating in the infringement where, either intentionally or negligently, they infringe Article 82 of the Treaty. In fixing the amount of the fine, regard is to be had both to the gravity and to the duration of the infringement."

30"(362) Michelin argues that the fact that the Court’s earlier judgment was concerned with an infringement on another geographic market means that Michelin’s abusive practices here do not constitute repetition of the same infringement. The Commission takes the view, however, that when a dominant undertaking has been censured by the Commission it has a responsibility not only to put an end to the abusive practices on the relevant market but also to ensure that its commercial policy throughout the Community conforms to the individual Decision notified to it; Michelin did not do this, quite the reverse.

(363) It must be concluded that the abuses committed by Michelin on the defined relevant markets are aggravated by the fact that this was a repeated infringement, which justifies an increase of 50% in the basic amount of the fine, that is to say an increase of EUR 7.6 million."

31International Competition Network Cartels Working Group, Subgroup 1 - general framework, Setting of fines for cartels in ICN jurisdictions, Report to the 7th ICN Annual Conference, Kyoto, Apr. 2008 p. 25

32Geradin, Damien and Sadrák, Katarzyna, op. cit., p. 10

33ibid., p. 12
• If the undertaking played the role of leader in the infringement or instigator of the infringement, the commission can take into consideration any role of the undertaking to coerce other undertakings to participate in the infringement, to increase the basic amount of fines.

The parties that played the leading role must receive stronger sanctions than other parties that participated in the infringement. In some cases, the leader exercises pressure on other undertakings to join in the anti-competition behaviors. The commission has applied this factor in 17 cartel decisions, since 2000 up to 2017.33

As we mentioned previously the commission can consider any other factors as aggravating factors which lead to an increase in the amount of fines. 34

The figure above shows us the European Commission usage of the different aggravating factors, since 2000 up to 2017.35

**The European mitigating factors of the basic amount of fines**
The commission can decrease the basic amount of fines, if it finds one or more mitigating factors in the case. The guideline underlines some examples of those mitigating factors.36

33 *ibid.*, p. 11
34 To see more aggravating factors which has been taken in consideration by the commission practice
*ibid.*, p. 12
35 We use the statistics from Geradin, Damien and Sadrak, Katarzyna, *op. cit.*
36 OJEA, *op. cit.*

The basic amount may be increased where the Commission finds that there are aggravating circumstances, such as:
— where an undertaking continues or repeats the same or a similar infringement after the Commission or a national competition authority has made a finding that the undertaking infringed Article 81 or 82: the basic amount will be increased by up to 100 % for each such infringement established;
— refusal to cooperate with or obstruction of the Commission in carrying out its investigations;
• If the undertaking terminates the infringement as soon as the European commission intervene. The commission may take that in consideration and decrease the basic amount of fines. The 2006 guideline executes from the scope of this factor cases related to the secret agreement or practice.

• If the undertaking provides evidence that the infringement was committed by negligence. The negligence could be taken in consideration if the undertaking can prove that it does not have any knowledge about the object or effect of the anti-competition behaviors.\(^{37}\)

• If the undertaking can provide evidence which proves that his involvement in the infringement is substantially limited, and in this way during the period a party in the agreement, the undertaking actually avoids to apply it by adopting competitive conduct in the market.

The commission applied this factor in the shrimps cartel decision.\(^{38}\) Among other reasons the commission considered the limited geographic market of STÜHRK to Germany contrary to other undertakings involved in the case. That's why the commission reduced STÜHRK's amount of fines. The guideline precise that the fact the undertaking participated in the infringement for a short period, it should not be taken in consideration to apply this medicating factor, because it's already taken in consideration when calculated the basic amount of fines.

• If the undertaking effectively cooperated with the commission outside the scope of the leniency program, the commission can reduce the amount of fines. The effective cooperation to be considered as a mitigating factor may help the authority to establish the existing infringement and bring it to an end. The Corporation in this manner is recognized as mitigating factor by the European commission, in 13 cases of cartel and abuse of dominant position since 2000.\(^{39}\)

• If the anti-competition conduct of the undertaking has been authorized or encourage by public authorities or by legislations, the commission can consider this factor to reduce the amount of fines. Special attention must be paid not to confuse this factor with a situation where the undertaking is required by national rules to engage in anti-competition conduct, because in this situation there are no infringement accountability at all. This mitigating factor is recognized by the European commission in 5 cases of cartel and abuse of dominant position since 2000.\(^{40}\)

Those mitigating factors which have been mentioned explicitly and the guideline however the European commission can consider any other factors as mitigating circumstances to reduce the basic amount of fines in regard the circumstances of the case.

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37 Geradin, Damien and Sadrak, Katarzyna, op. cit., p. 15
38 Case COMP/AT.39633 – Shrimps, 27.11.2013, C(2013)
39 Geradin, Damien and Sadrak, Katarzyna, op. cit., p. 18
40 ibid, p. 17
The below figure shows us the European Commission usage of the mitigating factors from 2000 to 2017\textsuperscript{41}.

1.1.3 Third step: the specific adjustment of the total amount of fines

As we mentioned previously in the first step, the commission can quantify the basic amount of fines. After that if it's applicable the commission may consider factors which increase or decrease by certain percentage the basic amount of fines. By following those both steps the commission defined the appropriate amount of fines. Also, we mentioned in the start of this subsection that's it is widely accepted that the European commission held large discretion power. Moreover there are some legal limit to the final amount of fines which has been presented by the article 23-2 of regulation 1-2003.In this paragraph, we discuss the final step before imposing the total amount of fines on the undertaking. The specific adjustment factors could lead to increase or decrease in the fines. In the first point, we present the factors which led to increase the final amount of fines then in the second point we move to the factors which limit the total final amount of fines imposed on the undertaking.

1. The specific factors to increase the amount of fines
The main purpose of the public enforcement of the antitrust law is the specific and general deterrence.
The specific deterrence is realized by imposing a degree of sanctions which dissuade the undertaking from renewing the violation of antitrust law. For this purpose, the European commission can increase the amount of fines imposed on undertakings for two reasons.

- The commission may increase the amount of fines for undertaking which has particularly large turnover in the relevant market concerned by the infringement\textsuperscript{42}.

\textsuperscript{41} We use the statistics from Geradin, Damien and Sadrak, Katarzyna, \textit{op. cit.}
\textsuperscript{42} OJEU, \textit{op. cit.}
• The commission can increase the amount of fines in order to exceed the amount of gain which the undertaking realized by non-respect of the antitrust rules.

2. The specific factors to decrease the amount of fines.
If it’s appropriate, before imposing the final amount of fines, the European commission may reduce this amount in two situations.

• The maximum limitation of responsibility
According to Article 23-2 1-2003, the European commission can impose fines on undertakings which do not exceed 10% of their total turnover in the preceding business year. Furthermore, this limit is confirmed by the guidelines. Before the commission imposes the final amount of fines, it must check to be sure that it does not exceed the 10% of the turnover, of the last business year.
By contrast the commission can extend the liability to the parent companies which may have larger turnover.

• The European commission can also reduce the amount of fines if paying the fines will jeopardize the economic viability of the undertaking. This factor could be considered only if the inability to pay connected to general social and economic circumstances. After the recent economic crisis, the commission granted a reduction for the first time by considering this factor in Pre-stressing Steel cartel in 2010.

We saw the European commission method to quantify the amount of fines. The European court of justice held judicial review of the European commission decisions. The judicial review of the CJEU of the European commission decisions it was discussed by many of scholar articles, especially that

"The Commission will pay particular attention to the need to ensure that fines have a sufficiently deterrent effect; to that end, it may increase the fine to be imposed on undertakings which have a particularly large turnover beyond the sales of goods or services to which the infringement relates."

OJEU, op. cit.

"The Commission will also take into account the need to increase the fine in order to exceed the amount of gains improperly made as a result of the infringement where it is possible to estimate that amount."

OJEC, Council Regulation (EC) No 1/2003, 16 dec. 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty: "The Commission may by decision impose fines on undertakings and associations of undertakings where, either intentionally or negligently:
(a) they infringe Article 81 or Article 82 of the Treaty; or
(b) they contravene a decision ordering interim measures under Article 8; or
(c) they fail to comply with a commitment made binding by a decision pursuant to Article 9."

OJEA, op. cit.

"The final amount of the fine shall not, in any event, exceed 10 % of the total turnover in the preceding business year of the undertaking or association of undertakings participating in the infringement, as laid down in Article 23(2) of Regulation No 1/2003."

International Competition Network Cartels Working Group, op. cit., p. 33

Geradin, Damien and Sadrak, Katarzyna, op. cit., p. 22

International Competition Network Cartels Working Group op. cit., p. 29

OJEU, op. cit.

"In exceptional cases, the Commission may, upon request, take account of the undertaking’s inability to pay in a specific social and economic context. It will not base any reduction granted for this reason in the fine on the mere finding of an adverse or loss-making financial situation. A reduction could be granted solely on the basis of objective evidence that imposition of the fine as provided for in these Guidelines would irretrievably jeopardise the economic viability of the undertaking concerned and cause its assets to lose all their value"

Geradin, Damien and Sadrak, Katarzyna, op. cit., p. 20
the European commission held investigative and adjudicatory functions. In other words the same institute carries out the investigation in the antitrust cases, and after finishing the investigation the European commission takes a decision in those cases. The articles 263 and 261 of the TFEU provide the GCEU the power to enjoy unlimited jurisdiction to review the commission fines decisions.

1.2 The European economic models to quantify the damages used by the French court

Enforcing the European antitrust law has been accorded to the European commission and the European national antitrust authorities. The European commission is the European public authority which represents the 28th European States to enforce article 101 and 102 of TFEU. To establish any private action of damages, the claimants must sue one of the State National jurisdiction in any of the 28 States. If it's appropriate, the national court will apply the European antitrust rules. Whatever rules that the court applies, it must respect some of the European rules and principles such as the principle of effectiveness and equivalents.

The principle of effectiveness in this context means that each member state must guarantee the exercise of all rights that are conferred on individuals by the European union rules and not render them excessively difficult or practically impossible. In consequence, the right of the victim of the antitrust infringement to obtain a compensation must be exercised with respect to the principle of effectiveness before the European national court. The right of victims to obtain a compensation

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51 For more details about the european court judicial review see by example:
52 Article 263 " The Court of Justice of the European Union shall review the legality of legislative acts, of acts of the Council, of the Commission and of the European Central Bank, other than recommendations and opinions, and of acts of the European Parliament and of the European Council intended to produce legal effects vis-à-vis third parties. It shall also review the legality of acts of bodies, offices or agencies of the Union intended to produce legal effects vis-à-vis third parties.

It shall for this purpose have jurisdiction in actions brought by a Member State, the European Parliament, the Council or the Commission on grounds of lack of competence, infringement of an essential procedural requirement, infringement of the Treaties or of any rule of law relating to their application, or misuse of powers.
The Court shall have jurisdiction under the same conditions in actions brought by the Court of Auditors, by the European Central Bank and by the Committee of the Regions for the purpose of protecting their prerogatives.
Any natural or legal person may, under the conditions laid down in the first and second paragraphs, institute proceedings against an act addressed to that person or which is of direct and individual concern to them, and against a regulatory act which is of direct concern to them and does not entail implementing measures.
Acts setting up bodies, offices and agencies of the Union may lay down specific conditions and arrangements concerning actions brought by natural or legal persons against acts of these bodies, offices or agencies intended to produce legal effects in relation to them.
The proceedings provided for in this Article shall be instituted within two months of the publication of the measure, or of its notification to the plaintiff, or, in the absence thereof, of the day on which it came to the knowledge of the latter, as the case may be."

Article 261 " Regulations adopted jointly by the European Parliament and the Council, and by the Council, pursuant to the provisions of the Treaties, may give the Court of Justice of the European Union unlimited jurisdiction with regard to the penalties provided for in such regulations."
nowadays is less related to the principle of effectiveness because this right is being protected by the 2014 European parliament directive\textsuperscript{53}, which must be transposed to the national legal systems.

The principle of equivalence means that the European rules must not be less favorable then the domestic ones in term of its enforcement and application\textsuperscript{54}.

The right of the victims of any European competition law infringement to obtain a compensation was confirmed by the European court of justice in different cases such as Courage Limited V. Crehan (2001) and European Community v Otis NV and others [2012]. According to these judgements, the European courts states that the national courts must guarantee that the consumers or companies receive a compensation in case of any violation of European competition law.

In Manfredi v. others (2006), the court held that in the absence of community rules governing that field, it is for the domestic legal system of each Member State to set the criteria for determining the extent of the damages for harm caused by an agreement or practice prohibited under Article 81 EC, provided that the principles of equivalence and effectiveness are observed\textsuperscript{55}.

Secondly, it follows from the principle of effectiveness and the right of individuals to seek compensation for loss caused by a contract or by conduct liable to restrict or distort competition, that injured persons must be able to seek compensation not only for actual loss (damnum emergens) but also for loss of profit (lucrumcessans) plus interest\textsuperscript{56}.

It's become important under the European Union rules to unify the quantification of damages method in EU antitrust cases as much as possible, before the different European national courts. This is especially to protect the European internal market unity and to avoid the forum shopping.

One of the major difficulties in producing private action of damages in the EU law is the quantification of amount of damages. This difficulty has been recognized by the green paper of 2005. The white paper of 2008 promised to provide guidelines to the quantification of damages. In 2011 a guideline was adopted to quantify damages. However, this guideline is not binding but it provides different methods and techniques which help the national judge to determine the amount of harm in the private action of damages.

The claimant’s harm could be presented in the price, volume of sale, or purchase of a product or service, market share and profits. The guideline focuses on two categories of harms: the first category is the overcharge cases which concerns the exportation of the market power by the undertaking to increase price or decrease the quality of the product or service.

The second category is the foreclosure cases. This category concerns the exclusion of competitors or reducing their market share. By the way of an example in cartel cases where the price of the


\textsuperscript{54} European Commission, \textit{Quantifying harm in actions for damages based on breaches of article 101 or 102 of the treaty on the functioning of the European Union}, Commission staff working document, Practical guide, 11 jun. 2013, SWD(2013) 205, {C(2013) 3440}

\textsuperscript{55} CJEU, judgement, 3rd chamber, 13 Jul. 2006, Manfredi & others, C-295/04, p. 31, 98

\textsuperscript{56} \textit{ibid}, idem
product is increased, we need to estimate the competitive price. Then we can estimate the real increase in price which is the result of this cartel.

Other more complex cases could occur in the abuse of dominant position situations. If the undertaking has a dominant position that leads to the foreclosure of competitors from the relevant market, the harm of the competitors could be measured by comparing the present turnover and profit margin with the turnover and profit margin the competitors will have if they continue doing their business in the relevant market without the antitrust infringement. But this it is impossible to say with a certainty how the market will be in the absence of the anti-competition behavior especially since the market still depends on many factors such as interaction between the market players knowing that these players react in different ways according to their strategies, as well as the role of the market itself. Moreover, the unavailability of evidence makes the estimation of harm a more complex issue. This is one of the reasons why the quantification of harm becomes limited thereby affecting the certainty percentage in its estimation\textsuperscript{57}. This limitation in the harm estimation is recognized by the European court of justice, where the court accepts a better estimation of harm but also buy a different European text\textsuperscript{58}.

According to the European commission, to quantified the harm the important question to be asked is what will happen in the case where no competition infringement has been accorded\textsuperscript{59}.

In this subsection we present the main methods which are suggested by the European commission, and used by the France national court to quantify the anti-competition harm.

### 1.2.1 Comparator-base methods

As we mentioned previously the main issue in quantifying of damages is to define the competitive price of such products. That means we need to identify the price of the product in case of absence of the antitrust infringement. After building the non-infringement scenario, we compare the price of the product under the non-infringement scenario with the effective price in the market during the infringement period. To build the non-infringement scenario according to the comparator-base method, we can refer to data of different time, product, and geographic markets. Furthermore, it is possible to enhance the results of applying this method by applying the regression analysis technique.

The European guideline recognizes the Comparator-base method to quantify the damages on antitrust cases. This guideline provides details to understand the application of this method in practice. The first step to apply this method is to define the competitive price of the product in different markets. The guideline provides three different techniques to choose the reference market. In this subsection we start by presenting the Comparator-base method different techniques, and then we examine the practice application of the Comparator-base methods.

\textsuperscript{57}European Commission, *Quantifying harm in actions for damages based on breaches of article 101 or 102 of the treaty on the functioning of the European Union*, Commission staff working document, Practical guide, 11 jun. 2013, SWD(2013) 205, [C(2013) 3440], p.10, §14-17

\textsuperscript{58}Directive 2014/104/EU, op. cit., Ch. III, art. 17

\textsuperscript{59}Directive 2014/104/EU, op. cit

"2. Full compensation shall place a person who has suffered harm in the position in which that person would have been had the infringement of competition law not been committed. It shall therefore cover the right to compensation for actual loss and for loss of profit, plus the payment of interest."
1.2.1.1 the Comparator-base methods techniques

We present the different techniques possible to applying the Comparator-base methods.

a. The before and-or after technique

Referring to this technique requires examining the product prices in the same relevant geographic markets before and-or after the infringement.

We start applying this technique by defining the time that the antitrust behaviors intervenes\(^{60}\). And then we compare the price during this period with a price before or after for the same product in the same market. We can compare the cartel price, with a price before the period of this cartel, but also we can compare the cartel price with a price after the period of the cartel. Moreover, according to this technique, we can compare the cartel price with a price before and after the period of this cartel; this will be possible by considering the average price\(^{61}\). Choosing the reference price period is related to the availability of the data, but also to the circumstances of such case. We can apply the before and-or after technique, in overcharge and exclusionary cases.

The before and-or after technique is one of the best ways to measure the overcharge caused by an antitrust infringement. As we mentioned previously, we need to observe the price of the concerned product, before and-or after the infringement period. Using this data helps us to define the competitive price of the product. The difference between the competitive price and the infringement price is the overcharge price which was paid by the consumers.

Additionally, to quantify the consumers’ harm, we need to also define the quantity that the claimant bought from the defendant during the anti-competition period. When quantifying the damages using this technique, it is important to note that there’s the possibility that an increase in price of the product could lead to decrease in the volume of demand.

The negative effect in the selling volume of the product could be explained by the fact that in case of an increase in price of the product, some of the consumers will no longer buy it, or they buy less quantity. The decrease in quantity depends on the elasticity of demand of such products\(^{62}\). Those consumers can also claim for damages. See the below figure, which shows the relationship between the price of the product and the selling of the quantity and the effect of the increase of the price on the selling quantity.

\(^{60}\) European Commission, *op. cit.*, Commission staff working document, pp. 17,18, §39- & following

\(^{61}\) *Ibid.*, p.18, §47

\(^{62}\) To quantified the harm related to decrees on selling volume of the product, as a consequence of increase on the price of that product, we need to build non-infringement scenario. That’s been the volume of the product which is the direct or in direct consumers will buy in case of non-infringement of competition rules.

Then we can compare the volume of units intern on Fishman scenario by the current volume of eight sending product under the anti-competition infringement.
By using this technique, special attention must be paid to exclude all the factors that are not related to the antitrust infringement, which lead to the price increase of the concerned product, from the quantification of damages.

The before and-or after technique could also be used to quantify the harm in exclusionary conduct cases. Some anti-competition behaviors could have a negative effect for the competitors, such as decreasing their market share or excluding them from the market. Moreover, these behaviors may make access to the market impossible or very difficult. To quantify the harm in those situations, we need to build a hypothetical non-infringement scenario which estimates the profit of competitors if non-infringement of competition law exists and comparing these profits with the competitors’ profits made during the infringement. The exclusionary behaviors also cause harm for the consumers. Infringers may, as a strategy, decrease the price of the product lower than its cost, which will cause the other suppliers of the same product to lose profits, and eventually drive them out of the market. When the infringer enhances his market power and market share he will increase the price or reduce the quality of the product to recoup his loss. The consumers harm could be quantified by the same method.

b. Changing the relevant geographic markets
The second way to build a non-infringement scenario is to use data from other geographic markets. This technique is usually useful when the scope of the antitrust infringement is local, regional, or national. We start by defining the relevant market in the relevant product and the relevant geographic dimensions. Then we collect data related to the relevant product market and in the different relevant geographic markets for the same period of the infringement. We need to identify the data of same or highly similar products which exist in different geographic markets but are not affected by the anti-competition behaviors. Special attention must be paid to choose the geographic market. The more the structures of the market are similar to those of our case, the more the results are precise. That's why it's become very important to define the relevant geographic market in our case because the reference geographic market must not be affected by the

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63 European Commission, op. cit., Commission staff working document, p. 54, § 183
64 ibid, p. 65, § 211, 212
65 For more details related to the relevant market definition under EU competition law see E commission, Definition of relevant market, notice, Official Journal C 372, 9 dec. 1997, available on : http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3Al26073
antitrust behaviors. Geographic markets which are affected by the anticompetition behaviors is not a good candidate for use as a reference market. This technique could be applied in cases related to increase in the price of the product. Moreover, it could be useful in exclusionary conduct where we can use the data, which include economic variables such as market share, profit margin, rate of return on capital, value of assets and level of cost of undertaking.

c. Changing the relevant product market
It is also possible to build a non-infringement scenario by referring to the data of another product in the same geographic market. We try to identify a data of other relevant product market but with the same market structure. However, the comparator product should be carefully chosen. The similarity between the both products is important; in addition, we must also take into consideration the market structure such as the competitor’s number in this market, cost structure, elasticity of demand and supply. It may also be important to consider the cost to enter into this market. This method was presented in SNCF v. Bouygues (2009). According to SNCF, the contract of constructing the TGV Méditerranée train between 1996 to 1999 it is similar to the contract of construction the train in this case. The French court reject this approach; the court emphasize in this case that to apply this method, the both products and market must to be comparable in all points.

d. Combining comparisons over time and across markets
This mechanism is sometimes called the difference in differences. The difference in differences mechanism focuses on the development of relevant economic variables in such market. By referring to this method we consider the data related to the concerned product over time, for example we observe the development of the price of the concerned product across a certain period of time and we examine the price of the same product in a different geographic market which was not affected by the antitrust infringement for the same period of time. The comparison between those two differences will show us the difference between the price of the product caused by the antitrust infringement and exclude all those factors that affected both the affected and non-affected markets. Of course, we can replace the price of the product by any other economic variable depending on the case.

This comparator mechanism could help us to distinguish between the development of any factor or any influence on the market, and between the anti-competition behavior effect on it. We note here that applying this mechanism requires high availability of data of the both markets during the infringement period.

1.2.1.2 The practice application of the Comparator-base methods
After choosing the technique and collecting all the important data related to the product and the affected market by the antitrust infringement and the comparator market, we need to process to analyze those data. Analyzing the comparator mechanism outcome data will allow us to quantify the amount of damages. There are different ways to analyze the outcome data.

Choosing the analyzing method depends on the quantity and the quality of the data. In some cases, analyzing the data is a relatively simple task, especially if a simple comparator mechanism has been

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66 European Commission, op. cit., Commission staff working document, p. 19, § 49, 50
67 ibid, p. 21, § 54, 55
69 ibid, idem
70 European Commission, op. cit., Commission staff working document, p. 21, §56 & following
chosen. For example, if we compare the price of the product during the infringement period and before this infringement period in the same market, for the same product. In this example, it is simple to define the amount of the overcharge caused by the infringement. By contrast, in other cases, it's become necessary to quantify the damages using more complex data analysis method such as the linear interpolation.\textsuperscript{71} In addition, in more complex cases, we can refer to the regression analysis.

The regression analysis is a way to account for alternative causes for the difference between the compared data sets. This economic statistical technique helps to investigate patterns in the relationship between economic variables and to measure the extent of interpolation.\textsuperscript{72} By applying this technique it's become possible to know whether and how much external factors of the infringement have contributed to the difference in the value of variable of interest in the infringement market and the data of value of a comparator market or comparative period of time.\textsuperscript{73} However, nowadays, the regression analysis isn't usually used by the European courts.\textsuperscript{74}

Generally speaking, the comparator mechanisms are able to be implemented through the regression analysis if sufficient data are available. According to this technique, a number of data for the variable of interest and the likely influencing variables are examined by statistic models which define the relationship between them. The identified relationship is usually described in the form of an equation which is called the regression equation. The regression equation makes it possible to estimate the effect of the influencing variables in the variable of interest. In addition, this equation can separate the effect of difference variables from the effects of the infringement of antitrust law.

In case of the existence of any anti-competition behavior in a market, we may suppose that this infringement will increase the price of the product. But the price of the product may also increase due to other factors in the same period of the infringement. These factors could be raw materials, fluctuating cost of raw materials, change in demand, product characteristic, the level of market concentration, demand and supply etc. All these factors including the infringement will affect the variable of interest. To quantify the damages caused by the infringement, we must identify the factors which are not related to the infringement and define their effect in the variable of volume of profit. After that, we can identify the effect of the infringement on the increase of the price of the product.

There are two different approaches to applying the regression analysis for damages estimation. The first approach is to build the regression equation by referring to data only from the non-infringement period or markets. This approach is used to forecast the effect on the variable of interest during the infringement period on the basis of the pattern identified outside this period.

The second approach is to build the regression equation by referring to data related to the non-infringement period or market with data of the infringement period or market. Applying the regression analysis by this approach helps to present the effect of infringement through a separate indicator variable called dummy variable.\textsuperscript{75}

\textsuperscript{71} ibid, p. 24, § 67
\textsuperscript{72} ibid, idem
\textsuperscript{73} ibid, p. 25, § 69, 70
\textsuperscript{74} Korenblit C. M., Austin, S. LLP., Quantifying Antitrust Damages-Convergence of Methods Recognized by U.S Courts and the European Commission, CPI Antitrust Chronicle, March 2012 (1), p. 6
\textsuperscript{75} European Commission, op. cit., Commission staff working document, p. 25, § 71
Here, we provide a simplified example for a better understanding of the application of this technique. Suppose that we have a cartel in the orange juice market. This cartel caused an increase in the price of the orange juice from 2012 up to 2014. In the same period of the antitrust infringement, there was also an increase in the price of the base material, orange. First of all, we try to identify the effect of the increase of the price of the raw material and the increase of the price of the finished product, orange juice by using the regression analysis. By observing the percentage of the impact of the increase of the price of the raw materials on the increase of the price of the finished product from 2007 to 2011, we can determine the normal increase in price of the product during the infringement period. This increase in price should not be taken into consideration when quantifying the damages because it's not related to the infringement of the antitrust law. After that we can determine the impact of the infringement on the product price. The figure below presents the relationship between the change in price of the raw materials with the price of the product before and after the infringement.

![Graph showing the relationship between orange juice price and orange price](image)

The previous example presents the relationship between one factor and the price of the product. However in such cases we can apply the regression analysis for multiple factors\(^76\) such as increase in price of the energy or cost of transport etc. In this method, we can analyze the relationship between a change in any variable and between the examined variable. It's important in each case to take into consideration all variables are relevant to this case as much as possible\(^77\).

To conclude, in the comparator-base method, choosing the technique to be applied in a case is related to the availability of data but also to the economic cost of applying the technique and the

\(^{76}\) *ibid.*, p. 28, § 77

\(^{77}\) Korenblit C. M., Austin, S. LLP., *op. cit.*, p. 6
economic analysis of the case. The cost of applying some methods in some cases may exceed the cost of the damages itself. To apply this method, we need to change one of the three dimensions of the affected business. In other word, the affected market by the antitrust infringement has three dimensions:

1. The infringement period.
2. The relevant product.
3. The relevant geographic area.

To build a non-infringement scenario, by using the comparator-base method, we can replace one and only one of the three dimensions of the affected market, by a similar dimension from a non-infringement market. By applying the comparator-base method using similar product technique to quantify the damages, we build the non-infringement scenario, using the data of the same geographic market for the infringement period (See scenario 1 below). To using the non-infringement scenario by applying this method and choosing another geographic market technique, we change the area dimension by keeping using the data of the same infringement period for the same product (See scenario 2 below). By replacing the infringement period dimension, we can choose the before and/or after technique, while continuing to use the data of the same product in the same geographic area (See scenario 3 below).

1.2.2 Simulation models
The simulation models could also be useful to build the hypothetical non-infringement scenario. The simulation models use data that is not in the relevant market, unlike what we saw previously. We collect the data from special economic models or cost analysis of the product and we use this data to build the non-infringement scenario. Then we use these hypothetical scenarios to compare with the actual situation for quantifying damages in antitrust cases.

1.2.2.1 Simulation of market outcome on the basis of economic models

The simulation of market outcome on the basis of economic models is another method that could be used to build a non-infringement scenario, through the use of economic models\(^7^8\). The economic studies present models which describe the structure of the market and estimate the price or any other economic variable related to it. The economic simulation models take into consideration the main factors which have or may have a significant effect in the market. That's why these model focus on the relevant market definition, the supply side and the demand-side.

- the significant factors which could influence supply such as the structure of suppliers and how they compete and interact between them, and their cost structure as well as the accessibility of the market for the potential suppliers.
- demand condition in the market especially the consumers’ reaction in case of change in price of the product.

The economic studies on the industrial organization developed models by examining different types of markets such as the perfect competition market, oligopolistic market and monopoly market which can simulate the outcome of each of these businesses\(^7^9\). By examining the interaction between the supply and the demand of each market, we can predict how the competitors will act and react according to the volume and the price of the relevant product.

By using these models to examine the market before the infringement, we can understand the situation of the market before it was affected by the infringement, in other words, how the market normally develops in case of non-infringement. Then by comparing between the non-infringement scenario with the present market situation after the competition infringement, it can estimate the damages.

1.2.2.2 The Cost-based and finance-based techniques

a. The cost-based technique.

The cost-based technique can be used to create a non-infringement of competition law scenario\(^8^0\). This technique refers to the measure of production cost per unit by adding a mark-up for reasonable profit which give us the results for price of units in non-infringement of competition law in the market. The non-infringement price for units will be the reference to compare with the price charged by the undertaking to estimate the overcharge\(^8^1\). To apply this technique, the first step is to define the production cost for unit. This could be calculated by dividing the actual relevant production cost by the total number of products produced\(^8^2\). There are different types of models for

\(^7^8\) ibid, idem
\(^7^9\) European Commission, op. cit., Commission staff working document, p. 33, § 97, 98, 99
\(^8^0\) Korenblit C. M., Austin, S. LLP., op. cit., p. 7
\(^8^1\) European Commission, op. cit., Commission staff working document, p. 36, § 107
\(^8^2\) Special attention must be paid when referring to this technique, in some cases when we try to estimate the production cost in the market where there are an infringement of the competition rules the result of this estimation could
measuring the production cost depending on the branch of the industry and the market characteristics.

The second step in applying this technique is to define the reasonable margin of profit. This can be done in different ways. It could be estimated by overtime comparison where we use the data of the undertaking or similar undertaking before or after the infringement to define the profit margin. In addition, we can use the data of same or similar product in different geographic markets. But also, we can refer to some economic models to estimate the profit margin. In the end, to build the non-infringement scenario, we use the production cost per unit and we add the reasonable margin profit, and through this operation we get the price for the product.

This method was used by the French administrative court in the case of SNCF vs. Bouygues case, 2009 where the court approved using the cost-based technique for quantifying damages of SNCF. To determine the cost of the product, the court accepted to refer to the SNCF archives which include data for the cost of similar products which could be significant to define the price of the concerned product in this case.

b. Financial Analysis method

The financial analysis method starts by estimating the financial performance of the claimant or the defendant which give us an indication if the claimant suffered harm and the amount of this harm. In this regard, there are some standard methods for estimating the profitability of the undertaking for example, the net present value model. According to this model, we calculate the present value for future cash flows of the undertaking. This model is used to give insights into the amount of harm. Moreover, we can use another business evaluation method such as the accounting model. After presenting the actual financial situation of the undertaking under the competition law infringement, we compare the financial situation. We use these methods to try to give us some indication of how the undertaking’s profitability will be in case of non-infringement. We can use this method in overcharge cases where the infringement causes an increase in the price of the product. In addition, we can use this method in the exclusionary conduct.

The French appeal court recently referred to this model in the SNCF v Switch case, 2016. This case concerns a vertical agreement which was considered to be unlawful by the French competition authority. The activities of this cartel (SNCF) caused SWITCH to be excluded from the market and in consequence, they are claiming for damages. To build the non-infringement scenario, the court refers to this method in its quantification of damages. In its analysis, the court defined the economic model of SWITCH. The court confirmed the possibility to refer to the business volume of VSC agency to define the lost volume of SWITCH. In this case, the court underlines the importance of

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be not reflect the reality. That could happen for two reasons: first, in the case of infringements of Article 101, TFEU, undertakings which due to their collusive behavior are not subject to the competitive pressure that would happen in the non-infringement scenario may operate less efficiently and therefore course higher production costs than under competitive pressure. Second, Undertakings who not respect the competition rules may restrict output and may therefore, during the infringement, forego economies of scale that would have Drive to lower production costs. In those situations, adjustments to the observed costs data of the infringers may be important. Where such adjustments are not made, the observed costs may still contribute, under the cost-based method, to a lower-bound estimate of the possible price overcharge.

To see more details about this point: European Commission, op. cit., Commission staff working document, p. 37, 81 TA Paris, decision, 27 mar. 2009, SNCF v. Bouygues

81 European Commission, op. cit., Commission staff working document, p. 37, § 114 and following
the relevant market definition and mentioned that the relevant market definition could be defined in different ways in the antitrust authority decision, and in the private action of damages\textsuperscript{85}.

\textsuperscript{85} TA Paris, decision, 27 mar. 2009, SNCF v. Bouygues, p.11
2. The American economic models to quantify the fines and damages of the American antitrust law violation

2.1 The Economic models used by the American court to quantify the fines

The American antitrust enforcement system basically refers to the private enforcement. The federal trade commission and the American department of justice are considered the main antitrust public enforcement authorities.

Both agencies can impose financial sanctions on the infringer of the American antitrust law. Additionally, the American department of justice in some cases may impose a criminal sanction if it's appropriate.

The American antitrust law is allowed to impose fines on the undertakings and on individuals who are involved in the antitrust infringement.

The Court in the US determine the final amount of fines, imposed on the undertakings.

In this subsection we focus on the American rules to quantify the amount of fines, which is impose on the undertakings in the antitrust decisions.

To estimate the amount of fines in the USA, there are three different stages to be respected:

2.1.1 First stage: the quantification of the base fines

The quantification of fines in the US begins by determining the base fines by the authority.

The base fines is the percentage of the volume of the affected Business, that is of total sales from the relevant market.\(^\text{86}\). The volume of the affected business must cover the entire duration of the antitrust infringement.

According to the US sentencing guideline, 20% of the volume of the affected business is considered a good proxy to determine the base amount of fine.

The purpose of specifying 20% of the volume of the commerce, is to avoid wasting time and money that would be required for the court to determine the exact gain or loss in each case.\(^\text{87}\).

Moreover, the authority can refer to the alternative fines statute in cartel cases to define the base amount of fines.

This text provides 2 additional measures to determine the base fines.\(^\text{88}\):

- the pecuniary gain to the undertaking which was realized from the infringement of antitrust law
- the pecuniary loss from the infringement of the antitrust law caused by the undertaking.

The authority will choose one of these three ways to set the base fines.

To calculate the volume of the affected commerce in the geographic market, the authority takes into consideration the volume which was affected by the infringement in all United States.\(^\text{89}\).


\(^{87}\) ibid, p.171

\(^{88}\) ibid p.172

\(^{89}\) ibid p. 179
2.1.2 The second stage: adjustment of the base amount of fines

After defining the base fines by the court, the judge refers to some culpability multipliers under one of the special instructions provided by the guideline. According to this guideline, the minimum multiplier must be at least 0.75, in other words, the total amount of fines will be at least 15% of the affected volume of the commerce\(^9^0\). But also the multiplier could be as high as 4, so the total amount of fines will be 80% of the volume of the commerce that is affected. The relevant culpability multiplier of the undertaking is presented in a table in the guideline\(^9^1\).

After completing the previous steps, the judge takes into consideration the aggravating and mitigating factors. The US sensitizing guideline identified a number of factors to determine the culpability score of the undertaking. Those factors do not operate as aggravating and mitigating circumstances, as the situation under the EU law, which leads to the adjustment of the amount of fine. By contrast, those factors form an inherent part of the calculation of the fine\(^9^2\). Each factor which has been mentioned in the guideline, and the guidelines on how to add or subtract some points\(^9^3\).

2.1.2.1 The aggravating circumstances

The United States Sentencing Commission guidelines manual 2016 provides some examples of the circumstances, where the amount of fines will aggravate. We mention below some of those circumstances.

1. If the organization (or separately managed line of business) committed any part of the instant offense less than 10 years after (A) a criminal adjudication based on similar misconduct; or (B) civil or administrative adjudication(s) based on two or more separate instances of similar misconduct, add 1 point.
2. If the organization (or separately managed line of business) committed any part of the instant offense less than 5 years after (A) a criminal adjudication based on similar misconduct; or (B) civil or administrative adjudication(s) based on two or more separate instances of similar misconduct, add 2 points.
3. If the organization wilfully obstructed or impeded, attempted to obstruct or impede, or aided, abetted, or encouraged obstruction of justice during the investigation, prosecution, or sentencing of the instant offense, or, with knowledge thereof, failed to take reasonable steps to prevent such obstruction or impedance or attempted obstruction or impedance, add 3 points.

2.1.2.2 The mitigating circumstances

As we mentioned previously, unlike the European quantification of fine methods, under the US law we have no mitigating circumstances. By contrast, there are some factors, which mitigate the amount of fines. The United States Sentencing Commission guidelines manual 2016 provides some examples of the circumstances, where the amount of fines will mitigate. We mention below some of those circumstances.

\(^9^0\)ibid, p. 185
\(^9^3\)United States Sentencing Commission Guidelines manual 2016, §8C2.5 (c) (1) and (2)
"(1) If the offense occurred even though the organization had in place at the time of the offense an effective compliance and ethics program, as provided in §8B2.1 (Effective Compliance and Ethics Program), subtract 3 points.
(2) If the organization (A) prior to an imminent threat of disclosure or government investigation; and (B) within a reasonably prompt time after becoming aware of the offense, reported the offense to appropriate governmental authorities, fully cooperated in the investigation, and clearly demonstrated recognition and affirmative acceptance of responsibility for its criminal conduct, subtract 5 points.\textsuperscript{94}

2.1.3 The third stage: the maximum amount of the fines

The different antitrust legal regimes around the world generally set a limit on amount of fines. The limit of the amount could take different modalities. Under the European antitrust law, the maximum amount of fines is set as a percentage from the total turnover of the undertaking. The American legislator use a different modality to set the maximum amount of the fines in antitrust cases. According to the Antitrust Criminal Penalty Enhancement and Reform Act of 2004, the maximum limit on the amount of fine is $100 million for the undertaking which didn't respect the American antitrust law. The maximum amount of fines under the American rules could also be defined as twice the gross pecuniary gains that the violators derived from the infringement or twice the gross pecuniary loss caused to the victim. In 2004, the American Supreme Court in Blakely v. Washington established that the federal judges should enjoy greater discretion in sentencing in comparison to that afforded in the US sentencing guideline.

2.2 The economic models used to quantify the antitrust damages under the American antitrust rules

For more than a century, the American antitrust law has been enforced by the private enforcement system. This rich experience could serve as a good example to guide the European law makers to enhance private enforcement in Europe.

Let us start this subsection by presenting some basis which cover the American private enforcement system. First of all, according to the American law, if any behaviors forbidden by the American antitrust law causes injury to any person in his business or property, the injured person has the right to sue in a federal court and recover up to three-fold the damages sustained by him, in addition to reasonable attorney fees\textsuperscript{95}. It is for this reason, amongst others, that the private action of damages in USA is more developed better other countries in the world. This provision as we saw previously is not available under the European law; moreover, it's forbidden under the French antitrust damages rules. Other basic provisions related to the private action of damages states that an action for damages can be accepted if it is commenced within four years of the injury\textsuperscript{96}.

\textsuperscript{95} This provision is in section 4 of the Clayton Act, 15 U.S.C. § 15
\textsuperscript{96} 15 U.S.C. § 15b. This statute of limitations is unrelated to the five-year statute of limitations applicable in criminal cartel cases. 18 U.S.C. § 3282.
In 1983, the American Supreme Court observed that in Associated General Contractors, a literal reading of the Clayton Act was broad enough to cover all harm directly or indirectly caused by the antitrust infringement\(^97\).

The American law maker is considered to have built a successful model of private enforcement system, due to its realistic requirements to accept the private action of damages by estimating damages referring to reasonable mechanism\(^98\). This is confirmed by the American supreme court practice as it requires a high level of proof of infringement, that is, an exact estimation of damages, and by contrast, it demands a lower standard of proof in quantifying of damages\(^99,100\).

The main step in quantifying the amount of damages under the American antitrust rules is by determining the plaintiff’s actual situation and compare it with his situation if the infringement did not exist. The American courts’ practice requires, that the plaintiff establishes at least a reasonable basis which is not a speculation or a guess, for belief that the damages equals some particular amount\(^101\). Then the defendant can provide evidence that some or all of the plaintiff’s elements in the claim should be reduced or eliminated\(^102\).

In the USA, just like the European enforcement system, the private action of damages could be classified into two main categories: overcharge action, where the defendant imposes non-competitive price on his consumers, and foreclosure action, where the defendant excludes or reduces the market share of his competitors illegally. Exclusionary damages litigation has produced little guidance to show us how we can estimate the loss of profits because most of these kinds of cases are tried by a jury, which do not provide comments that show how it estimated the damages\(^103\).

\(^{97}\) Associated General Contractors of California, Inc. v. California State Council of Carpenters, 459 U.S. 519, 529 (1983)  
\(^{99}\) Story Parchment Co. v. Paterson Parchment Paper Co., 282 U.S. 6. The rule which precludes the recovery of uncertain damages applies to such as are not the certain result of the wrong, not to those damages which are definitely attributable to the wrong and only uncertain in respect of their amount. P. 282 U. S. 562.  
\(^{100}\) Eastman Kodak Co. v. Southern Photo Materials Co., 273 U.S. 9. Damages are not uncertain because they cannot be calculated exactly. It is sufficient if a reasonable basis of computation is afforded, although the result be only approximate. P. 273 U. S. 378.  
\(^{101}\) Story Parchment Co. v. Paterson Parchment Paper Co.  
\(^{102}\) Hovenkamp, Herbert J. op. cit. p.25  
\(^{103}\) OECD, Directorate for financial and enterprise affairs competition committee, Roundtable on the quantification of harm to competition by national courts and competition agencies, Note by the Delegation of the United States, 11 Feb. 2011, DAF/COMP/WP(2011)11, p. 9
Equally, the American courts, as well as the European commission guideline recognize the comparator-based method.\textsuperscript{104} The American courts use two different kinds of the comparator-based method:\textsuperscript{105}

- The before and after comparison in the same relevant market which was affected by the antitrust infringement.
- The yardstick method which generally compares price performance or some other index of harm in the affected market with the same variables or the alternative or yardstick market which is under normal condition of competition.

1. The before-and-after method

The claimant is free to choose the method of quantifying the damages. The before and after method is the method mostly used in American antitrust cases.\textsuperscript{106} By applying this method, the claimant provides evidence about the price of the concerned product before, after or before and after the antitrust infringement. By using this data, we try to construct the competitive price during the infringement period. The amount of the damages will be the difference between the competitive price and the price which was imposed by the infringer during the anti-competition behaviors. Attention must be paid to choose the reference price of the product,\textsuperscript{107} because in some concentrated markets, the pre-infringement price is not always the competitive price.\textsuperscript{108} Moreover the increase in price during the infringement could be connected to factors which are not related to the infringement, for example, increase in the price of raw materials, inflation, increase in tax or labor wages. In addition, the increase of price of substitute products may increase the price of the concerned products.\textsuperscript{109} Besides using this method in over charge cases, it could also be applied in exclusionary actions. To apply this method in exclusionary cases, the court examines the claimant’s position in the market before, during, and after the infringement.\textsuperscript{110} Then compares the profit of the claimant with the anti-competition behaviors and without the infringement.\textsuperscript{111} The American courts apply this method in the same way as the European courts; as we already explained in the previous subsection on the European quantification of damages.

2. The yardstick method

By using this method, the court tries to set the competitive price of the concerned product by comparing the price of the same product in a different geographical market or by comparing the price of the product with a similar product in the same geographical market. It's important to set the marginal cost and marginal revenue of this business in a competitive market and then compare these data with the marginal cost and marginal revenue in the affected industry. As we know, the court is

\textsuperscript{104} Korenblit C. M., Austin, S. LLP, \textit{op. cit.}, p.4

\textsuperscript{105} \textit{ibid, idem}

\textsuperscript{106} OECD, Directorate for financial and enterprise affairs competition committee, \textit{op. cit.}, p. 8

\textsuperscript{107} Eastman Kodak Co. v. Southern Photo Materials Co., 273 U.S. 8. In an action for injury to an established retail business due to a defendant manufacturer's monopoly of a line of the goods dealt in and to its refusal, in the interest of its monopoly, to continue supplying such goods to the plaintiff at retailers' discounts, the gross profits derived by the plaintiff from selling such goods during a period preceding the refusal, less the expense, additional to the general expenses of the business, which would have been incurred in handling them during the period in suit, may be used as a standard in measuring the damages, if the plaintiff had not been \textit{in pari delicto} with the defendant in the monopoly, and the profits were not increased thereby, and if the other facts are such that the inference of the lost anticipated profits from the past profits is reasonable. P. 273 U. S. 376. Available at https://supreme.justia.com/cases/federal/us/273/359/

\textsuperscript{108} Hovenkamp, Herbert J, \textit{op. cit.} p.32

\textsuperscript{109} \textit{ibid}, p. 33

\textsuperscript{110} \textit{ibid}, p. 43

\textsuperscript{111} \textit{ibid}, p. 45
"unable to determine the exact competitive price”. That's why by applying the yardstick method, the court will compare the data of the affected industry, with other relevant geographic or product markets112. The yardstick method was confirmed by the American supreme court in 1946113 in Bigelow v. RKO Radio Pictures case. This method can be applied to the overcharge cases, as well as to exclusionary actions.

This can be done if it’s possible to identify another undertaking which has a similar position in the similar market, and are comparable in other respects, that is to say, we suppose that both undertakings must have the same profit. However, because the antitrust infringement exists, it affected the profit of the claimant114.

We mention here that the yardstick geographic method is not applicable when the antitrust infringement affects the global market, since we cannot identify any geographic market that is not affected by the infringement115. Also, the yardstick product method could be useful only in exclusionary cases116.

3 The regression analysis

The yardstick and before and after methods could be enhanced by econometric technique, such as the regression analysis. This technique has been explained in more details under the European section. The American court usually refers to the regression analysis which enhances the quantification of damages method in private action of damages117.

Exclusionary infringement
The purpose of the private action of damages in exclusionary cases, is to recover lost profits. The pre-litigation relationship between the claimant and the defendant plays a significant role in this litigation.

Because it determines how much of the claimant’s injury was caused by the defendant’s infringement and how much of the injury was caused by the claimant self action or any other factors.

Generally speaking, loss of profit is of three types.

- Action where the claimant continues his business in the relevant market but lost some value of sales or market share due to infringement. Moreover he can base his action on the fact that the infringement increased his cost to do business in the relevant market.

- Action where the claimant has been excluded from the relevant market by the antitrust infringement.

- Action where the claimant was forbidden access to the relevant market

We can observe the difficulty to quantify the damages in those cases with a certainty. For the above-mentioned actions, it’s very essential to choose a good method to quantify the damages118.

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112 ibid, p. 30
113 ibid, p. 7
114 ibid, p. 46
115 ibid, p. 31
116 We have written about this method in details in the subsection concerning European methods of quantify damages
117 Korenblit C. M., Austin, S. LLP, op. cit.
118 Hovenkamp, Herbert J, op. cit. p. 42
4 The market share method

The market share method is applicable in the exclusionary cases\textsuperscript{119}. The claimant can refer to this method to measure the loss of profit. The idea of this method is to examine the impact of the antitrust infringement, on the claimant’s market share. This method could be very helpful in cases such as double infringement of antitrust law. We imagine a situation where we have an infringement internal to the market, additionally in the same period we have another infringement which has impact in the whole market. In this case the before-and-after method is not useful; the yardstick method becomes helpless because it’s impossible to identify another similar market with the same circumstances. By contrast, the market share method has become helpful in measuring the loss of profits\textsuperscript{120}.

The claimant, by applying this method, presents his market share before and during the antitrust infringement. By the way of an example, if the undertaking holds 10\% of the market share in the concerned industry before the antitrust behaviors, then his market share will drop to 5\% because there’s an infringement of antitrust law. By this way, we can quantify the loss of market share, through the impact of the unlawful behaviors. Experts have built models which present the relationship between the market share and the profitability in concerned relevant market. Special attention must be paid because in some cases, profits are not always proportional to market share.

It’s possible that’s between two undertakings holding the same size market share, one might become more profitable than the other. Also, it does not mean that an undertaking which is twice the size of another undertaking will have twice as much profit as the first one. The market share method is usually applied in combination with the before-and-after or with the yardstick methods. For example, the combination between the market share and the yardstick method can be seen in the Zenith Radio Corp. v. Hazeltine Research, Inc.case\textsuperscript{121}. Another good example of the combination of the market share and the before-and-after method is the Moore v. Jas. H. Matthews & Co\textsuperscript{122}. case. Using this combined method in this case provides reasonable results especially when the claimant operates in several markets but the anti-competition behaviors concerns only one market\textsuperscript{123}.

5 The Going concern method

The American courts refer to the going concern method in some exclusionary cases especially in cases where the anti-competition behaviors lead to total destruction of the business. To apply this method, first of all the court must determine the claimant’s profitability before the impact of the anti-competition behaviors. Then the court will use this data to project a stream for future profits of the concerned undertaking.

Finally, the court will estimate the going concern value of profits of the claimants and quantify the amount of damages\textsuperscript{124}. In the case of total destruction of business cases, the American court could refer to the discounted present value of anticipated profits method\textsuperscript{125}.

\textsuperscript{119} Korenblit C. M., Austin, S. LLP, \textit{op. cit.}, p.5

\textsuperscript{120} Hovenkamp, Herbert J, \textit{op. cit.} p. 47

\textsuperscript{121} US Supreme Court, Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100 (1969)

\textsuperscript{122} United States Court of Appeals, Ninth Circuit, 682 F. 2d 830 - Moore v. Jas H Matthews & Co

\textsuperscript{123} Hovenkamp, Herbert J, \textit{op. cit.} p. 49

\textsuperscript{124} \textit{ibid}, p. 52

\textsuperscript{125} For more details and examples related to the application of this method by the American courts see, \textit{ibid}, p. 53
We presented the different economic models which are used to quantify the amount of damages. This amount in overpriced cases will be multiplied by the volume cells units of the concerned products then we multiply the results by three.

To conclude this subsection, we observe the high similarity between the American and the European models to quantify damages in antitrust cases. And the both judicial practices in Europe and in the USA accept any reasonable economic model which could allow a reasonable estimation of damages.
3. Antitrust law enforcement and deterrence

The American and the European antitrust enforcement systems are considered as the most developed and sophisticated systems around the world. While we have many similarities between the European and American enforcement of antitrust law policy, at the same time, there exists many points of differences between the both. The purpose of enforcing the antitrust law is to stop any infringement, repair the damages caused by the infringement and to avoid any infringement in the future.

Stopping the antitrust infringement is the priority of any public or private enforcement action. Repairing the damage caused by the antitrust infringement for consumers or competitors, is left to the private action of damages. Avoiding any future infringement of the antitrust law is the heart of any public enforcement action, but also it is consequences of any private action of damages. Good antitrust enforcement policy must lead to a decrease of the number of any future infringement.

3.1 Antitrust optimal deterrence theory

In this subsection, we try to determine the meaning of optimal deterrence but first of all we start by discussing the general idea of the deterrence in antitrust law.

3.1.1 The deterrence and the antitrust enforcement system

The main object of the antitrust law is to protect the competition in the market which leads to increase in the consumer welfare and to protect the competitors in the market. Enforcing the antitrust law means imposing sanctions on any undertaking which does not fully respect the law. These sanctions could take different forms: it could be a monetary sanction such as the European law, but a criminal sanction could be added to this monetary sanction, as is the situation in United States.

As the criminal sanctions are unavailable under the European antitrust law, in this paragraph, we focus only on the role of the European and American modality of the monetary sanctions to reach the antitrust deterrence.

The deterrence in antitrust law has 2 dimensions.

- The specific deterrence
  The specific deterrence can be defined as the impact of remedies or penalties on the infringer to adopt similar illegal behaviors in the future\textsuperscript{126}.

- The General deterrence
  The general deterrence can be defined as the impact of the remedies or penalties on the undertakings in general which didn't infringe the antitrust law, to adopt a similar illegal behavior in the future.

The specific deterrence maybe enhanced by administrative remedies such as relief and injunctions which may restructure the market to avoid the infringement again in the future. But also by the civil mandatory injunction such as restitution, compensation and disgorgement. The public deterrence maybe enhanced by a wider array of measures, such as, fines, restitution and doubling or trebling the amount of damages.

3.1.2 The optimal deterrence

\textsuperscript{126} Lianos, I., Jenny, F., Wagner von Papp, F., Motchenkova E., David, E. et al, \textit{op. cit.}, p.17
To reach the general and specific deterrence, States must adopt the enforcement of antitrust law system which considers the optimal deterrence theory. In the previous paragraph, we discussed the deterrence by focusing only on the monetary remedies or penalties imposed on the undertaking which infringes the antitrust rules. All the antitrust authorities around the world try to reach the optimal deterrence when enforcing the law. There are different methods which exist to reach this purpose such as the American and the European experience in the matter. We presented previously in this paper the different methods to quantify the amount of fines and damages in the European and in the American antitrust laws. In this paragraph, we discuss the characteristic of the fines and damages, which must be respected to reach the optimal deterrence.

The optimal deterrence requires that the fines and damages which are imposed on the undertaking which is found guilty of an anti-competition behaviors must be huge enough to deprive this undertaking from all the gains obtained by the infringement and a little more adjusted by the probability of detection and succeed prosecution\(^{127}\).

To clarify this idea, we take an example of a Corporation which abuses its dominant position by selling 1 million units with an overcharged price of five dollars for each unit. The total profits for this corporation, from the antitrust infringement is $5 million. The optimal fines and damages which must be imposed on this corporation is $5 million plus a small amount. By applying this simple rule, the corporation’s conduct is unprofitable from an economic point of view. However, we know that not all the antitrust infringements will be detected. That’s why, to reach the optimal deterrence, we must take into consideration the detection probability of the infringer. Supposing that in our example, the probability of detection is one in two cases, the optimal fines and damages in this example is $5 million multiplied by two, which equals $10 million plus a small amount.

If the detection probability is one in three cases, the optimal fines and damages in this example will be the $5 million multiplied by three, which results to $15 million plus a small amount.

In summary, the optimal deterrence could be realised by imposing fines and damages equal to the overcharge multiplied by the inverse of the probability of detection\(^{128}\) plus a small amount. To enhance the deterrence, the antitrust law makers can increase the amount of fines and damages, or can increase the detection probability. These are the means to reduce the expected profitability of such a violation of the antitrust law.

3.1.3 The Over deterrence

Special attention must be paid by the antitrust authorities not to abuse by imposing high amounts of fines and damages, which may exceed the ability of the undertaking to pay and which may drive the undertaking into bankruptcy and eventual exit from the market. This could weaken the competition in such market\(^{129}\), and reduce the consumer welfare\(^{130}\). Moreover, the antitrust infringement has a negative impact in the society, therefore, the cost of collecting the sanction must be taken in consideration because it’s considered to be a social charge. In the over deterrence, the marginal cost of sanction becomes much more than the marginal

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\(^{128}\) *ibid*, p. 4


revenues of sanction\textsuperscript{131}. Increasing the enforcement cost is beneficial until the optimal point is reached, and then any further increase to the enforcement cost will be less beneficial to the society. The figure below shows the relationship between the enforcement cost and the social benefit from this enforcement.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{enforcement_cost_vs_social_benefit.png}
\caption{Relationship between enforcement cost and social benefit.}
\end{figure}

3.2 The economic sanction and the deterrence under the new European rules

As we mentioned previously in 2014 the European Parliament provide the 2014 directive to enhance the private action of damages. All the European States must transpose this directive to integrate it in the national legal systems. The purpose of these new rules is to encourage the action of damages.

The new directive set rules to facilitate access to the documents and materials which are in the possession of the public authorities and private parties. These documents and materials may be very helpful for the success of private action of damages. In addition the new European rules require that the European States adopt the necessary legal text for class action procedures. Furthermore, the new rules provide the claimants some presumptions to prove his rights in a private action of damages before the national European courts.

However, despite the new European and national package of rules which open the door to the private action of damages, we still strongly believe that the majority of future private action of

\textsuperscript{131}ibid, p.30
damages will refer to follow on action. In consequence, the defendant who loses in damages judgment previously often is condemned by a decision of the public antitrust authority to pay fines.

As we saw previously under the European antitrust enforcement rules, the European commission cannot impose any individual criminal or monetary sanctions. Moreover, the European rules does not allow trebling the amount of damages.

We observe an increase in the European commission fines in the last few years. This increase might be explained on the grounds of the decrease in deterrence. As we saw also, the European commission has a large appreciation power to define the amount of fines imposed on the undertakings.

In 2006, the European guideline provided the Commission the power to impose entrance fees which is about 15% and up to 25% of the total volume of sales of the undertaking. The purpose of the entrance fees, according to the guideline, is to enhance the European deterrence. The only limit of the European commission findings on the decision is Article 23.2 of the regulation 1-2003. According to this Article, the final amount of fines should not exceed 10% of the total turnover of the preceding business year of the undertaking concerned.

All the factors which we mentioned above make the European antitrust fines to be as high as possible. In the near future, the private action of damages will start to develop in the different European States. The undertaking will face a huge amount of fines and damages to pay. We remember that one of the main European principle which must be respected by the European commission is the principle of proportionality. This principle is applicable on the public enforcement of antitrust law and its effect is not extended to the private enforcement action.

This principle imposes a limit on the European commission discretion when determining the amount of fines. According to this principle, the lawfulness of prohibition of an economic activity is subject to the condition that the prohibitory measures are appropriate and necessary to reach the objective of the legislation. The European court controls the good application of this principle in the European commission decisions.

In our analysis, increasing the monetary sanctions against the undertaking is not a good deterrence policy. Oftentimes, the undertaking managers involved in the antitrust activities change their undertakings before the condemnation decisions and the shareholder of the undertaking pay the fines. This is the time, in our point of view, to change the European enforcement policy by starting to consider the individual criminal or monetary sanctions. Moreover, the European commission must take into consideration the probability of private action of damages when imposing a fine on the undertakings.

**Conclusion**

In this paper, we examined the different economic models used to quantify the antitrust fines under the European and the American anti-trust rules. Furthermore, we observed that the European commission in comparison with the American Department of Justice has a large power over the quantification of fines. Then we explained the different economic models used to quantify damages. We noted that the European and the American courts are still open to accept any reasonable method to estimate the amount of damages. Unlike the European courts, the American ones consider the detection probability which leads to trebling the amount of damages. We concluded this paper by

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focusing on the optimal deterrence theory and we suggested that under the European antitrust enforcement system, the European commission must consider the future private action of damages when defining the amount of fines.
Bibliography

1. Law & Institutional Reports


Ordonnance n° 2017-303 du 9 mars 2017 relative aux actions en dommages et intérêts du fait des pratiques anticoncurrentielles, JORF n°0059 du 10 mars 2017 texte n° 29
NOR: JUSC1636691R

Décret n° 2017-305 du 9 mars 2017 relatif aux actions en dommages et intérêts du fait des pratiques anticoncurrentielles, JORF n°0059 du 10 mars 2017 texte n° 31
NOR: JUSC1624992D

OECD, Directorate for financial and enterprise affairs competition committee, Roundtable on the quantification of harm to competition by national courts and competition agencies, Note by the Delegation of the United States, 11 Feb. 2011, DAF/COMP/WP(2011)11


European Commission, Quantifying harm in actions for damages based on breaches of article 101 or 102 of the treaty on the functioning of the European Union, Commission staff working document, Practical guide, 11 jun. 2013, SWD(2013) 205, {C(2013) 3440}


Information from the Commission - Guidelines on the method of setting fines imposed pursuant to Article 15 (2) of Regulation No 17 and Article 65 (5) of the ECSC Treaty

2. Conference Reports


Parcu P. L., ENTraNCE Annual Conference, 14th October 2016, European University Institute, San Domenico di Fiesole - Firenze

3. Books


Daniel L. Rubinfeld, *Quantitative Methods in Antitrust*, in 1 ISSUES IN COMPETITION LAW AND POLICY 723 (ABA Section of Antitrust Law 2008)

4. Papers


East Lansing | Chicago, *Damages in Antitrust Cases*, AEG Working Paper 2007-2, JEL codes : K0, K4, L0, L4


American Bar Association, *Comments of the ABA sections of antitrust law and international law on the European commission’s draft guidance paper 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*, 7 Oct. 2011, https://www.americanbar.org/content/dam/aba/administrative/antitrust_law/at_comments_20111007.authcheckdam.pdf


6. Internet Ressources


