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Time is money - how much money is time? Interest and inflation in competition law actions for damages

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Law Actions for Damages**

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TIME IS MONEY – HOW MUCH MONEY IS TIME?
INTEREST AND INFLATION IN COMPETITION LAW
ACTIONS FOR DAMAGES

Eckart Bueren^{*}, Kai Hüschelrath^{*} and Tobias Veith[♦]

January 2014

Abstract

Public and private action against cartels is an internationally recognized cornerstone of antitrust enforcement. Effective private enforcement requires that cartel victims can receive (at least) full compensation for the harm suffered. Academics and competition authorities support this goal with guidance for the calculation of cartel damages. However, they usually neglect that the prosecution of competition law infringements can be very time-consuming, so that it often takes several years until cartel victims obtain damages. Interest and inflation are thus two key drivers of adequate compensation. This paper is the first to provide a comparative law and economics perspective on this topic: We investigate how various legal systems treat interest and inflation as part of competition law actions for damages, and, using real-world data from the lysine cartel, simulate the economic differences, which turn out to be substantial. By comparing and evaluating the regulatory techniques, our paper provides important insights for regulators, litigation practitioners and the ongoing reform discussions in the EU and the US. At the same time, our approach is a first step towards a quantitative comparative law and economics analysis of the law on interest in the field of tort law.

Keywords Antitrust policy, cartels, private enforcement, damages, interest, inflation

JEL Class K21, L41, L61

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I. Introduction

Private enforcement of competition law is on the rise worldwide.¹ In the US, it has grown since the 1950s to a major enforcement tool.² In Europe, private actions for damages are at the heart of the legal and policy debate since the Court of Justice handed down the groundbreaking³ *Courage* judgment⁴, spurring reform initiatives by the European Commission⁵ and several member states⁶ to facilitate actions for damages. Irrespective of the legal system in question, the success of this enforcement branch hinges on the accuracy of the damage calculation, i.e. whether the law identifies all elements of the claimant's loss with sufficient precision. If damages are primarily supposed to fulfil a compensatory purpose, as typically in

¹ Daniel L. Rubinfeld, in: Einer R. Elhauge, Research Handbook on the Economics of Antitrust Law, p. 378 (2012); David Romain & Ingrid Gubbay, Plaintiff Recovery Actions, 3 The European Antitrust Review 47, 49-50 (2011).

² For in depth analysis Reza Rajabiun, Private Enforcement and Judicial Discretion in the Evolution of Antitrust in the United States, 8 J Comp L & Econ. 187, 192-193, 205 et seqq. (2012).

³ ECJ 20.9.2001, C-453/99 – *Courage*, ECR 2001, I-6297.

⁴ Alexander Italianer, Public and private enforcement of competition law, 5th International Competition Conference 17 February 2012, Brussels.

⁵ The latest reform package at European level comprises i. a. a *Commission proposal for a directive of the European Parliament and the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the EU*, COM(2013) 404 final. With the directive, the Commission wants to specify the *acquis communautaire* on the scope of damages, introduce a form of discovery ("disclosure of evidence"), prescribe the protection of leniency and settlement submissions, require mutual recognition of infringement decisions and harmonize certain aspects (limitation periods, joint and several liability, passing-on defence, availability of consensual dispute resolution, presumption of harm). However, several of these (partly very contentious) measures have met opposition in the European Parliament, whose rapporteur has proposed many restrictive amendments, see the *Draft Report on the proposal for a directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union*, (COM(2013)0404 – C7-0170/2013 – 2013/0185(COD), 03.10.2013). By contrast, the Council has provisionally accepted most measures, though advocated more leeway with respect to the protection of leniency and settlement submissions, a more restrictive approach towards mutual recognition of infringement decisions and less far reaching liability privileges for leniency applicants, see *General Secretariat of the Council*, Proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union - Adoption of the general approach, RC 43 JUSTCIV 261 CODEC 2515. For a critical review of earlier Commission's initiatives Jindrich Kloub, White Paper on Damages Actions for Breach of the EC Antitrust Rules: Plea for a More Holistic Approach to Antitrust Enforcement, 5 ECJ 515, especially 516-518, 532-545 (2009).

⁶ Clifford A. Jones, Editorial, After the Green Paper: The Third Devolution in European Competition Law and Private Enforcement, 3 CompLRev 1, 2 (2006). In the UK, the Department of Business, Innovation & Skills (BIS) has just proposed important private enforcement reforms as part of the *Draft Consumer Rights Bill* of June 2013, see further BIS, Private Actions in competition law: A consultation on options for reform – government response, January 2013; Stephen Wisking et al., Competition Law Class Actions, Comp Law Insight 19 March 2013, 3-5. In Germany, the 8th amendment of the German Act against restraints of Competition (GWB), in force since July 30th, 2013, has expanded private enforcement by consumer associations (§ 33 II new version); other important changes to foster private enforcement were implemented with the 7th amendment, see Wolfgang Wurmnest, A New Era for Private Antitrust Litigation in Germany? A Critical Appraisal of the Modernized Law against Restraints of Competition, 6 German L.J. 1173-1190 (2005). The developments in the EU have also triggered a reform initiative in Switzerland, see Andreas Heinemann, Strukturberichterstattung Nr. 44/4, Evaluation Kartellgesetz, Die privatrechtliche Durchsetzung des Kartellrechts, Bern 2009.

Europe,⁷ awards should mirror these losses as closely as possible.⁸ Even in the US, where cartel victims can obtain treble damages, the compensatory purpose is highly important.⁹

If damages are systematically underestimated, private enforcement can hardly achieve the desired effect of containing competition law infringements.¹⁰ Where damages are increased, e.g. as in the US, trebled, to achieve a deterrent effect and make up for the low probability of detection and prosecution, a systematic underestimation will detract from this goal. On the other hand, a systematic overestimation may produce adverse effects, e. g. by increasing incentives to pursue unmeritorious claims.¹¹

One aspect which is often overlooked, but of enormous practical importance in cartel cases, is the way a legal system deals with the cost of time, expressed through interest and inflation. Their significance results from the course of a typical cartel case. First, cartel damages occur gradually over a cartels lifespan: Right from the beginning of the cartel, its members can take advantage of the overcharge¹² collected whereas the victims bear a loss of liquidity,¹³ both effects continually increasing as long as the cartel operates. Second, often a considerable time span elapses from the occurrence of the damage (e.g. the purchase of the cartelised product) until the discovery of the cartel, a legally valid finding by a competition authority and a (follow-on) action for damages.¹⁴ When the victims are finally compensated, inflation will

⁷ See *Joaquín Almunia*, Public enforcement and private damages actions in antitrust, SPEECH/11/598, European Parliament, ECON Committee, Brussels, 22 September 2011, p. 2-3; *Paolisa Nebbia*, Damages Actions for the Infringement of EC Competition Law: Compensation or Deterrence?, 33 E. L. Rev. 23-43 (2008); *Clifford A. Jones*, Private Antitrust Enforcement in Europe: A Policy Analysis and Reality Check, 27 World Comp. 13-24 (2004), esp. p. 16 et seqq. Notably, this is not incompatible with accentuating that private actions for damages also contribute to prevent infringements, see *Gerhard Wagner*, Schadensersatz bei Kartelldelikten, 2007 German Working Papers in Law and Economics, Paper 18, 3-10; *Daniel Zimmer & Jan Höft*, “Private Enforcement” im öffentlichen Interesse?, ZGR 2009, 662, 688.

⁸ *Wouter P. J. Wils*, Should Private Antitrust Enforcement be Encouraged in Europe?, 26 World Comp. 473, 479 (2003).

⁹ *Robert H. Lande & Joshua P. Davis*, Benefits from Private Antitrust Enforcement: An Analysis of Forty Cases, 42 U. San Francisco L. Rev. 879, 881-883 (2008); *Rubinfeld* (supra note 1), p. 378; *Clifford A. Jones*, Private Enforcement of Antitrust Law in the EU, UK and the USA, p. 80 (1999).

¹⁰ Case C-453/99, *Courage*, [2001] ECR I-6297, para 27; Case C-295/04 to C-298/04, *Manfredi*, [2006] ECR I-6619, para 91.

¹¹ *Wils* (supra note 8), pp. 482-483.

¹² Overcharges are measures of overpayments by individuals or businesses as the result of an antitrust violation, *Rubinfeld* (supra note 1), p. 378, 379.

¹³ *Robert H. Lande*, Are Antitrust “Treble” Damages Really Single Damages?, 54 Ohio State L. J. 115, 130 (1993); see also *Michael S. Knoll*, A Primer on Prejudgment Interest, 75 Tex. L. Rev. 293, 297 (1996).

¹⁴ For an empirical overview concerning the US see *Lande* (supra note 13), pp. 130-134, who finds that the average private antitrust conspiracy between 1960 and 1990 lasted between seven and eight years, that the time from its discovery to the filing of a lawsuit usually amounts up to about six months, and that the lawsuit takes another four-and-a-half-years, resulting in an average delay between damages and judgment of between eight and nine years. Earlier, the *Georgetown Study of Private Antitrust Litigation* found that cases lasted on average slightly over two years (median less than 1.5 years), whereat the vast majority was settled. Multi-district litigation cases, however, averaged 5.7 years in duration, see *Steven C. Salop & Lawrence J. White*,

have considerably diminished the purchasing power of the sum once overpaid. It often makes an enormous difference whether and how this is taken into account.¹⁵

Importantly, however, with respect to international cartels, there is no legal level playing field, but a diverse menu of jurisdictions affected by the conspiracy, each with different substantive and procedural rules governing actions for damages. Claimants may often choose from these to a certain extent.¹⁶ Concerning European-wide cartels, the so-called Brussels-I-Regulation¹⁷ – according to a widely shared, though controversial view – usually offers claimants alternative courts of jurisdiction in several member states.¹⁸ Building on that, the

in: Lawrence J. White, *Private Antitrust Litigation - New Evidence, New Learning*, p. 3, 8-11, 40-42 (1988). Further analysis of the non-multi-district cases revealed that 15% of the follow-on cases and 10% of the independently initiated cases lasted longer than five years, *Thomas E. Kauper & Edward A. Snyder*, in: White, *opt. cit.*, p. 329, 350 et seq. Furthermore, it appeared that the average time between filing of the first case in a multi-district litigation docket and termination of the entire multi-district litigation proceeding was approximately 6.1 years, *Kauper/Snyder*, in: White, *opt. cit.*, p. 329, 357.

In Europe, most actions for damages are follow-on actions. *Kai Hüschelrath, Ulrich Laitenberger & Florian Smuda*, *Cartel Enforcement in the European Union: Determinants of the Duration of Investigations*, 34 *E.C.L.R.* 33-39 (2013) examine all cartel cases from 2000 to 2011 and find an average cartel duration of 8.8 years (median 6 years) (p. 34) and an average length of the Commission's public enforcement procedure of 4.2 years (p. 36), which however did not always begin to run right from the discovery of the infringement. Generally, a typical cartel case of the European Commission in the standard procedure (i.e. no settlement) is estimated to last at least three years, see *Massimo Motta*, *On Cartel Deterrence and Fines in the European Union*, 29 *E.C.L.R.* 209, 211 (2008); *Burrichter/Zimmer*, in: *Ehlermann/Atanasiu*, *European Competition Law Annual 2007*, p. 611, 615; *Eric Gippini-Fournier*, in: *Margit M. Karollus & Heribert F. Koeck*, *Die Modernisierung des EG-Kartellrechts*, p. 375, 388(2008) (1999-2007: average time of cartel case 46,5 months); a bit more optimistic *European Commission*, *Memo/02/23*, p.3 (2-3 years); even more positive *Maarten P. Schinkel*, in: *Dieter Schmidtchen et al.*, *The more economic approach to European competition law*, 2007, p. 131, 134 (26.7 months). With the recent proliferation of settlements in cartel cases in the EU, it is however to be expected that procedural times will decrease, even if the first settlement cases lasted considerably longer than two years.

¹⁵ If interest is available, the respective claims can easily double the “genuine” damages in case of long-lasting infringements, see with respect to cartel damages *Till Schreiber*, *Strategische Überlegungen bei der gerichtlichen Durchsetzung von kartellrechtlichen Schadensersatzansprüchen*, <http://www.carteldamageclaims.com/Presentations/Schreiber,%20Strategische%20DCberlegungen.pdf>, p. 14; for examples from other fields see *Knoll* (supra note 13), p. 294 et seq.

¹⁶ Cf. *Mark Brealey & Nicholas Green*, *Competition Litigation*, paras 5.02 et seq (2010).

¹⁷ Council Regulation (EC) No. 44/2001 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (“Brussels I”), OJ [2001] L 12/1.

¹⁸ See *Richard Whish & David Bailey*, *Competition Law*, p. 308 (7th ed. 2012). Firstly, a company can generally be sued in the member state where it is domiciled (Art. 2 I, Art. 60 I Brussels-I-Reg.). Secondly, a cartel member can be sued in the place where the harmful event occurred (Art. 5 III 3 Brussels-I-Reg.), i.e. either where the event which gave rise to the harm occurred, the courts of the state of this place having jurisdiction to award damages for all the harm caused, or where the harm arose, the courts of that state having jurisdiction only in respect of the damage caused in that state (Case C-68/09, *Shevill et al. v. Press Alliance*, [1995] ECR I-415, 462 para 33). Thirdly, if cartel members are domiciled in different EU-countries, Article 6 I Brussels-I-Reg. allows to sue all in the courts of the state where (at least) one cartel member is domiciled, provided that all claims are so closely connected that it is reasonable to hear and determine them together – which is often considered to be the case with respect to cartel damages, *Anthony Maton et al.*, *The Effectiveness of National Fora for the Practice of Antitrust Litigation*, 2 *J. of Eur. Comp. L. & Practice*, 489 (2011); *Provimi Limited v. Aventis Animal Nutrition and Others* [2003] E.C.C. 29, p. 353, para. 45-47; *Cooper Tire & Rubber Company and Others v. Shell Chemicals UK Limited and Others* [2009] EWHC 2609 (Comm), para. 34 et seq., especially para. 64; confirmed in *Cooper Tire Rubber & Rubber Company and Others v. Dow Deutschland Inc and Others* [2010] EWCA Civ864 para. 44. The details are however in dispute, see further

Rome-II-Regulation¹⁹ roughly speaking allows plaintiffs to base their claims against all cartel members on the law of the member state where they file the action.²⁰ This legislation has fostered a kind of competition between national fora, the decisive question being which offers the best prospects for claimants.²¹ In case of transatlantic cartels, claimants may furthermore decide to sue in the US.²²

Against this background, from a practitioner's as well as from a public policy perspective, it is very important to know how major legal systems deal with interest and inflation in the context of antitrust damages claims, which are the consequences for recoverable damage amounts and whether the approaches are economically sound. This topic is however usually neglected in literature, probably because of the rather complex law on interest in many jurisdictions. While some authors – often in a rather supplementary way – discuss interest on cartel damages with respect to a single national jurisdiction,²³ comparative approaches are scarce,²⁴ and no study combines a thorough comparative and quantitative analysis.

Jürgen Basedow & Christian Heinze, in: *Stefan Bechtold et al.*, *Recht Ordnung und Wettbewerb*, p. 63, 69 et seq. (2011); *Tang*, Multiple defendants in the European jurisdiction regulation, 34 E. L. Rev. 80 (2009).

¹⁹ Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II), OJ [2007] L 199/40.

²⁰ Art. 6 III lit. b) Rome-II-Reg. under certain conditions allows a plaintiff who concentrates his actions against all cartel members in one court pursuant to Art. 6 paragraph 1 Brussels-I-Reg. (see fn. 18) to base all his claims on the law of the member state where he files the action (*lex fori*). Again, the details are unresolved; see further *Brealey/Green* (supra note 16), paras 6.08 et seq., 6.14 et seq.; *Peter Mankowski*, Der europäische Gerichtsstand der Streitgenossenschaft aus Art. 6 Nr. 1 EuGVVO bei Schadensersatzklagen bei Kartelldelikten, WuW 2012, 947 et seqq.

²¹ See *Neumann*, Klagewelle: Kartell-Geschädigte suchen das beste Gericht in Europa, 14(12) Juve 87 (2011); *Whish/Bailey* (supra note 18), p. 308.

²² Claims for damages can be brought in the USA insofar as the cartel had effects there which were more than remote or indirect in nature, see briefly *Whish/Bailey* (supra note 18), p. 309; for in depth analyses *Max Huffman*, A Standing Framework for Private Extraterritorial Antitrust Enforcement, 60 SMU Law Review 103 (2007); *John M. Connor & Darren Bush*, How to Block Cartel Formation and Price Fixing: Using Extraterritorial Application of the Antitrust Laws as a Deterrence Mechanism, 112 Penn. State L. Rev. 813 (2007-2008).

²³ See for the US *Lande* (supra note 13); *Antitrust Modernization Commission*, Report and Recommendations, april 2007, p. 243-244, 248-250; generally *Knoll* (supra note 13); *Robert Lloyd*, Discounting Lost Profits in Business Litigation: What Every Lawyer and Judge Needs to Know, 9 Tenn. J. Bus. L. 9 (2007); for Germany *Till Schreiber*, Praxisbericht Private Durchsetzung von kartellrechtlichen Schadensersatzansprüchen, KSzW 01.2011, 37, 39; *Hans P. Logemann*, Der kartellrechtliche Schadensersatz, p. 265-272 (2009); for France *Nathalie Jalabert-Doury*, in: *Albert A. Foer & Jonathan W. Cuneo*, The International Handbook on Private Enforcement of Competition Law, p. 327 (2010); for European competition law *Jones* (supra note 9), p. 231.

²⁴ The only, however very concise comparative contributions we are aware of are *Denis Waelbroeck*, *Donald Slater*, *Gil Even-Shoshan*, Study on the conditions of claims for damages in case of infringement of EC competition rules (*Ashurst Study*), Comparative Report, 31 August 2004, p. 85-87; *Gero Meessen*, Der Anspruch auf Schadensersatz bei Verstößen gegen das EU-Kartellrecht, p. 537-540 (2011). Besides, there are some general treatments of the law on interest and inflation that also contain comparative analyses with respect to contract and general tort law, most notably *Charles Procter*, *Mann on the legal aspect of money* (6th ed. 2005).

This paper attempts to narrow the research gap, concentrating on damages of direct cartel purchasers²⁵, which are at the heart of the private enforcement debate. While the econometric damage estimation can be more involved in other antitrust cases,²⁶ our analysis and findings concerning the role of interest and inflation apply to these as well. In the remainder, the paper proceeds as follows: Section II provides a brief overview of the determinants of direct purchaser damages. Section III comparatively studies the law on interest and inflation with respect to competition law damage claims in the US and the EU, the latter being characterized by the laws of the member states operating subject to general European law guidelines. Section IV simulates the economic consequences of the different approaches based on a real-world dataset of the *Lysine* cartel. Section V brings the results together and concludes.

II. Determinants of antitrust damages

Actions for damages are particularly important with respect to hard core cartels, i. e. a group of firms which have agreed explicitly to raise market price.²⁷ A perfectly functioning hard-core cartel – involving all firms in the market and encompassing substitute products – is expected to increase the market price up to the monopoly level and to lower the cartel members’ incentives to innovate, thereby reducing consumer as well as total welfare substantially. Hard-core cartels are therefore illegal per se.

A major goal of civil damages being to compensate the victim for losses caused by the defendant,²⁸ a system of private antitrust enforcement must be based on a sound theory of harm in order to determine the losses incurred reasonably correct, whether or not compensatory damages are – in a second step – increased (e.g. trebled) in order to achieve a deterrent effect. Basically, the damage assessment involves two steps: Measuring initial damages, and adjusting these for the time value of money during the waiting period until compensation.

1. Initial damages

Generally speaking, the damages a hard-core cartel causes initially can be calculated as the difference between the actual cartel price and the estimated but-for price multiplied with

²⁵ Other parties that might suffer losses from a cartel include indirect purchasers downstream, input suppliers upstream, competitors (not participating in the cartel) or suppliers of complementary products and their downstream customers.

²⁶ See *Rubinfeld* (supra note 1), p. 378, 379.

²⁷ *Lynne Pepall et al.*, *Industrial Organization: Contemporary Theory and Practice*, p. 345 (2001).

²⁸ For the US, see *Mitsubishi Motors v Solar Chrysler Plymouth* 473 U.S. 614, 635 et seq., 105 S.Ct. 3346, 3358; *Lande and Davis* (supra note 9), pp. 880-883; for the European Union *Wouter P. J. Wils*, *The Relationship between Public Antitrust Enforcement and Private Actions for Damages*, 32(1) *World Comp.*, 3-26 (2009).

monthly affected sales volumes. Initial damages are therefore a function of the sales of the cartelized product and the cartel-induced price increase above the competitive level (*overcharge*). Depending on the case at hand, additional factors may come into play, e. g. pass-on rates,²⁹ exchange rates or tax rate differences.³⁰ In any event, however, estimating cartel damages requires robust estimations on the time period during which the cartel sustained supra-competitive prices (cartel length) and the overcharge.

As to the first key determinant, cartel length, claimants in follow-on actions – which are predominant in Europe – can in principle draw on the duration established in the public prosecution. However, a number of factors that do not figure in the public decision might be relevant for a particular claimant, for instance regional effects or long-term relations with the defendant. Moreover, the breakdown of a cartel will often be followed by a transition period before the market price returns to the competitive level.³¹ As the elevated prices in the transition period are caused by the cartel, they ought to be included in the damage calculation, which in practice however depends on the availability of the respective data.³²

To estimate the second key determinant of initial cartel damages, the overcharge, there are three broad groups of methods:³³

- *Comparator-based approaches* use data of other non-cartelized markets or the affected market in a non-cartel period to estimate the price overcharge by cross-sectional comparisons (*yardstick approach*)³⁴, time-series comparisons (*benchmark-approach*)³⁵ or by a combination of these (*difference-in-differences model*).³⁶
- *Financial-analysis-based approaches* resort to financial information on comparator firms and industries, benchmarks for rates of return, and cost information on defendants as well as claimants to estimate the counterfactual.

²⁹ On this issue, including econometric approaches to measure pass-on rates see *Rubinfeld* (supra note 1), p. 378, 388-391.

³⁰ *Cento Veljanovski*, The Economics of Cartels, Working Paper, Case Associates (2007).

³¹ For instance because the conspiracy referred to a product sold via medium- and long-term contracts, because other price rigidities prevent market prices from decreasing immediately and fully reflecting costs changes, or because tacit collusion delays the price decline to the competitive level.

³² An econometric tool which can help to identify the duration of a certain cartel is structural break analysis. This method formalizes the intuition that the beginning and the end of the cartel is reflected in breaks in the time series. One possibility to implement such an analysis is to define several dummy variables reflecting different assumptions on the cartel beginning and cartel end, see *Peter J. Davis & Eliana Garcés*, Quantitative Techniques for Competition and Antitrust Analysis, pp. 376 et seq. (2010).

³³ See *Oxera*, Quantifying Antitrust Damages: Towards Non-binding Guidance for Courts, Study prepared for the European Commission, 2009, pp. 37 et seqq.

³⁴ They compare different geographic or product markets see *Rubinfeld* (supra note 1), p. 378, 380 et seq.

³⁵ They analyse prices before, during and/or after an infringement.

³⁶ Such a model might for instance compare the change in price for a cartelized market over time with the change in price in a non-cartelized market in the same time period.

- *Market-structure-based approaches* combine theoretical and empirical techniques. They require to identify a theoretical model that fits best to the relevant market and is supposed to help understand how competition works and how a reasonable ‘but-for’ price might be characterized. The model is then calibrated using standard econometric techniques in order to arrive at a sound empirical estimate.

The methods differ significantly with respect to their underlying assumptions, input requirements and conceptual as well as technical complexity. Given the diverse characteristics of real-world cartels, the most suitable method must be identified on a case-by-case basis, and it is advisable to apply several methods in parallel in order to cross-check (or even pool) the results to arrive at a robust estimate of the ‘but-for’-price.³⁷

2. Interest and inflation

In view of the often considerable time lag until compensation is obtained, awarding initial cartel damages does not suffice to make the victim whole. In the economic literature, several authors have generally pointed towards the significance of interest as part of damage claims.³⁸ Assuming that the infringement and the damage award follow each other relatively close, *Lanzillotti and Esquibel*³⁹ argue that the present value of plaintiff’s harm must consider both lost profits for past years (e.g., due to elevated prices for a certain product) and lower profits in future years (e.g., due to long-run impacts of the infringement on market shares, investment plans or firm reputation).⁴⁰ Estimated future lost profits have to be reduced to present values at the time of the award, excluding possible risk premia. Conversely, foregone past profits must be compounded to the present. In general, the major difficulty is to choose an appropriate discount rate. The following alternatives have been proposed: (1) plaintiff’s cost

³⁷ *Oxera*, Damages Actions: The European Commission White Paper, Agenda, July 2008, Oxford, p. 3, or *Kai Hüschele* et al., *Schadensermittlung und Schadensersatz bei Hardcore-Kartellen*, pp. 115-117 (2012).

³⁸ Examples include *Allan M. Feldman*, Discounting in Forensic Economics, 3 J Forensic Economics 65-71 (1990); *James M. Patell et al.*, Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates, 11(2) J Legal Studies 341-364 (1982); *John D. Taurman & Jeffrey C. Bodington*, Measuring Damage to a Firm’s Profitability: Ex Ante or Ex Post?, 37 Antitrust Bull. 57-106 (1992); *Robert F. Lanzillotti & Amanda K. Esquibel* (1990), Measuring Damages in Commercial Litigation: Present Value of Lost Opportunities, 5(1) J Accounting, Auditing, and Finance 125-141 (1990); *Franklin M. Fisher & Craig R. Romaine*, Janis Joplin’s Yearbook and the Theory of Damages, J Accounting, Auditing, and Finance 5, 145-157. For an overview see *Oxera* (2006), Damaged Interest: The Choice of Discount Rate in Claims for Damages, Agenda, September 2006, Oxford.

³⁹ *Lanzillotti and Esquibel* (supra note 38).

⁴⁰ In a cartel context, the existence of future lost profits crucially depends on the time line between the end of the violation and the award of the damages. For example, if a cartel that operated from January to December 1998 is detected and subject to damages estimations in 1999, effects on future profits might play a significant role. However, if the very same cartel is detected ten years later in 2009, this might not be the case.

of capital, (2) cost of equity, (3) risk-free rate, or (4) defendant's borrowing rate.⁴¹ Although recommendations on which rate to use diverge – partly because of country-specific characteristics of the damages awarding procedure – the plaintiff's cost of capital and the risk-free rate are usually considered to be the core alternatives.⁴² The plaintiff's cost of capital represents the required return on which investment decisions are based. Using the cost of capital as the discount rate therefore compensates the plaintiff for the losses he (would have) incurred to acquire funds equal to the initial (basic) damages amount for investment. For many economists, using the cost of capital for discounting is the first-best solution. Some, however, have argued that it could lead to over-compensation insofar as past lost profits (rather than future lost profits) are concerned.⁴³ The rationale for applying the risk-free rate as an alternative discount rate basically is that the repayment of the damages is assumed to be certain once awarded, leading to the conclusion that the plaintiff needs to be compensated only for the time value of money, – ignoring that the plaintiff bears the risk of the defendant going bankrupt–.

III. A comparative survey on interest and inflation in competition law actions for damages

1. Overview

While the economics literature at least agrees that interest and inflation should be taken into account when assessing damages, the main competition law systems give a more uneven picture with respect to non-contractual claims for cartel damages.⁴⁴ Though all jurisdictions analysed in this paper provide for pre-judgment interest with respect to antitrust / competition law damages in a certain way, the approaches vary greatly. Generally speaking, they can be located on a continuum between two ideal-typical solutions:

On the one side of the spectrum, the legislator may pursue a “legalistic” approach that excludes judicial discretion. Notwithstanding, a flexible rate of (pre-judgment) interest can be implemented, e. g. by adding a statutorily fixed mark-up to a base rate that reflects a reference rate set by an independent institution, e.g. according to monetary policy. A rather different

⁴¹ See *Lanzillotti and Esquibel* (supra note 38), pp. 132 et seqq. and *Oxera* (supra note 33), p. 2 et seq. for detailed discussions of the merits and vulnerabilities of the alternatives.

⁴² *Lloyd* (supra note 23).

⁴³ See *Oxera* (supra note 33), p.3.

⁴⁴ Direct cartel victims may try to claim contractual damages, too, and, at least in some EU countries often do so (*Rainer Bechtold*, Der Referentenentwurf der 8. GWB-Novelle im Überblick, BB 2011, 3075, 3078). However, claims based on the general cartel prohibition offer decisive advantages for victims, in particular joint and several liability of all cartel members and often extended limitation periods. That is why damage awards are regularly not based on contractual claims.

legalistic approach generally excludes pre-judgment interest, roughly substituting it by a generous right to damages (e.g. trebling). On the other side of the spectrum, the legislator may opt for a wholly discretionary approach, leaving virtually every aspect of pre-judgment interest to the discretion of the judge. A middle course could combine a statutory interest rate (fixed or flexible) with judicial discretion concerning the point in time from which interest runs. All these approaches figure in our survey.⁴⁵

The consideration of inflation is more complicated. At first sight, the role of inflation seems to depend on the reference point for assessing damages: If the assessment is made *ex ante*, i.e. with regard to the point in time when the loss occurred – as in England & Wales⁴⁶ –, inflation does not come into play. If, to the contrary, damages are assessed *ex post*, i.e. at the time of the judgment – as in France and Germany –, one might be tempted to infer that damages were automatically adjusted for inflation. Actually, however, this depends on whether damages are determined by the restitutionary purpose (*valorism*⁴⁷) or whether they are fixed in currency units (*nominalism*⁴⁸). In continental jurisdictions (Germany, France), the latter applies if losses are denominated in currency units right from their occurrence, which is the case with respect to cartel overcharges.⁴⁹ Restitution then simply requires the overcharge being repaid nominally, so that compensation for inflation hinges on the level of interest.

Finally it should be noted that, no matter whether the legislator follows a legalistic, a discretionary or a middle course approach, and even if the “initial” losses are denominated in currency units and *nominalism* applies, interest and/or inflation may occasionally be accounted for indirectly if the victim of a tort (e. g. a cartel) is entitled to consequential

⁴⁵ Roughly speaking, the first can be found in Germany, the second, third and fourth in US federal, English and French law, respectively.

⁴⁶ *Procter* (supra note 24), para. 9.07.

⁴⁷ *Valorism* means that the amount of obligation is, where necessary, adjusted to reflect the reduction in the purchasing power of money between the date at which the obligation is incurred and the date on which it falls to be performed, *Procter* (supra note 24), para. 9.07. With respect to damages, legal obligations are then discharged only upon payment of a sum which corresponds to the real economic value of the injury suffered, *Kenneth L. Karst & Keith S. Rosenn*, *Law and Development in Latin America*, p. 442 (1975).

⁴⁸ *Nominalism* means that a monetary obligation involves a payment of so many currency units which, if added together according to their nominal values, produce a sum equal to the amount of the debt, regardless of both their intrinsic and their functional value, *Procter* (supra note 24), para. 9.09. In other words, for the purpose of discharging legal obligations, the value of money is presumed constant – which has the advantage of convenience, avoiding the difficulty of inquiring into the relative economic value of goods over time, but implies the risk of great hardships in an inflationary economy, *Karst/Rosenn* (supra note 47), p. 442. For further details including the development of nominalism see *Procter* (supra note 24), paras 9.02 et seqq.

⁴⁹ In contrast, *valorism* would apply for instance if the victim is a former maverick-firm that has been driven out of the market by a cartel. Then, according to German law, the damage suffered is the difference between the actual value of the victim’s business at the end of the civil proceedings and its hypothetical value if the damaging event had not occurred, including inflationary price increases.

damages.⁵⁰ These are in principle indemnifiable in all legal systems surveyed. In practice they are available mostly for undertakings, whereas the case law seems stricter with regard to consumers. This is warranted insofar as consequential damages of individual consumers will often be rather small, meaning that the cost of calculating them would usually exceed the extra damage award. With respect to collective action mechanisms (e.g. group claims, class actions etc.), it would also be impractical to analyse consequential damages of each group (class) member. As consequential damages depend on each claimant's specific situation, we can consider them only in a general way in our comparative analysis. In any case, it seems reasonable to propose that the rules governing interest should yield an economically sound compensation for the deprivation of funds even if the claimant cannot prove consequential damages, which requires more than simply having been kept out of money. In particular, end consumers will often not be able to meet this standard.

2. The United States of America

a) The role of interest

According to US law, damages are in principle determined with reference to the time of the loss. For losses denominated in currency units, nominalism applies.⁵¹ Therefore, with respect to the overcharge, the question arises how to deal with the devaluation of money over time.⁵² Just as English law, US law has abandoned the initial common law position not to award pre-judgment interest on damages.⁵³ However, a new universal approach has not evolved yet. For this reason, it is important that antitrust claimants may proceed on different levels:

⁵⁰ *Consequential damages* are losses which were not caused directly by the damaging act, but by its consequences for the victim. For instance the victim may have needed (additional) credit to pay the cartel overcharge. The lending interest on this (additional) credit will regularly exceed the inflation rate; if the inflation rate increases, credit interest rates will increase as well. Damages for incurred interest thereby implicitly shield the victim from being worse off due to inflationary price increases.

⁵¹ *Proctor* (supra note 24), para 9.21 et seq., p. 240-242.

⁵² By contrast, if a victim was driven out the market by a cartel and claims compensation for lost profits, it may be in a better position. The courts then determine damages at plaintiff's choice either based on the predicted profits lost in the infringement period or based on the going concern value of the former (impaired) company, each with reference to the point in time before the damaging conduct, see *Douglas Floyd & Thomas Sullivan*, Private Antitrust Actions, § 9.4.3., p. 1028-1031 (1996); *Jones* (supra note 9), p. 223. However, depending on the circumstances of the case, subsequent developments may be included, *Floyd/Sullivan*, opt. cit., § 9.4.3. p. 1025 et seqq. (discussing the scenario that a victim lost clients because of the antitrust law infringement). Lost profits are defined as the difference between the profits actually made in the infringement period and those that would have been made but for the infringement, *William H. Page*, Proving Antitrust Damages, p. 36 (1996); *Floyd/Sullivan*, opt. cit., § 9.4.3. p. 1017, 1020. If the hypothetical profits are estimated based on data from the period before the beginning and after the termination of the infringement ("before and after method"), absolute values have to be converted into present values with reference to the time of the infringement, *Herbert Hovenkamp*, A primer on antitrust damages, p. 27, 42 et seqq. (2011). Both approaches to determining damages for foregone business opportunities/lost profits are equivalent and should therefore lead to similar results, *Hovenkamp*, opt cit., p. 54.

⁵³ *Duane E. Clapp Jr.*, Prejudgment Interest in Tort Cases, 51 Ins. Counsel J. 73 (1984).

Traditionally, civil antitrust litigation is predominantly federal, due i. a. to a well-developed Supreme Court case law for the federal antitrust laws and the fact that actions based on these can be instituted in federal courts only, without any threshold jurisdictional amount.⁵⁴ However, all US-states have antitrust laws, too. By now, most are in language that is substantially identical to that of the Sherman Act, and even where they are not identically worded, state antitrust statutes are generally interpreted by the state courts to be consistent with federal law.⁵⁵ As a consequence, it is now common practice in private federal antitrust actions to assert a violation of state antitrust law as well.⁵⁶ Theoretically, the scope for interest in both regimes differs. In the end, however, both are extremely restrictive.

aa) Federal law

Insofar as claims for damages are based on federal antitrust law, pre-judgment interest is generally not available.⁵⁷ This is justified as being consistent with the traditional rule in tort lawsuits that pre-judgment interest is unavailable where damages are not readily quantifiable (“liquidated”) at the time of injury.⁵⁸

Exceptionally, the court may award simple interest on actual (not: treble)⁵⁹ damages from the date of service of the plaintiff’s pleading up to the date of judgment or for any shorter period therein pursuant to sec. 4 of the Clayton Act. This is supposed to discourage opportunistic behaviour that aims at delaying the proceedings (§ 15 USC § 15 (a) sentence 2, 3 (1)-(3)).⁶⁰ It

⁵⁴ *Loevinger*, *Defending Antitrust Lawsuits*, 24 Am. Jur. Trials 1 (Database updated April 2011, www.westlaw.com), § 26.

⁵⁵ *Antitrust Modernization Commission*, Report and Recommendations, April 2007, p. 185.

⁵⁶ *Loevinger* (supra note 54), § 26 FN 87.

⁵⁷ *Franklin M. Fisher*, *Economic Analysis and Antitrust Damages*, 29 World Comp. 383, 387 (2006); *Logemann*, (supra note 23), p. 193; *Lande* (supra note 13), p. 130 (1993); *Robert H. Lande*, *Five Myths about Antitrust Damages*, 40 U. San Francisco L. Rev. 651, 652 (2006).

⁵⁸ *Antitrust Modernization Commission* (supra note 23), p. 249 in conjunction with 261, referring to *Wickham Contracting Co., Inc. v. Local Union No. 3, Int’l Bhd. of Elec. Workers*, 955 F.2d 831, 835 (2d Cir. 1992) paras 17-20.

⁵⁹ *Phillip E. Areeda & Herbert Hovenkamp*, *Antitrust Law*, Vol. IIA, ¶ 393 p. 345 (3rd ed., 2007).

⁶⁰ *Areeda/Hovenkamp* (supra note 59), ¶ 393 p. 345; *W. Joseph Bruckner & Matthew R. Salzwedel*, in: *Foer/Cuneo* (supra note 23), p. 207.

imposes strict conditions⁶¹ which are interpreted very narrowly in practice. It appears that to date no court has awarded pre-judgment interest to a successful antitrust plaintiff.⁶²

Interestingly, if the United States themselves claim treble damages based on 15 USC § 15a, the law governing pre-judgment interest is more generous: The court, pursuant to a motion, may then award pre-judgment interest on actual damages for the same period that is available for private claimants not only under the conditions stipulated with respect to the latter, but also if “the award of such interest is necessary to compensate the United States adequately for the injury sustained by the United States.”⁶³

In any case, an antitrust plaintiff may at least obtain an award of post-judgment interest pursuant to 28 USC § 1961.⁶⁴ Post-judgment interest starts to run from the date the judgment is entered,⁶⁵ under current legislation at a rate equal to the weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding the date of the judgment.⁶⁶ Prior to December 21, 2000 the rate of interest was based on the coupon issue yield equivalent (as determined by the Secretary of the Treasury) of the average accepted auction price for the last auction of 52 week t-bills settled immediately preceding entry of the judgment. This implies that the effective date of new interest rates changed from quarterly to weekly on December 21st, 2000.

⁶¹ In determining whether such an award is just in the circumstances, the court shall consider only
(1) whether the plaintiff or the opposing party, or either party’s representative, made motions or asserted claims or defenses so lacking in merit as to show that such party or representative acted intentionally for delay, or otherwise acted in bad faith;
(2) whether, in the course of the action involved, the plaintiff or the opposing party, or either party’s representative, violated any applicable rule, statute, or court order providing for sanctions for dilatory behavior or otherwise providing for expeditious proceedings; and
(3) whether the plaintiff or the opposing party, or either party’s representative, engaged in conduct primarily for the purpose of delaying the litigation or increasing the cost thereof.

⁶² *Bruckner/Salzwedel*, in: Foer/Cuneo (supra note 23), p. 207; *Lande* (supra note 13), p. 130 fn. 57; *Antitrust Modernization Commission* (supra note 23), p. 249; see also *Westport Taxi Service v. Westport Transit District*, 664 A.2d, 719, 741 note 46, 742 (Conn. 1995); critical *Steven R. Kolodziej*, Prejudgment Interest on Antitrust Treble Damages in Connecticut after *Westport Taxi Service, Inc. v. Westport Transit District*, 19 Quinnipac L. Rev. 209 (2000).

⁶³ 15 USC § 15A sentence 3 (4); see briefly *Westport Taxi Service v. Westport Transit District*, 664 A.2d, 719, 742 note 48 (Conn. 1995).

⁶⁴ See briefly *Bruckner/Salzwedel*, in: Foer/Cuneo (supra note 23), p. 207; *Lande* (supra note 13), p. 130. This applies also if the judgment is confirmed on appeal. Then, post-judgment interest is payable from the date when the district court’s judgment was entered, Federal Rules of Appellate Procedure, Rule 37(a).

⁶⁶ The Director of the Administrative Office of the United States Courts shall distribute notice of that rate and any changes in it to all Federal judges. A list of post-judgment interest rates from 1994 to 2011 is available on the internet, <http://www.utd.uscourts.gov/documents/judgpage.html>.

Interest shall be computed daily to the date of payment and shall be compounded annually. Besides, some courts have allowed for post-judgment interest on recoverable attorney's fees under certain conditions.⁶⁷

bb) State law

In contrast to federal law, state law may provide for pre-judgment interest on antitrust damages, albeit with important limitations.⁶⁸ In principle, all states allow for *pre-judgment interest* statutorily, with numerous differences concerning the claims and the time range covered as well as the interest rate.⁶⁹ Interest is awarded from an early point in time predominantly for contractual claims. Notwithstanding, most provisions also cover tort claims.⁷⁰ Concerning these, several states provide for interest from the time of the loss, too, either statutorily or, if the accrual of interest is subject to judicial discretion, according to the relevant case law.⁷¹ However, it always appears to be required that claims are *liquidated*, meaning that the amount of damages is fixed or easily ascertainable.⁷² Otherwise, an award of interest is available only from a later point in time, mostly from the filing or the service of the claim, sometimes from the rejection of a settlement offer.⁷³ In cartel cases, damages will usually not be easily ascertainable, notably if the difference to the but-for price the victim would have paid in a competitive market must be estimated, or if the plaintiff claims lost profits.

Moreover, in view of state antitrust laws providing only for equitable relief, treble damages, taxable costs and reasonable fees,⁷⁴ the Supreme Court of Connecticut has held that Connecticut's state law excludes pre-judgment interest, arguing that treble damages provide sufficient compensation and pointing to the parallel federal antitrust laws.⁷⁵

⁶⁷ See e. g. *City of Detroit v. Grinnell Corp.*, 575 F.2d 1009 (2d Cir. 1977); see also *Bourdeau/Danne/Eleanor/Grossman et al.*, American Jurisprudence, 2nd ed., Database updated November 2011, Monopolies, Restraints of Trade, and Unfair Trade Practices, § 684, www.westlaw.com.

⁶⁸ *Fisher* (supra note 57), p. 387; *Logemann* (supra note 23), p. 193 fn. 228.

⁶⁹ For instructive overviews see *Christina L. Dixon*, A Primer on Prejudgment Interest, <http://www.jdsupra.com/post/fileServer.aspx?fName=09d05a17-d8fd-4a8e-ad6a-51d9374472ff.pdf>; *Cozen O'Connor*, Jurisdictions Comparative Chart, Pre/Post judgment interest, Revised April 2008, p. 1-8, <http://www.cozen.com/cozendocs/Outgoing/charts/ChartOfTheMonth/Pre-Post%20Judgment%20Interest.pdf> see also *Knoll*, (supra note 13); *Bowles/Lewis*, Prejudgment Interest: Issues and Case Studies." *Litigation Economics Digest* 4(2, Fall 1999), p. 110.

⁷⁰ *Cozen O'Connor*, (supra note 69), p. 1-8.

⁷¹ This applies to numerous states, see *Clapp* (supra note 53), p. 73.

⁷² *Dixon*, (supra note 69), p. 44; similarly *Jorge A. López*, 76 Florida Bar J. 20 (2002), http://www.floridabar.org/DIVCOM/JN/JNJournal01.nsf/c0d731e03de9828d852574580042ae7a/6c20b0219d74d9c485256b680057ac26!OpenDocument&Highlight=0,*; according to *Knoll* (supra note 13), pp. 294, 298 this is the general common law rule.

⁷³ *Cozen O'Connor*, (supra note 69), p. 1-8.

⁷⁴ E.g. § 2108 Delaware Code; Sec. 34-356 Connecticut Antitrust Act.

⁷⁵ *Westport Taxi Service v. Westport Transit District*, 664 A.2d, 719, 740-742 (Conn. 1995).

If – exceptionally – interest should be justified from the time of the loss, it must be kept in mind that some states exclude interest on punitive damages.⁷⁶ Finally, it is noteworthy that defendants in the United States have argued that prejudgment interest should be reduced in order to account for advantages due to delayed tax payments. Lawyers consider this to be a promising argument against high interest payments.⁷⁷

b) Further compensation mechanisms

Occasionally, pre-judgment interest has been awarded indirectly by including economic disadvantages into the damage calculation that result from the claimant having been kept out of money. In particular, in some cases plaintiffs were awarded lost opportunity costs of capital in addition to their direct financial losses.⁷⁸ Other judgments have included inflation⁷⁹ or interest on borrowed capital⁸⁰ in the damage award.⁸¹ Both approaches are controversial and by no means a universal practice of all courts.⁸² Nevertheless, the AMC explicitly pointed to these approaches as a justification for not recommending the introduction of pre-judgment interest.⁸³

Finally, and most important, the automatic trebling of damages guarantees that a successful claimant receives more than necessary to make him whole for initial losses plus the cost of time.

⁷⁶ *Dixon*, (supra note 69), p. 41.

⁷⁷ *Dixon*, (supra note 69), p. 44.

⁷⁸ E. g. *Multiflex v. Samuel Moore & Co.*, F2d 980, 996-997 (5th Cir. 1983), cert. denied, 465 US 1100 (1984), and in *Heattransfer Corp. v. Volkswagen AG*, 553 F.2d 964, 986 & n. 20 (5th Cir. 1977), cert. denied, 434 US 1087 (1978); critical *Areeda/Hovenkamp*, Antitrust Law, Vol. IIA, 3rd ed., 2007, ¶ 393 p. 346.

⁷⁹ See e. g. *Law v. Nat'l Collegiate Athletic Ass'n*, 185 F.R.D. 324, 346-48 (D. Kan. 1999) (adjustment of the damages based on the consumer price index to account for reduced purchasing power was permitted and not considered the functional equivalent of prejudgment interest ("prejudgment interest in disguise")); *Concord Boat Corp. v. Brunswick Corp.*, 21 F. Supp. 2d 923, 935-36 (E.D. Ark., 1998) (adjustments to the award in order to reflect present value were proper and not an award of prejudgment interest; the expert consulted apparently chose a discount rate with regard to the plaintiff's credit interest rate); rev'd on other grounds, 207 F.3d 1039 (8th Cir. 2000).

⁸⁰ *Minpeco S.A. v. Hunt*, 686 F. Supp. 420, 425-27 (S.D.N.Y. 1988) (the damage award included interest the plaintiff had paid for credit which he had taken out because of the cartel price increase); see also *Concord Boat Corp. v. Brunswick Corp.* (supra note 79).

⁸¹ Generally *Antitrust Modernization Commission* (supra note 23), p. 249.

⁸² The controversies result from diverging interpretations of the Supreme Court's case law as well as from the question whether a present value calculation is in effect a prejudgment interest calculation that is legally precluded, cf. *Concord Boat Corp. v. Brunswick Corp.* (supra note 79), p. 935 et seq.

⁸³ See above fn. 57. Besides, *Lande* (supra note 13), p. 130 fn. 57 considers it an implicit compensation of prejudgment interest when damages for a destroyed business or for lost goodwill (on the calculation approaches see above, note 52) include foregone (expected) future profits. However, such cases usually do not concern price-cartels.

c) The role of inflation

Generally, there does not seem to be a clear case law as to whether damage awards may or even should account for inflation between the loss and the judgment, e. g. by calculating damages as present values. As described above, only some courts have taken inflation into account, while others reject this approach.⁸⁴ In any case, it is considered rather unlikely that a devaluation of damages will be taken into account in cartel cases.⁸⁵

d) Critique and reform initiatives

The current legal situation has generated strong criticism. Judge *Easterbrook* remarked in *Fishman v Estate of Wirtz*:

“Neither a count of judicial noses nor the observation that the Sherman Act was silent should obscure the fact that the time value of money works in defendants' favor. Antitrust cases can be long-lived affairs. (...) During all of the time, the defendants held the stakes and earned interest. (...) To deny pre-judgment interest is to allow the defendants to profit from their wrong (...). Is this small beer, to be made up by the trebling of the damages? Hardly. Any erosion of the trebling on account of a denial of interest undermines the deterrent force of the antitrust law. Trebling makes up for the fact that antitrust violations are hard to detect and prove.”⁸⁶

Subsequently, especially *Lande* has repeatedly argued that the lack of pre-judgment interest severely erodes the effect of treble damages.⁸⁷ In 2007, the Antitrust Modernization Commission (AMC), examining whether the law on interest should be reformed, denied this question (only) with seven to five votes, arguing that, first, treble damages adequately compensate for the general unavailability of pre-judgment interest in antitrust cases, that, second, antitrust damages are usually not easily calculated at the time of injury, the rule disallowing pre-judgment interest thus being consistent with the traditional rule in tort lawsuits, and that, third, some courts had effectively compensated for the lack of pre-judgment interest by including inflation and interest paid on borrowed capital in the determination of damages. Developing sounder rules regarding the treatment of opportunity and capital costs should not be deterred by introducing pre-judgment interest.⁸⁸

This reasoning appears debatable. First, treble damages are already to make up for restrictions flowing from the direct injury rule, the statute of limitations and a low probability of

⁸⁴ See above text accompanying fn. 78-82.

⁸⁵ *Lande* (supra note 13), p. 130 fn. 57.

⁸⁶ *Fishman v Estate of Wirtz*, 807 F2d 520 (7th Cir 1986) 583–584 (Easterbrook, J., dissenting) para 245 et seq.

⁸⁷ *Lande* (supra note 57), p. 652 et seq.; *Lande* (supra note 13), pp. 130-136.

⁸⁸ *Antitrust Modernization Commission* (supra note 23), p. 249.

detection. Second, it seems somewhat bizarre to retain a rule because some courts – by far not all – have been willing to explore ways to circumvent it. Interestingly, the US discussion has not yet taken a look across the Atlantic where the approaches to interest on antitrust damages are much more generous. Such a comparative perspective can contribute important ideas and experiences scholars, state and/or federal legislators can build on when evaluating reform options. In the following, we provide the necessary legal background.

3. The European Union

The law of the European Union currently does not provide for rules that (directly) govern claims for cartel damages⁸⁹ so that the laws of the member states apply. However, with respect to damages for violations of EU competition law, these must comply with the guidelines set up by the *Court of Justice* (ECJ). According to his settled case law, the European cartel prohibition, Art. 101 Treaty of the Functioning of the European Union (TFEU), confers a right onto any individual to seek compensation for losses caused by an infringement of Art. 101 TFEU, comprising actual loss (*damnum emergens*) and loss of profit (*lucrum cessans*) plus interest.⁹⁰ It is up to the domestic legal system of each Member State to prescribe the detailed rules governing the extent of the damages for harm caused, provided that such rules are not less favourable than those governing similar domestic actions (*principle of equivalence*) and that they do not render practically impossible or excessively difficult the exercise of rights conferred by Community law (*principle of effectiveness*).⁹¹ According to the ECJ, an award of interest in accordance with the applicable national rules constitutes an essential component of compensation.

Many implications of this case law are still open. In particular, the ECJ has neither ruled on the point in time from which interest is required – e.g. the occurrence of the damage or only the damage award – nor on whether simple interest suffices or whether there are any EU-law standards regarding the interest rate.

In the view of Advocate General *van Gerven*, the European Commission and some scholars, the ECJ's reasoning implies that EU-law requires the national legislator to provide for interest

⁸⁹ See however below text accompanying fn. 94 for possible implications of the latest reform initiative (already note. 5).

⁹⁰ Case 217/91, *Marshall/Southampton and South West Hampshire Area Health Authority*, [1993] ECR I-4367, paras 31, 32; case C-295/04 to C-298/04, *Manfredi*, [2006] ECR I-6619, para. 95, 97, 100; ECJ, 06.06.2013, case C-536/11, *Bundeswettbewerbshörde/Donauchemie et al.*, para 24.

⁹¹ Case C-295/04 to C-298/04, *Manfredi*, [2006] ECR I-6619, paras 61-64; ECJ 20.9.2001, C-453/99 – *Courage*, ECR 2001, I-6297, para 29; ECJ, 14.06.2011, case C-360/09, *Pfleiderer/Bundeskartellamt*, ECR 2011, I-5161, paras 24, 30; ECJ, 06.06.2013, case C-536/11, *Bundeswettbewerbshörde/Donauchemie et al.*, para 24.

from the occurrence of the damage.⁹² Others argue that alternative mechanisms which effectively compensate for the “cost of time” are equally acceptable, pointing to the occasional practice to award consequential damages for lost business opportunities (lost profits) that implicitly make up for the deprivation of funds, so that additional (statutory) interest would be an overcompensation.⁹³

Recently, however, the Commission has proposed a draft regulation that, if accepted, would stipulate mandatory pre-judgment interest, while leaving the rate to be applied to the member states.⁹⁴ The latter implies that, even if the Commission’s proposal would be fully accepted (followed by a transposition deadline of two years), existing divergences between the member states’ approaches towards interest and inflation will arguably persist to a large extent. At the time of writing, the scope of acceptance remains to be seen, but full endorsement of the proposal appears unlikely, given that it contains several quite contentious measures. While the Council of the European Union has provisionally approved the interest relevant part, the European Parliament’s draft report i. a. advocates deleting the requirement to provide for interest from the time of the loss and instead proposes to grant interest only “where appropriate”.⁹⁵ This would arguably allow for preserving the existent national approaches that we analyse in the following.

4. England & Wales

a) The role of interest

aa) Simple interest

In English law, the court assesses damages with reference to the time of the loss.⁹⁶ Inflation is usually not considered explicitly.⁹⁷ Therefore, the plaintiff hinges on interest to compensate

⁹² *Opinion of Advocate General van Gerven* delivered in case C-128/92, *H. J. Banks & Co Ltd./British Coal Corporation*, [1994] ECR I-1209, para. 54; *Commission staff Working paper accompanying the White Paper on Damages actions for breach of the EC antitrust rules*, SEC(2008) 404, paras 185-187; *Jones* (supra note 9), p. 231 et seq.; likewise *Friedrich W. Bulst*, *Schadensersatzansprüche der Marktgegenseite im Kartellrecht*, p. 264 (2006); *Schreiber* (supra note 23).

⁹³ See *Eckart Bueren*, *Die Berücksichtigung der Anspruchsentwertung im Zeitablauf bei Schadensersatz wegen Verstößen gegen EU-Kartellrecht*, 77 *Rabel J of Comparative and Int. Private L.* 504, 535 et seq. (2011).

⁹⁴ Recital 11, Art. 2 draft regulation, COM(2013) 404 final (supra note 5); *Commission staff working document*, Impact Assessment Report, *Damages actions for breach of the EU antitrust rules*, Accompanying the proposal for a Directive of the European Parliament and of the Council on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union, p. 26.

⁹⁵ See the draft report on the proposal for a directive (supra note 5), amendments 3 (p. 7) and 18 (p. 18).

⁹⁶ This may be important if the claimant – as in the *Crehan*-case – was driven out of the market by illegal conduct. The damage as assessed at the time of its incurrence can be equated with the (going concern) value of the business at the time of its closing; the claimant receives interest (only) on that sum, see *Brealey/Green* (supra note 20), para 17.20; *Bernard Crehan v Innpreneur Pub Company (CPC), Brewman Group Limited*, [2003] EWHC 1510 (Ch), para 267. In order to better account for profits the claimant would have

him for the deprivation of funds. Interest is available pursuant to statutory law and/or based on common law.

(1) Statutory law

The provisions governing statutory interest formally depend on the court seised: A cartel victim may either bring an action for damages in the *Chancery Division* of the *High Court of Justice* (in some cases also in the *Commercial Court* of the *Queen's Bench Division*),⁹⁸ or (currently only⁹⁹) a “follow-on” action in the *Competition Appeal Tribunal* (CAT) within a two-year period after the cartel has been established in a legally valid way by the Office of Fair Trading or the European Commission.¹⁰⁰ Both courts have essentially the same fivefold discretion, albeit stipulated in different provisions,¹⁰¹

- whether to award simple interest
- on all or any part of the damage

made if he could have continued the business successfully, *Park J.* in *Crehan* assessed damages at the time of the trial. The *Court of Appeal* reversed, [2004] EWCA Civ 637, paras 173-180. The precedential value of the latter judgment is however in dispute. While *Whish/Bailey* (supra note 18), p. 312 et seq. consider it to be generally valid, *Brealey*, *ibid.*, and *George Cumming & Mirjam Freudenthal*, *Civil Procedure in EU Competition Cases before the English and the Dutch Courts*, p. 251 et seq. (2010) argue that the Court of Appeal's decision would rather result from *Park J.* not having sufficiently taken account of future uncertainties when awarding damages for lost profits. In the same vein, *Procter* (supra note 24), para. 10.13 et seqq. argues that, although the case law being unclear, courts may consider inflation up to the time of judgment. Apart from this, *Brealey/Green*, *op. cit.*, fn. 31 rightly observe that in principle both approaches should yield the same of very similar results, because the going concern value at the time of the loss should equal the time and risk discounted value of likely future profits.

⁹⁷ *Tate & Lyle Food and Distribution Ltd. v. Greater London Council* (1982) 1 WLR 149 (156); but see also *Procter* (supra note 24), para. 10.13 et seqq., and the references supra note 96.

⁹⁸ Civil Procedure Rules (CPR), Rule 30.8.; *Whish/Bailey* (supra note 18), p.307; *Daniel Beard*, *Damages in Competition Law Litigation*, in: *Tim Ward & Kassie Smith*, *Competition Litigation in the UK*, para 7-009 (2005).

⁹⁹ It is expected that the restriction of the CAT's competence to follow-on actions will be abolished as part of the Draft Consumer Rights Bill recently proposed by the BIS (see above note 6)

¹⁰⁰ *Brealey/Green* (supra note 20), paras 1.37-38; *Simon Holmes & Phillip Girardet*, *United Kingdom*, in: *Global Legal Group* (Ed.), *The International Comparative Legal Guide to: Cartels and Leniency 2011*, p. 267-268; *Arundel McDougall & James Levy*, *England & Wales*, in: *The International Comparative Legal Guide to: Competition Litigation 2012*, p. 49. The CAT may grant permission to bring an action even when appeals are still pending. However, a UK-claimant seeking such a permission risks that other litigants bring an action in a different EU-Member state, in which case Art. 27 reg. 44/2001 would deprive the CAT of jurisdiction, see *Whish/Bailey* (supra note 18), p. 319.

¹⁰¹ For the High Court: Section 35A Senior Courts Act 1981; on this provision *Cumming/Freudenthal*, (supra note 96), 2010, p. 252-253.

For the CAT: *Competition Appeal Tribunal Rules 2003*, (Statutory Instrument 2003 No. 1372), Rule 56(2)(a), (b), based on and in conjunction with section 3 subs. (1), (1B) *Law Reform (Miscellaneous Provisions) Act 1934*; the latter provision has remained effective for other courts than the High Court and the County Courts pursuant to s. 15(4) and (5) *Administration of Justice Act 1982*, s. 15(4) und (5), see *McGregor on Damages*, 18th ed., para 15-031 fn. 114; on the CAT rules *Ben Rayment*, in: *Ward/Smith* (supra note 98), para 4-146; briefly *Cumming/Freudenthal*, (supra note 96), p. 253.

- for all or any part of the period between the date when the cause of action arose with respect to loss which also then accrued¹⁰² and the judgment or, – where payments have been made before that time – the date of payment,
- at such rate as the court thinks fit or as rules of court may provide,
- and possibly calculated at different rates for different periods,¹⁰³ which is often done.¹⁰⁴

As a rule, simple interest is awarded from the occurrence of the loss, i.e. the earliest possible point in time.¹⁰⁵ Concerning the interest rate, there is no generally accepted practice, apart from the CAT-Rules stating that it shall not exceed the *judgment debts rate*,¹⁰⁶ which is currently eight per cent.¹⁰⁷ However, the courts resort to standard approaches depending on the kind of damage and the area of life affected.¹⁰⁸ The common guiding idea is to compensate the plaintiff for having been kept out of money.¹⁰⁹ Notwithstanding, the divergences are rather historically than rationally motivated.¹¹⁰

While there is not yet a settled practice for awards in competition law actions for damages, in particular no supreme judicial authority on the issue,¹¹¹ the Commercial Court's usual

¹⁰² The latter qualification is not explicit in the wording of the respective provisions (supra note 101). But both rely on the assumption that the cause of action coincides with the occurrence of the damage. For this reason, interest can be awarded only from the occurrence of the damage, see *McGregor* (supra note 101), paras. 15-078, 15-080; *Meessen*, (supra note 24), p. 537. This also holds (except for personal injury) if the damage occurred gradually: Then, interest in principle runs from the occurrence of the respective part of the total damage. Notwithstanding, in particular if damages are inflicted continually over a longer period, the courts resort to simplifying methods, see further *McGregor* (supra note 101), paras 15-086 et seq.

¹⁰³ *McGregor* (supra note 101), para 15-031; *Meessen*, (supra note 24), p. 537.

¹⁰⁴ Cf. *McGregor* (supra note 101), para. 15-102.

¹⁰⁵ *Claudius Gelzer*, Verzugs-, Schadens- und Bereicherungszins, para. 168 (2010).

¹⁰⁶ The Competition Appeal Tribunal Rules 2003, (Statutory Instrument 2003 No. 1372), Rule 56(2): "the rate specified in any order made pursuant to section 44 of the Administration of Justice Act 1970"; *Rayment*, in: *Ward/Smith* (supra note 98), para 4-146.

¹⁰⁷ Statutory Instrument 1993 No. 564 (L.2), The Judgment Debts (Rate of Interest) Order 1993; see also *McGregor* (supra note 101), paras 15-106 et seq.

¹⁰⁸ See *Andrew Tettenborn* (ed.), *The law of damages*, 2003, para. 10.75; for an overview *Stephen Gerlis*, Interesting facts about interest, L.S.G. 2007, <http://www.lawgazette.co.uk/gazette-in-practice/benchmarks/interesting-facts-about-interest>; *Gerlis*, More interesting facts about interest, L.S.G. 2007, <http://www.lawgazette.co.uk/gazette-in-practice/benchmarks/more-interesting-facts-about-interest>; critical, esp. on the resulting uncertainty *McGregor* (supra note 101), para 15-106; Concerning personal injury, the courts take a bearing on the *short term investment account*, in currently terminology *special investment account*, the interest rate on deposits made by certain persons (children or patients) to court, which yield interest from the Bank of England at the rate agreed by the Lord Chancellor (today: Department for Constitutional Affairs) and the Treasury, *Gelzer* (supra note 105), para 288; *Giliker/Beckwith*, Tort, para 17-037 et seq. (4th ed., 2011). Concerning non-personal injury, the courts distinguish whether a private individual or a businessman is affected.

¹⁰⁹ Court of Appeal, *Sempra Metals Ltd (formerly Metallgesellschaft Ltd) v Inland Revenue Commissioners and another*, [2005] EWCA Civ 389; [2006] QB 37; [2005] 3 WLR 521; [2005] STC 687, para. 46; *Gerlis* Interesting facts (supra note 108); *Stephen Gerlis*, More interesting facts (supra note 108); *McGregor* (supra note 101), para 15-105.

¹¹⁰ *McGregor* (supra note 101), para 15-106.

¹¹¹ Cf. *Whish/Bailey* (supra note 18), p. 316; *Brealey/Green* (supra note 20), para 16.36. In contrast, there are numerous cases in which claims for damages were settled, sometimes with considerable payments, see further *Barry Rodger*, *Private Enforcement of Competition Law, the Hidden Story: Competition Litigation*

approach in commercial and business law cases appears to evolve as the relevant standard. It has been adopted by other courts in cases of economic loss¹¹² and has also been used in the three judgments that have awarded competition law damages so far.¹¹³ The approach is based on the premise that the interest rate should reflect the commercial value of money, measured by the credit costs of a plaintiff with the typical characteristics of the plaintiff at hand.¹¹⁴ As a basic (“presumptive”) rule, the interest rate is set at one per cent above a suitable base rate.¹¹⁵ If this is shown to be too low, esp. for small companies, about 2 to 3 percentage points are added to the base rate.¹¹⁶ Even in the Commercial Court, there is no uniform practice as to which interest rate is to be taken as the relevant *base rate*. Traditionally, courts resort to the *Bank of England bank rate* or *base rate*, formerly *minimum lending rate*.¹¹⁷ This was also done in the three judgments on competition law damages mentioned above.¹¹⁸ Alternatively, especially in cases that display a cross-border element, the (three-month) London Inter-Bank Offered Rate (LIBOR) has come into focus, however rather due to party agreements.¹¹⁹

Settlements in the United Kingdom, 2000 – 2005, 29 E.C.L.R. 96-116 (2008); Barry Rodger, Competition Law Litigation in the UK Courts: A Study of All Cases to 2004 – Part III, 27 E.C.L.R. 341, 346 (2006).

¹¹² *Law Commission*, Pre-Judgment interest in debts and damages (LAW COM No 287), p. 20 para 3.12 (2004).

¹¹³ First, it was applied in second instance in the *Crehan case*, probably the most famous action for damages in EU-competition law. According to reports from practitioners, the Court of Appeal intended to award interest at 3.5 percentage points above the 1993 base rate (the time of the loss) up to the date of judgment, see *Brealey/Green* (supra note 20), para 17.20. Eventually, the High Court denied a right to damages, *Crehan v. Innentrepreneur Pub Co* [2003] EWHC 1510, upheld by the House of Lords, [2006] UKHL 38. More recently, the CAT awarded interest at the bank of England base rate plus 2 percentage points on compensatory damages for a small local bus operator that had been driven out of the market by the incumbent’s predatory pricing, leaving the calculation of the precise amount to the parties, *2 Travel Group Plc (in liquidation) v Cardiff City Transport Services Limited* [2012] CAT 19, para 415. In *Albin Water Ltd v Dŵr Cymru Cyfyngedig* [2013] CAT 6, paras 225 et seqq., concerning an abusive margin squeeze as well as excessive and unfair pricing, the CAT awarded simple interest at the rate of 2 per cent over the base rate, again leaving the details of the calculation to the parties.

¹¹⁴ See *Tate & Lyle Food and Distribution Ltd. v. Greater London Council* (1982) 1 WLR 149 (153); *McGregor* (supra note 101), paras 15-110 - 15-113; *Oliver Brand*, Das internationale Zinsrecht Englands, 2002, p. 71. It does not matter if no borrowing or investment decision was involved, see e. g. *Metal Box v Currys*, [1988] 1 W.L.R. 175 at 180B-C; *McGregor* (supra note 101), para 15-117.

¹¹⁵ *McGregor* (supra note 101), para 15-114; *Brand* (supra note 114), p. 72; see e. g. *Shearson Lehman v Maclaine Watson* (No. 2), [1990] 3 All E.R. 723. *Tettenborn* (supra note 108), para. 10.75, points, for the special case of a refused encashment of a check, to the Practice Note (Claims for Interest) (No. 2), [1983] 1 W.L.R. 377, of the Queen’s Bench Division of the High Court, recommending a „reasonable rate around or somewhat above base rate“.

¹¹⁶ CPR 16.4 (2), annotation 6, as cited in *Atkins Encyclopedia of Court Forms in Civil Proceedings*, Rules and Guides, 2 nd. Ed., Civil procedure 2011 issue, [904]; from the case law see e. g. *Claymore Services Ltd. V Nautilus Properties Ltd*, [2007] BLR 452, [2007] EWHC 805 (TCC), paras 70-82; from the literature *McGregor* (supra note 101), para 15-115; *Gelzer* (supra note 105), paras 86, 289; see also *Brand* (supra note 114), p. 72 et seq.

¹¹⁷ *Gelzer* (supra note 105), para. 85, 289.

¹¹⁸ Supra note 113.

¹¹⁹ *McGregor* (supra note 101), para. 15-116.; *Law Commission* (supra note 112), p. 20 para 3.12 fn. 9. Cf. e. g. Court of Appeal, *Sempra Metals Ltd (formerly Metallgesellschaft Ltd) v Inland Revenue Commissioners and another*, [2005] EWCA Civ 389; [2006] QB 37; [2005] 3 WLR 521; [2005] STC 687, para. 52. See also *Brand* (supra note 114), p. 72; *Peter Wessels*, Zinsrecht in Deutschland und England, 1992, p. 104 fn. 212.

Besides, foreign interest rates have occasionally been used to reflect the circumstances of the parties, for instance the United States Prime rate or commercial credit rates in Switzerland and Germany.¹²⁰ This is the regular approach if judgment is given for a sum denominated in a foreign currency.¹²¹ It should be noted that the courts, including the CAT in the existing competition law damage judgments, simplify greatly if the base rate fluctuated during the relevant period and/or if damages accrued gradually in commercial and business law cases.¹²² Despite the aforementioned standard approach, plaintiffs usually claim pre-judgment interest at the – more attractive – judgment debts rate of 8%.¹²³ This is motivated by two reasons: First, an information brochure of the former¹²⁴ *Her Majesty's Courts Service* in 2007 recommended potential plaintiffs to claim interest of 8%,¹²⁵ probably because the judgment debts rate is the maximum interest rate a plaintiff may be awarded in default judgements without judicial intervention.¹²⁶ The successor authority describes 8% to be the usual interest rate on her website.¹²⁷ Second, since the 20th century courts have indeed increasingly relied on the judgment debts rate for calculating pre-judgment interest, inter alia in business law cases.¹²⁸ In view of the rigidity of the judgment debts rate¹²⁹ and the resulting over-

However, in *Albin Water Ltd v DŵR Cymru Cyfyngedig* [2013] CAT 6 (supra note 113), paras 225 et seq. the CAT explicitly rejected to take the LIBOR, though the claimant had i. a. proposed this rate.

¹²⁰ *McGregor* (supra note 101), paras. 15-121 et seq.

¹²¹ *Gerlis* More interesting facts (supra note 108).

¹²² E.g. interest on damages may be calculated on a yearly basis by aggregating the plaintiff's annual losses, assuming their accrual by the middle of the year, and calculating yearly interest on the aggregated sum, based on the average bank rate (minimum lending rate), see the plaintiff's approach accepted in *Tate & Lyle Food and Distribution Ltd. v. Greater London Council* (1982) 1 WLR 149 (155 et seq.); *Brand* (supra note 114), p. 72; *McGregor* (supra note 101), para 15-087. Concerning claims for damages which accrued continuously over a longer period [up to the judgment] (e.g. loss of income), either the full interest rate is applied from the mid-point of the time for which damages are awarded (see e.g. *Albin Water Ltd v DŵR Cymru Cyfyngedig* [2013] CAT 6, para 227 and *2 Travel Group PLC (in liquidation) v Cardiff City Transport Services Limited* [2012] CAT 19, para 415, each time leaving the precise calculation to the parties) or the actual interest rate is halved and subsequently applied to the cumulated loss, see *Jefford v Gee* [1970] 2 QB 130; *Gelzer* (supra note 105), para 290. In cases concerning personal injury or death, there is a special simplifying approach, see further *McGregor*, paras 15-086 et seq., 15-092 et seq.

¹²³ A limited empirical study can be found in *Law Commission* (supra note 112), p. 98 et seq., which however could only resort to data about the claims, not about the result of the proceedings; generally *Gelzer* (supra note 105), para 292.

¹²⁴ On April 1st, 2011, the former *Her Majesty's Courts Service* and the *Tribunals Service* were merged into an integrated agency, the *Her Majesty's Courts and Tribunals Service*, providing support for the administration of justice in courts and tribunals, <http://www.justice.gov.uk/about/hmcts/>.

¹²⁵ Her Majesty's Courts Service, EX302, How do I make a court claim, <http://nmil.org.uk/Library/howtomake-smallcourtclaims.pdf>, page 6.

¹²⁶ CPR r 12.6(1), see also *Law Commission* (supra note 112), p. 18 et seq., paras 3.6 et seqq.

¹²⁷ Making a court claim for money: an introduction, http://www.direct.gov.uk/en/MoneyTaxAndBenefits/ManagingDebt/Makingacourtclaimformoney/DG_195639.

¹²⁸ *McGregor* (supra note 101), paras 15-105, 119; *Gelzer* (supra note 105), paras 85, 287.

¹²⁹ The judgment debts rate remained at 4% from its 19th century inception until 1971, when 7.5% was substituted, and then went to a high of 15%, which was corrected to the present rate in 1993, see *McGregor* (supra note 101), para 15-107.

compensation, this has met considerable criticism¹³⁰ and is regarded as an unfounded deviation from the usual method.¹³¹ In line with these arguments, the CAT has consistently rejected claims for interest at 8% in the existing judgements on competition law damages cited above.¹³²

(Only) From the time of entering the judgment, the award carries interest at the rate on judgment debts pursuant to section 17 of the Judgments Act 1838¹³³, which has been fixed at 8% since 1993.¹³⁴ The sum claimed and awarded therefore continues to bear interest without interruption, but not necessarily at the same rate.¹³⁵

(2) Common law

Whereas statutory interest provides for a blanket compensation for the deprivation of funds (*interest on damages*), common law allows a plaintiff to claim compensation for interest he actually paid as a consequence of his initial losses (*interest as damages*). The *House of Lords* has abandoned important restrictions on that possibility in 2008.¹³⁶ The rules governing the period of time for which interest is awarded are identical for *interest under statute* and *interest at common law*.¹³⁷ Again, the court, in well-founded circumstances, may award interest only for part of the period between the occurrence of damage and the date of judgment, e.g. if the plaintiff caused undue delay.¹³⁸

Importantly, in calculating interest, the English courts have repeatedly taken into account that the plaintiff saved taxes due to the economic loss for which compensation was claimed (e. g. because of deductible expenses or lower profit). In particular, the courts have calculated (hypothetical) interest on tax savings and subtracted the result from interest on/as damages. By consequence, interest might be awarded only on $\frac{3}{4}$ or less than $\frac{2}{3}$ of the total losses.¹³⁹

¹³⁰ *Law Commission* (supra note 112), p. 22, paras 3.22 et seq.

¹³¹ *McGregor* (supra note 101), para 15-119. *Elizabeth Repper*, Common ways to claim interest, <http://construction.practicallaw.com/blog/construction/plc/?p=296>, recommends always to oppose such demands.

¹³² *Albin Water Ltd v DŵR Cymru Cyfyngedig* [2013] CAT 6, paras 225 seq.

¹³³ *McGregor* (supra note 101), para. 15-075; *Gelzer* (supra note 105), para 286.

¹³⁴ Statutory Instrument 1993 No. 564 (supra note 107); *Gelzer* (supra note 105), para 286.

¹³⁵ *McGregor* (supra note 101), para 15-075.

¹³⁶ See the leading case *Sempre Metals Ltd (formerly Metallgesellschaft Ltd) v Inland Revenue Commissioners and another*, [2008] A.C. 561; for an in depth analysis *McGregor* (supra note 101), paras 15-061 et seqq.

¹³⁷ *McGregor* (supra note 101), para 15-104.

¹³⁸ *McGregor* (supra note 101), para 15-082; with respect to delay in particular paras 15-097 et seqq.

¹³⁹ See further *McGregor* (supra note 101), paras 15-135 et seqq.

bb) compound interest

Statutory interest before the CAT and the High Court (*interest on damages*) allows only for *simple interest*.¹⁴⁰ In contrast, *interest as damages* pursuant to common law may include compound interest insofar as the plaintiff actually had to pay it (e.g. for a bank credit).¹⁴¹ Hence, compound interest is indemnifiable only as part of damages actually sustained,¹⁴² provided that the ordinary requirements are fulfilled. In particular, the plaintiff must set out and prove the respective losses.¹⁴³ Probably by lack of this condition, the CAT, in its latest judgment on competition law damages, rejected a claim for compound interest at 1 per cent above LIBOR saying that the case at hand was not one “where it is appropriate to award compound interest”.¹⁴⁴ Concerning cartel cases, there is no case law yet.¹⁴⁵

b) Further compensation mechanisms

There are two legal institutions in English law that can substitute an award of interest or lessen its importance for the victim, respectively. First, pre-judgment interest is unnecessary to the extent the plaintiff can obtain an order of (partial) interim payment. Both the CAT and the High Court may make such order on account of any damages if either the defendant against whom the order is sought has admitted liability to pay damages, or if the court is satisfied that, if the claim were to be heard, the claimant would obtain judgment for a substantial amount of money (other than costs) against the defendant.¹⁴⁶ The High Court may furthermore award interim payment if the plaintiff has obtained judgement on the substance of the claim.¹⁴⁷ In any case, the interim payment must not exceed a reasonable proportion of the likely amount of the final judgment.¹⁴⁸ In *Healthcare at Home Ltd. v Genzyme Ltd.*,¹⁴⁹ which

¹⁴⁰ Cf. s. 35A (1) *Senior Courts Act 1981* („simple interest“), s. 3(1)(a) *Law Reform (Miscellaneous Provisions) Act 1934* [„nothing in this section shall authorise giving interest upon interest.”]; *McGregor* (supra note 101), para 15-036; *Giliker/Beckwith*, Tort, 4th ed., 2011, para 17-036.

¹⁴¹ *Sempra Metals Ltd (formerly Metallgesellschaft Ltd) v Inland Revenue Commissioners and another*, [2008] A.C. 561, paras 92-100 abandoning the former case law; *McGregor* (supra note 101), para. 15-063.

¹⁴² *McGregor* (supra note 101), para 15-069.

¹⁴³ *Sempra Metals Ltd (formerly Metallgesellschaft Ltd) v Inland Revenue Commissioners and another*, [2008] A.C. 561, paras 95 et seq., 132; *McGregor* (supra note 101), para 15-064; *Gelzer* (supra note 105), para 330. A possible example would be that the plaintiff had to take out a loan as a consequence of the damage incurred and if he did not act unreasonably in doing so, *McGregor* (supra note 101), para 15-072; see also *Robert Ribeiro*, Damages and other remedies for breach of commercial contracts, 2002, p. 19.

¹⁴⁴ *Albin Water Ltd v Dŵr Cymru Cyfyngedig* [2013] CAT 6, paras 225 et seq.

¹⁴⁵ In favor of an award *Vincent Smith, Anthony Maton, Scott Campbell*, in: Foer/Cuneo (supra note 23), p. 310.

¹⁴⁶ For the CAT: rule 46 of the CAT rules; for the High Court: Section 32 of the *Senior Courts Act 1981*; *Lesley Farrell et al.*, United Kingdom, Private Enforcement, 3 *European Antitrust Review* 238 (2011); *Brealey/Green* (supra note 20), para 8.64-65.

¹⁴⁷ Section 32 of the *Senior Courts Act 1981*; *Brealey/Green* (supra note 20), para 8.31-36.

¹⁴⁸ *Lesley Farrell et al.* (supra note 146).

¹⁴⁹ [2006] CAT 29.

concerned an unlawful margin squeeze, the CAT made an interim payment order of £ 2 million.¹⁵⁰ The case was subsequently settled.

Second, interest might become secondary if punitive or exemplary damages are available, which is in principle the case in England.¹⁵¹ Importantly, however, the High Court has held that exemplary damages are to be excluded due to the principle of *ne bis in idem* where a defendant has already been ordered to pay a substantial fine, for example by the OFT or the European Commission. Besides, the court argued that Art. 16 reg. 01/2003,¹⁵² which stipulates that Commission decisions on matters of European competition law are binding for national courts, precludes an award of exemplary damages.¹⁵³ Based on this case law, a court might be inclined to award exemplary damages where there have been no administrative proceedings and a claimant has been harmed by particularly serious anti-competitive behaviour such as targeted predatory pricing.¹⁵⁴

In July 2011, the CAT has, for the first time, awarded exemplary damages in a case concerning abusive predatory practices. The CAT considered these to be a conduct calculated to make a profit which may well exceed the compensation payable to the claimant, justifying exemplary damages.¹⁵⁵ The CAT awarded interest only on the compensatory part of damages awarded alongside the exemplary part of, arguing that interest is intended to compensate the claimant for being kept out of money.

c) The role of inflation

The preceding analysis shows that inflation is no explicit determinant of the legal interest rate. Furthermore, the approach of the English courts does not seem to secure an interest rate exceeding the inflation rate. The judge has however a wide discretion that in principle makes it possible to account for inflation implicitly if this is deemed suitable in a particular case.¹⁵⁶

¹⁵⁰ *Brealey/Green* (supra note 20), para 8.64.

¹⁵¹ *Brealey/Green* (supra note 20), paras 16.55 et seq.; *Barry Rodger*, Private Enforcement and the Enterprise Act: An Exemplary System of Awarding Damages, 24(3) E.C.L.R. 103, 110 et seq (2003).

¹⁵² Regulation (EC) No 1/2003, Council Regulation (EC) No. 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, [2003] OJ L1/1 from 04.01.2003.

¹⁵³ *Devenish Nutrition Ltd v Sanofi-Aventis SA and Ors* [2007] EWHC 2394 (Ch), paras 54 et seq.; upheld by *Devenish Nutrition Limited v Sanofi-Aventis SA (France) & Ors* [2008] EWCA Civ 1086; on this case see also *Simon Holmes et al.*, United Kingdom: Cartels, 2 The European Antitrust Review 239 (2010); *Farrell et al.* (supra note 146), p. 237; *Brealey/Green* (supra note 20), para 16.58 et seq.; generally on the case law *Whish/Bailey* (supra note 18), p. 312.

¹⁵⁴ *Whish/Bailey* (supra note 18), p. 312. See also *John F. Clerk & William H. B. Lindsell*, Torts, 20th ed. 2010, paras 28.137-28.151.

¹⁵⁵ *2 Travel Group PLC (in liquidation) v Cardiff City Transport Services Limited*, [2012] CAT 19, paras 461 et seq.

¹⁵⁶ See text accompanying fn. 101 above and *Procter* (supra note 24), para. 10.13 et seqq.

Besides, the possibility to obtain additional *interest as damages* might occasionally enable a claimant to make up for inflation.

5. Germany

a) The role of interest

aa) simple interest

(1) Current legal situation (since July 1st, 2005)

In Germany, the court assesses damages with reference to the situation at the end of the trial, but nominalism applies to claims for losses denominated in currency units, which are therefore subject to devaluation. For this reason, in 2005 the German legislator inserted a provision in the *German Act against Restraints of Competition* (GWB) stipulating by reference to the *German Civil Code* (BGB) that whoever has violated competition law at least negligently, must pay interest on monetary claims from the occurrence of the damage,¹⁵⁷ for instance from the time when the victim bought the cartelized product for an inflated price. The standard rate of interest is five percentage points above the basic rate of interest.¹⁵⁸ The latter changes every 1st January and 1st July by the percentage points by which a reference rate has risen or fallen. Since January 1st, 2002, due to the introduction of the Euro, the reference rate is the rate of interest for the most recent main refinancing operation of the European Central Bank (ECB) before the first calendar day of the relevant six-month period.¹⁵⁹

It is in dispute whether the standard rate of five percentage points above the basic rate of interest (sec. 288 I BGB) increases when the claimant and the opponent are both entrepreneurs. This depends on whether the referral in sec. 33 III 5 GWB allows to apply sec. 288 II BGB, stipulating that, in the case of legal transactions to which a consumer is not a

¹⁵⁷ Section 33 III 4, 5 in conjunction with sections 288, 289 sentence 1 BGB. On the legislator's intention for creating this provision see *Reg.-Begr.* BT-Drucks. 15/3640, p. 54; *Logemann*, (supra note 23), p. 265 et seq.: The amendment is supposed to improve the protection of the victim's interest in compensation by taking into account that victims often have to wait for the competition authority's decision to be able to prove the infringement. This implies that they can claim damages only long after the conspiracy took place and only then trigger an obligation to pay interest based on the ordinary rules. Besides, the amendment shall guarantee that cartelists do not take advantage of lengthy official investigations by costlessly using capital from illegal cartel profits for their business. At the same time, the amendment is to strengthen the deterrent effect of civil actions for damages.

¹⁵⁸ Sec. 288, 289 sentence 1 BGB

¹⁵⁹ Sec. 247 BGB; *Gelzer* (supra note 105), para. 274. The effective base rate of interest is announced by the German Federal Bank in the Federal Gazette. Additionally, the German Federal Bank lists the base rates for different periods on its homepage, <http://www.bundesbank.de/Redaktion/DE/Standardartikel/Bundesbank/Zinssaetze/basiszinssatz.html?searchArchive=0&submit=Suchen&searchIssued=0&templateQueryString=247+BGB> and http://www.bundesbank.de/Redaktion/DE/Standardartikel/Bundesbank/Zinssaetze/historische_zinssaetze.htm l.

party, the rate of interest for claims for payment (*Entgeltforderungen*) is eight¹⁶⁰ instead of five percentage points above the basic rate of interest.¹⁶¹ We favour the view that this section is not applicable to actions for damages for violations of competition law¹⁶² because the wording requires a claim for payment that relates to the parties primary obligations governed by the principle *do ut des* (*Entgeltforderung*).¹⁶³

(2) Legal situation before July 1st, 2005

The generous interest provision in sec. 33 III GWB has been introduced only on July 1st, 2005 with the 7th amendment of the German act against restraint of competition.¹⁶⁴ Because of the considerable time spans set out above,¹⁶⁵ cartels that are currently subject to actions for damages often started to operate earlier. Scholars as well as the higher regional court of Karlsruhe argue that in such cases interest pursuant to sec. 33 III GWB new version accrues only from July 1st, 2005 onwards.¹⁶⁶

For preceding periods, practitioners and the courts conventionally have applied provisions of the German general law of obligations, stipulating that the debtor must pay interest on a monetary claim as soon as he is in default¹⁶⁷ or – at the latest – from the pendency of the

¹⁶⁰ According to the draft of a law against delay of payment in commercial matters (Entwurf eines Gesetzes zur Bekämpfung von Zahlungsverzug im Geschäftsverkehr, BT-Drucks. 17/10491 v. 15.08.2012), the interest rate for default between entrepreneurs stipulated in § 288 II BGB will be increased from currently eight to nine percentage points above the basic rate of interest. The amendment shall transpose the Directive 2011/7/EU of the European Parliament and of the Council of 16 February 2011 on combating late payment in commercial transactions, OJ L 48, February 23rd, 2011, p. 1, that was actually due until March 16th, 2013 (missed by Germany).

¹⁶¹ In the affirmative *Volker Emmerich*, in: Ulrich Immenga & Ernst-Joachim Mestmäcker, Wettbewerbsrecht: GWB, 4. Aufl. 2007, sec. 33 GWB para. 67; *Marc Schütt*, Individualrechtsschutz nach der 7. GWB-Novelle, WuW 2004, 1124, 1132; *Erik Staebe*, in: *Josef Schulte & Christoph Just*, Kartellrecht, § 33 GWB para. 55 (2012); implicitly *Wurmnest* (supra note 6), p. 1184. These authors must argue that sec. 33 III 5 GWB stipulates an application of sec. 288 II BGB with the necessary modifications, obviating the requirement of an „Entgeltforderung“. Following this argument, sec. 33 III 5 GWB would refer to the legal effects of sec. 288 II BGB independent of whether all conditions listed in that statute are fulfilled.

¹⁶² Likewise *Logemann*, (supra note 23), p. 268 et seq.; *Eckard Rehbindner*, in: Ulrich Loewenheim, Karl M. Meessen, Alexander Riesenkampff, Kartellrecht, sec. 33 para. 41 (2nd ed. 2009); *Rainer Bechtold*, Kartellgesetz: GWB, sec. 33 para. 36 (7th ed. 2013).

¹⁶³ See *Christian Grüneberg*, in: Palandt, Bürgerliches Gesetzbuch, § 288 para 8 (71st ed. 2012), arguing that the term *Entgeltforderung* stems from regulation 2000/35/EC of the European Parliament and the Council on combating late payment in commercial transactions (OJ L 200/35) and must be understood in the same way as in sec. 286 III BGB; *Grüneberg* (supra note 163), § 286 III BGB para. 27 therefore defines *Entgeltforderungen* only as those which aim at a payment in return for the provision of goods or services (BGH 63 NJW 1872 (2010) and concludes that sec. 286 III BGB is not applicable to claims for damages; likewise *Gelzer* (supra note 105), para. 277; *Manfred Löwisch & Cornelia Feldmann*, in: J. von Staudingers Kommentar zum Bürgerlichen Gesetzbuch, § 286 para. 97 (rev. ed. 2009).

¹⁶⁴ *Joachim Bornkamm*, in: Eugen Langen & Hermann-Josef Bunte, Kommentar zum deutschen und europäischen Kartellrecht, Vol. 1, sec. 33 GWB para. 16 (11. ed. 2011).

¹⁶⁵ See text accompanying fn. 14 to 15.

¹⁶⁶ *Daniel Zimmer & Hans Logemann*, Unterliegen „Altfälle“ der verschärften Schadensersatzhaftung nach § 33 GWB?, WuW 2006, 982, 988 et seq.; *Staebe* (supra note 161), § 33 GWB para. 56; *OLG Karlsruhe*, 6 U 118/05 (Kart.) (08), June 11th, 2010, BeckRS 2011, 26582, para 6.

¹⁶⁷ Sec. 288 BGB

creditor's claim.¹⁶⁸ The relevant statutory interest rate on default changed over time, due to repeated reforms,¹⁶⁹ from a fixed 4% and 5% for businessmen, respectively (until April 30th, 2000¹⁷⁰), to a flexible rate of 5 percentage points above the former base rate of interest¹⁷¹ (from May 1st, 2000 – December 31st, 2001) and further, since January 1st, 2002, to a rate of interest on default of five percentage points above the current basic rate of interest. It is then necessary to determine which provisions apply if a claim accrues over a period spanning more than one reform interval. The relevant interim law is set forth in Art. 229 sec. 1 I and Art. 229 sec. 7 I, II EGBGB.¹⁷²

While, according to conventional practice, before July 1st, 2005, interest on competition law damage claims is thus only available after the defendant has been put in default, it has recently been argued that, also before July 1st, 2005, interest on damages accrues from the time of the loss based on a provision of tort law (sec. 849 BGB), stipulating a right to simple interest at a constant rate of 4% (sec. 246 BGB). The argument rests on case law of the German Federal Court (Bundesgerichtshof, BGH), who has extended the field of application

¹⁶⁸ Sec. 291 BGB. On both, see *Logemann*, (supra note 23), p. 265.

¹⁶⁹ An unofficial list with the respective basic rates of interest and interest rates on default is available on the internet. <http://basiszinssatz.info>. The homepage also includes a tool to calculate interest, <http://basiszinssatz.info/zinsrechner/>.

¹⁷⁰ Sec. 288 I BGB in the then applicable version.

¹⁷¹ As defined in sec. 1 of the *Law on Transition for the Official Rate of Discount* (Diskontsatz-Überleitungsgesetz), Federal Law Gazette (Bundesgesetzblatt) I p. 1242. The starting point for the former base rate was the German Federal Bank's official rate of discount on December 31st, 1998. This rate was then adjusted three times a year (on 1st January, 1st May and 1st September) by the change of the rate of interest for long-term refinancing operations of the ECB, provided that the change exceeded 0.5 percentage points, see. Basiszinssatz-Bezugsgrößen-Verordnung from February 2nd, 1999, Federal Law Gazette I No. 6 from February 2nd, 1999, page 139 (FNA 7601-15-2); *Jörg Pertershausen*, Der neue Basiszinssatz des BGB – eine kleine Lösung in der großen Schuldrechtsreform?, 55 NJW 1455 (2002); *Gelzer* (supra note 105), para. 273.

¹⁷² The provisions are very technical and complex. Ultimately, for (part) claims having matured before May 1st, 2000 (in case of doubt, a debt claim matures immediately, sec. 271 I BGB), the rate of interest on default is 4%, because for such (part) claims, sec. 288 I BGB in the version of until April 30th, 2000 remains applicable, see *Karsten Schmidt*, in: Staudinger (supra note 163), Art. 229 sec. 1 EGBGB, para. 4; *BGH IX ZR 172/06*, 23 NJW-RR 786, 788 para 22 (2008). Besides, if these (part) claims stem from commercial transactions, the augmented legal rate of interest on default of 5% pursuant to sec. 352 HGB remains applicable, cf. Art. 229 sec. 1 I 3 EGBGB, *Karsten Schmidt*, opt. cit., Art. 229 sec. 1 EGBGB, para. 5; concerning the dispute whether the augmented rate of interest applies to tort claims, see above. For (part) claims having matured from May 1st, 2000, onwards, the interest rate on default first was five percentage points above the basic rate of interest as defined in the *Law on Transition for the Official Rate of Discount* (Diskontsatz-Überleitungsgesetz) (this is stipulated in Art. 229 sec. 1 I 3 EGBGB, Art. 229 sec. 7 II EGBGB, see *Busche*, in: Münchener Kommentar zum BGB, 5th ed. 2010, Art. 229 EGBGB § 1 para 2; *Karsten Schmidt*, opt. cit., Art. 229 sec. 1 EGBGB, para. 4). Since January 1st 2002, sec. 247 BGB in its current version applies, i.e. the reference rate taken from the ECB (with respect to claims governed by the reformed German law of obligations, this is stipulated in Art. 229 sec. 5 BGB, with respect to claims covered by sec. 288 I BGB in the version of May 1st, 2000, the same result is stipulated in Art. 229 sec. 7 I nr. 1 EGBGB; see *Karsten Schmidt*, opt. cit., Art. 229 sec. 1 EGBGB, para 4; *Jan Busche*, *ibid*).

of § 849 BGB significantly in 2008, overruling a more restrictive view of some higher regional courts.¹⁷³

bb) compound interest

According to German law, statutory interest does not produce compound interest (sec. 33 III sentence 5 GWB in conjunction with sec. 289 sentence 1 BGB). In principle, this does not invalidate the creditor's right to claim compound interest he actually paid or forewent because of the cartel as further damage pursuant to sec. 289 sentence 2 BGB.¹⁷⁴ However, sec. 33 GWB does not refer to this provision.¹⁷⁵ For this reason, compound interest paid or foregone cannot be claimed as long as a claim for interest is based solely on sec. 33 III sentences 4, 5 GWB. Rather, it is necessary that the debtor is in default, so that sections 288, 291 BGB apply directly.

b) Further compensation mechanisms

If the claimant lost or had to pay interest at a rate above the statutory one, he may claim such losses as damages pursuant to Sec. 288 IV BGB.¹⁷⁶ The amount of interest recoverable in addition to the legal rate is determined by the excess interest foregone or paid, respectively,¹⁷⁷ which the claimant must set out and prove on a case by case basis. An abstract calculation is permitted for banks only.¹⁷⁸

Important applications are that the victim has taken out a loan at an interest rate exceeding the statutory one or has missed a corresponding investment rate of interest.¹⁷⁹ For being entitled to damages for such losses, it is not necessary that the credit has been taken strictly because of the “initial” damages claimed (e.g. the payment of the overcharge).¹⁸⁰ Furthermore, with respect to businessmen regularly utilizing credit, it is presumed that they would have paid back standing loans if they had not suffered losses from the defendant's illegal conduct.¹⁸¹

¹⁷³ See further *Eckart Bueren*, Zinsen ab Schadenseintritt schon vor der 7. GWB-Novelle!, WuW 2012, 1056, 1061.

¹⁷⁴ *Wolfgang Ernst*, in: Münchener Kommentar zum BGB, 6th ed. 2012, § 289 BGB paras 1, 7.

¹⁷⁵ Section 33 III sentence 5 GWB explicitly stipulates that “sec. 288 and 289 sentence 1” shall apply mutatis mutandis, i.e. not sec. 289 sentence 2 BGB.

¹⁷⁶ *Logemann*, (supra note 23), 2009, p. 267 et seq.

¹⁷⁷ *Gelzer* (supra note 105), para. 280.

¹⁷⁸ BGH 6 NJW-RR 1406 (1991); BGH 41 NJW 1967, 1969 et seq. (1988); *Grüneberg* (supra note 163), § 288 BGB para. 13; *Klaus J. Hopt*, in: Adolf Baumbach & Klaus J. Hopt, Handelsgesetzbuch, § 352 para. 5 (36th ed. 2014).

¹⁷⁹ *Löwisch/Feldmann* (supra note 163), § 288 para. 34 et seqq. (foregone investment rate, investment losses) para. 46 et seq. (credit costs).

¹⁸⁰ BGH 37 NJW 371 (1984); *OLG Karlsruhe*, VersR 1992, 173.

¹⁸¹ BGH VIII ZR 35/90, 6 NJW-RR 793 et seq. (1991); BGH VI ZR 306/03, 20 NJW-RR 611, 613 (2005); *Grüneberg* (supra note 163), § 288 BGB para. 14; *Hopt* (supra note 178), § 352 HGB para. 5; *Löwisch/Feldmann* (supra note 163), § 288 para. 47.

c) The role of inflation

The preceding analysis shows that inflation is no explicit determinant of the legal interest rate. So far, however, the German law has always secured a level of interest considerably above the inflation rate.¹⁸² Should this once not be the case, the right to claim further damages exceeding the legal interest rate (sec. 288 IV BGB) comes into play again. According to the dominant view, the plaintiff can rely on this provision if the debtor's performance has been devalued by inflation.¹⁸³ The interest already due pursuant to sec. 288 I, II BGB is offset from the devaluation, because these provisions, too, aim at compensating for inflation.¹⁸⁴ In normal times, it will therefore not be possible to claim additional compensation for inflation. Until now, this has not occurred.¹⁸⁵

6. France

a) The role of interest

aa) simple interest

In French law, cartel victims are entitled to damages pursuant to Art. 1382 Code Civil.¹⁸⁶ Damages are assessed at the time of the judgment. They are considered to be a *dette de valeur*, meaning that the economic value of the damage has to be compensated, irrespective of whether the necessary funds change.¹⁸⁷ However, this does not protect the claimant from devaluation if he seeks compensation for excess payments (e.g. a cartel overcharge) and nominalism applies.¹⁸⁸ Originally, nominalism, which is reflected in Art. 1895 *Code Civil*, widely prevailed in French law. This continues to hold for contract law. The issue is controversial mainly with respect to liabilities that are not (initially) directed to monetary payments.¹⁸⁹ For these, a change to valorism has been proposed, and, by now, is established in important sub-fields, especially in tort law.¹⁹⁰ By contrast, even in tort law nominalism still

¹⁸² See *Logemann*, (supra note 23), p. 267: In view of the currently low level of interest, the statutory interest yield is very lucrative for the creditor.

¹⁸³ *Johannes Hager*, in: Walter Erman, *Bürgerliches Gesetzbuch*, § 288 BGB para. 16 (13th ed. 2011); *Ernst* (supra note 174), § 286 para. 148; *Löwisch/Feldmann* (supra note 163), § 286 para. 204.

¹⁸⁴ *Hager* (supra note 183), § 288 BGB para. 16; *Löwisch/Feldmann* (supra note 163), § 286 para. 204.

¹⁸⁵ *Hager* (supra note 183), § 288 BGB para. 16.

¹⁸⁶ See for instance *CA Paris*, 25^e ch. A., 28 June 2002, *SARL Phillipe Streiff Motorsport et. a. c/SAS Speedy et a.* [Juris-Data n° 2002-186210]; *Roger Bout et al.*, *Lamy Droit Économique*, Concurrence, distribution, consummation, n° 892, p. 312 and n° 1365 p. 527 (édition 2012); *Muriel Chagny*, *Revue Lamy de la Concurrence* N°4/2005, p. 186, 188.

¹⁸⁷ *Philippe Le Tourneau* (Ed.), *Droit de la responsabilité et des contrats*, n° 2652, p. 832 (8th ed. 2010/2011); *Yves Chartier*, *La réparation du préjudice dans la responsabilité civile*, para 457 p. 568 et seq. (1983).

¹⁸⁸ See *Chartier* (supra note 187), para 466 p. 579.

¹⁸⁹ *Geneviève Viney & Patrice Jourdain*, *Les effets de la responsabilité*, para 322, p. 711 (3^{ème} ed. 2011).

¹⁹⁰ *Viney/Jourdain* (supra note 189), para 322, p. 711.

applies insofar as claims for damages aim at the repayment of overpaid funds.¹⁹¹ Consequently, cartel victims claiming the overcharge depend on other means of protection against devaluation. In this respect, French law generally provides for interest on default (*intérêts moratoires*) and/or compensatory interest (*intérêts compensatoires*).¹⁹²

Interest on default accrues at the statutory rate from a request for payment or a reminder, provided that the claim is for a specified amount (Art. 1153 Code Civil),¹⁹³ i.e. a sum that is fixed objectively (contractually or by law) without prior intervention of a judge. Cartel damages usually do not fulfil this requirement. Then, interest is governed by Art. 1153-1 Code Civil.¹⁹⁴ Pursuant to this provision, as a basic principle claims for damages produce interest at the legal rate from the pronouncement of the judgment, except as otherwise provided by law.¹⁹⁵ The court is however entitled to award interest at his discretion ex officio¹⁹⁶ from an earlier date in order to fully compensate the damage suffered, without the need for detailed substantive reasoning.¹⁹⁷ The judge may award interest for instance from the filing of the civil action¹⁹⁸ or its service,¹⁹⁹ or – at the earliest²⁰⁰ – from the occurrence of the loss²⁰¹ (Art. 1153-1 para 1 sentence 2 Code Civil)

¹⁹¹ *Chartier* (supra note 187), para 466 p. 579; likewise the table listing of *Waelbroeck/Slater/Even-Shoshan*, in: Ashurst-Study (supra note 24), Comparative Report, 31 August 2004, p. 83 f. This seems necessary to avoid inconsistent results if contractual claims for repayment against the cartel member from which the victim bought coincide with tort claims against the remaining cartel members, which are jointly and severally liable.

¹⁹² Generally *Le Tourneau* (supra note 187), n° 2454, p. 779.

¹⁹³ *Le Tourneau* (supra note 187), n° 2456, p. 780.

¹⁹⁴ *Le Tourneau* (supra note 187), n° 2456, p. 781; *Sabine Bertolasco*, *Jurisclasseur Civil Code Art. 1146 à 1155*, fasc. 20, n° 18 (25 mai 2001).

¹⁹⁵ Art. 1153-1 para. 1 sentence 1, 2 Code civil, see further *Meessen*, (supra note 24), p. 538; *Jalabert/Doury*, in: *Foer/Cuneo* (supra note 23), p. 327; *Le Tourneau* (supra note 187), n° 2459, p. 782, with regard to statutory rights n° 2463, p. 784. See exemplary *Cour de cassation*, chambre civile 1, Audience publique du Mardi 20 février 1996, N° 93-19681 (inter alia with respect to a claim based on the law on unfair competition).

¹⁹⁶ A request by a party is not necessary, *Cass. 2e civ.*, 20 juin 1990: *Bull. civ. II*, n° 141; *JCP G* 1990, IV, p. 316; *Jacques Miguet*, Fasc. 515, in: *JurisClasseur, Procédure civile* (Cote: 01.1998), para. 73. The award of pre-judgment interest is considered to be an additional form of compensation and therefore an integral part of the damages to be awarded, *Normand*, *Jurisprudence Française en matière de droit judiciaire privé*, *RTD civ.* 1991, p. 395, 398.

¹⁹⁷ For further details *Le Tourneau* (supra note 187), N° 2463 p. 784 (8th ed. 2010); *Meessen*, (supra note 24), p. 539; *Guide Juridique Dalloz*, n° 219-3; *Miguet* (supra note 196) paras. 74-77; *Pascal Ancel & Christiane Beroujon*, *La prise en compte par le droit du coût de la durée du procès*, paras 126, 129-131 (1999); *Civ. 2e*, 27. Januar 1983, *Bull. Civ. II*, N° 25.

¹⁹⁸ *Cass. Ire civ.*, 18 janv. 1989: *Bull. civ. I*, n° 32; *Cass. Ire civ.*, 7 mars 1989: *Bull. civ. I*, n° 114; *JCP G* 1989, IV, p. 173; *Cass. soc.*, 6 nov. 1991: *JCP* 1992, IV, p. 99; *Miguet* (supra note 196), para. 72; *Chantal Momège & Nicolas Bessot*, France report, in: Ashurst Study (supra note 24), p. 24.

¹⁹⁹ See for instance *Cour de cassation*, chambre civile 1, n° 10-18694, <http://www.legifrance.gouv.fr/affichJuriJudi.do?oldAction=rechJuriJudi&idTexte=JURITEXT000024334035&fastReqId=710635599&fastPos=1>.

²⁰⁰ *Jacob et al.*, *Code Civil*, Art. 1153-1 para. 10 (111th éd. 2012).

²⁰¹ See e.g. *Cour de Cassation*, Chambre civile 1, 16 Mars 1999, N° 97-12.930, *JurisData* n° 1999-001116, *Bulletin civ.* 1999, I, n° 95, page 62; sommaire: *La Semaine Juridique Edition Générale* n° 19, 12 Mai 1999,

It is unclear how the courts use this power with respect to competition law actions for damages. Practitioners provide very diverging views.²⁰² The only empirical study we are aware of dates from 1999, is not specifically related to competition law and covers only cases that were appealed.²⁰³ It analyses a random sample of 728 judgments of the French *cour de cassation*²⁰⁴ of which a sub-sample of 217 judgments concerned actions for damages. The study found that in about 50% of these cases, the trial or appellate judges respectively had awarded pre-judgment interest, resorting to very different starting points, sometimes without clear precision in the reasoning. The most frequent starting point was the filing of the action (56 judgments).²⁰⁵

Pursuant to Art. L313-2 sentence 1 Code monétaire et financier, the statutory interest rate is determined for each calendar year by decree.²⁰⁶ Pursuant to Art. L313-2 sentence 2 Code monétaire et financier, it is equal, for the year in question, to the arithmetic mean of the last twelve monthly averages of the actuarial rate of return of the thirteen-week fixed-rate Treasury Bill auctions.²⁰⁷ A list of the statutory rates from 1975 until today is available on the internet from the *Banque de France*.²⁰⁸

After the defendant has been sentenced to payment and a time limit of two months since enforceability of the judgment has expired, the statutory rate increases by five percentage points (Art. L313-3 Code monétaire et financier).²⁰⁹ On request of the creditor or the debtor, the court may exempt from this increase or reduce it.²¹⁰ A judgment is enforceable if no further appeal with suspensive effect against the decision is possible or if it is provisionally

IV 1914; *Cass. 2e civ.*, 20 juin 1990: Bull. civ. II, n° 141, JCP G 1990, IV, p. 316; *Le Tourneau* (supra note 187), n° 2459, p. 782; *Meessen*, (supra note 24), p. 539.

²⁰² *Jalabert/Doury*, in: Foer/Cuneo (supra note 23), p. 327 report such orders to be very rare; according to *Momège/Bessot* (supra note 198), p. 24, the starting point for the calculation of interest is much debated, with many diametrically opposed judgments.

²⁰³ *Ancel/Beroujon*, (supra note 197).

²⁰⁴ *Ancel/Beroujon*, (supra note 197), paras 21-32.

²⁰⁵ Only four judgments chose the occurrence of the damage, i.e. the earliest possible date; 25 judgments chose the rendering of the judgment in first instance (when the damage award had been made by a trial judge), eight chose the delivery of an expert's opinion estimating the damage and six a reminder putting the debtor in default before the filing of the claim, *Ancel/Beroujon*, (supra note 197), para 133.

²⁰⁶ ; *Le Tourneau* (supra note 187), n° 2456, p. 780.

²⁰⁷ French wording: «Il [le taux de l'intérêt légal] est égal, pour l'année considérée, à la moyenne arithmétique des douze dernières moyennes mensuelles des taux de rendement actuariel des adjudications de bons du Trésor à taux fixe à treize semaines.»

²⁰⁸ <http://www.banque-france.fr/economie-et-statistiques/changes-et-taux/le-taux-de-linteret-legal.html>.

²⁰⁹ This occurs automatically by law; it is neither necessary for the claimant to request the increase nor for the judgment to order it, *Christian Gentili*, *JurisClasseur Voies d execution*, Fasc. 218: Majorations de l'intérêt légal, n° 22 (04 Octobre 2012); the increase was introduced on July 1975, see *Le Tourneau* (supra note 187), n° 2461, p. 783.

²¹⁰ *Sébastien Bigot de la Touanne* (Ed.), *Guide Juridique Dalloz, Intérêt des capitaux*, n° 308-1 et seq.; *Le Tourneau* (supra note 187), n° 2461, p. 783.

enforceable, either by law or because of a court order.²¹¹ As most judgments, judicial awards of competition law damages require a judicial order for provisional execution.²¹² The judge may make such an order for the whole or part of the judgment except for costs, at the request of the parties or ex officio, each time he deems it proper and compatible with the nature of the matter and if it is not prohibited by law;²¹³ he furthermore may subject provisional enforcement to the provision of a guarantee.²¹⁴ The judge has great, but not complete freedom in making an order of provisional execution,²¹⁵ which is reinforced by the fact that the *Court de cassation* does not control the reasons the judge gives for his decision. By consequence, no settled judicial practice has evolved.²¹⁶

bb) compound interest

According to French law, statutory interest does not automatically produce compound interest.²¹⁷ But on the claimant's request (or pursuant to a special legal provision), compound interest is awarded on interest that is due for at least one year,²¹⁸ including the increased interest rate of Art. L313-3 Code monétaire et financier.²¹⁹ The court has no discretion with respect to this.²²⁰ However, compound interest is available only from the date of the request in court, i.e. not retroactively.²²¹ Besides, interest on interest may accrue pursuant to Art. 1153 Code Civil, for instance after the creditor has put the debtor in default with respect to an existing claim for interest.²²²

²¹¹ Art. 500, 501, 514 Code de procédure civile (CPC, French Code of civil procedure), see further *Gentili* supra note 209), n° 27 et seqq.

²¹² *L'exécution provisoire facultative*, the default case, see *Jacques Héron & Thierry le Bars*, Droit judiciaire privé, para 506 p. 420 (4th ed. 2010).

²¹³ Art. 515 CPC.

²¹⁴ Art. 517 CPC.

²¹⁵ *Loïc Cadiet & Emmanuel Jeuland*, Droit judiciaire privé, para 744, p. 513 (6th ed. 2009); *Xavier L. G. Couchez*, Procédure civile, para 409 p. 409 et seq. (14th ed. 2006).

²¹⁶ See *Héron/le Bars* (supra note 212), para 506 p. 420 with fn. 194.

²¹⁷ *Le Tourneau* (supra note 187), n° 2456, p. 780.

²¹⁸ Art. 1154 Code Civil. This implies that interest on interest which accrues for instance every three or six months is inadmissible, *Bertolasco*, (supra note 194), n° 31.

²¹⁹ *Gentili* (supra note 209), n° 24.

²²⁰ *Jalabert/Doury*, in: *Foer/Cuneo* (supra note 23), p. 327; *Le Tourneau* (supra note 187), n° 2462, p. 783 et seq.; *Bertolasco*, (supra note 194), n° 27. The court may however refrain from applying Art. 1154 Code civil if the claimant is responsible for a delay of payment, *Bertolasco*, *ibid*.

²²¹ Cour de Cassation, Civ. 1^{re}, 19 déc. 2000, n° 98-14.487, Bull. civ. I, n° 330; *Le Tourneau* (supra note 187), n° 2462, p. 784; *Bertolasco*, (supra note 194), n° 27; *Bigot de la Touanne* (supra note 210), n° 308-5. The request in court may however be made in advance, i.e. before the minimum time of one year has expired and/or even before the judge has ruled about the claim for interest, provided that interest accrued already before the judgment, Cour de Cassation, Civ. 1^{re}, 6 juin 2001, n° 99-11.528, Bull. civ. I, n° 157.

²²² *Le Tourneau* (supra note 187), n° 2462, p. 783.

b) Further compensation mechanisms

As, according to French law, damages are determined at the time of the judgment. In principle, the assessment encompasses all losses sustained until that date, including those caused by the delay between infringement and compensation.²²³ The victim may thereby be compensated “indirectly” for ‘having been kept out of money by adding losses to the award that arose because the infringement deprived the victim of funds.’²²⁴ In this respect the French courts seem generally open towards awarding damages for lost profits (*lucrum cessans*),²²⁵ which need not be made explicit in the reasoning of the judgment and therefore cannot always be readily identified.²²⁶ The plaintiff may thus obtain interest actually spent or foregone on a case by case basis irrespective of an order pursuant to Art. 1153-1 para. 1 sentence 2 Code Civil.²²⁷ Furthermore, French courts have occasionally allowed for generous awards of consequential damages, which may de facto have the effect that losses, even if denominated in currency units, are inflated to the date of the legal decision.

For instance, the *Cour d’Appel de Paris* (CA Paris) found in *Pompes funèbres* that losses caused directly by a dominant company’s market foreclosure and auxiliary cartel agreements had negatively impacted on the liquidity position of the aggrieved company.²²⁸ Without the infringement, that company could have reinvested the foregone profits, or could have used them to pay off debts or to make profitable financial investments. Therefore, the court awarded considerable additional damages corresponding to about 27% of the total award, or 37% of the “initial” (basic) losses for each of the two claimants.²²⁹ Interest on damages as such was awarded from the pronouncement of the judgment.

c) The role of inflation

The preceding analysis shows that inflation is no explicit factor of the interest calculation in France. However, inflation is taken into account indirectly via the formula for setting the statutory interest rate. Besides, it may come into play when assessing consequential damages

²²³ *Chartier* (supra note 187), para 420 p. 524.

²²⁴ Cf. *Ancel/Beroujon*, (supra note 197), para. 120, pointing out that the judge in first instance makes an independent assessment in this respect that the *Cour de Cassation* cannot control.

²²⁵ *Viney/Jourdain* (supra note 189), paras 251 et seq., p. 30 et seq., and in further detail paras 280-284, p. 91-103.

²²⁶ *Ancel/Beroujon*, (supra note 197), para. 120.

²²⁷ See generally *Bigot de la Touanne* (supra note 210), n° 308-2.

²²⁸ *CA Paris*, 23 juin 2004, SARL Exploitation des Marbreries Lescarcelle, SA Pompes funèbres des Memoris, L’union nationale des entreprises de services funéraires c/Société OGF (SA pompes funèbres générales), with a comment on this aspect by *André*, RLC 2005/N°2, N° 160, p. 86.

²²⁹ Because of direct losses from exploitation and the “subreption” of clients the two claimants received 295.000 € and 1.042.304 €, respectively; damages due to consequential effects on their liquidity positions amounted up to another 108.000 € and 401.280 €, respectively.

caused by the deprivation of funds from the loss until compensation. Insofar as such damages refer to foregone business opportunities, inflation is in principle automatically compensated for by determining damages at the time of the judgement.²³⁰ But again, it must be kept in mind that nominalism applies to claims for excess payments, i.e. losses that are already initially denominated in currency units.

IV. Stylized simulations

The comparative legal study has identified substantial differences in the way four major competition law jurisdictions deal with interest and inflation with respect to cartel damages. The following section simulates, based on a real-world dataset of the US lysine cartel, how the divergences can influence damage awards if victims of a cartel with identical economic characteristics claim damages pursuant to English, German, French and US federal law as surveyed above. We thereby illustrate the practical implications of the different legal techniques empirically and explain which elements drive the results. The insights are directly helpful for victims of international cartels when considering litigation strategies and for evaluating proposals for legislative reform. At the same time, our approach is a first step towards a quantitative comparative law and economics analysis of the law on interest in the field of tort law.

1. Reference case: The US lysine cartel (1992-1995)²³¹

Lysine is an essential amino acid which helps to speed the development of muscle tissue in humans and animals. From the beginning of lysine production in the 1960s until the early 1980s, the world demand of lysine was basically produced by two Japanese firms ‘acting as one’. In 1980, a South Korean firm successfully entered the market on a smaller scale, followed in the early 1990’s by Archer-Daniels-Midland (ADM) in the US and Cheil Sugar Co. in South Korea. Especially the large-scale entry of ADM intensified industry competition

²³⁰ Cf. *Viney/Jourdain* (supra note 189), paras 69 et seq., p. 192-196; *Le Tourneau* (supra note 187), n° 2652, p. 832; *Wolfgang Wurmnest*, Grundzüge eines europäischen Haftungsrechts, p. 247 (2003); *Herbert Giese*, „Dommages-Intérêts“, p. 105 et seq. (1967).

²³¹ For detailed descriptions of the lysine cartel in the United States, see *John M. Connor*, Global Price Fixing, 2nd ed. 2007, chapters 7-8, p. 167-237; *John M. Connor*, ‘Our Customers Are Our Enemies’: The Lysine Cartel of 1992-1995, 18 Review of Industrial Organization 5-21 (2001); *John M. Connor*, Global Cartel Redux: The Amino Acid Lysine Antitrust Litigation (1996), in: *John E. Kwoka & Lawrence J. White*, The Antitrust Revolution, 252-276 (4th ed 2004); *Lawrence J. White*, Lysine and Price Fixing: How Long? How Severe?, 18 Review of Industrial Organization 23-31 (2001).

substantially,²³² causing lysine prices to fall by 45% in the first 18 months after ADM had started to operate in the market.

The two Asian incumbents and ADM then set up a lysine trade association which, according to the subsequent public prosecution, basically implemented and managed a cartel starting in August 1992, joined later by two other major lysine producers. Figure 1 illustrates the subsequent substantial market price increases up to a level of \$0.98 per lb. from November 1992 to January 1993. In early 1993, a price war occurred, causing a price decline down to a level of \$0.62 in June 1993, basically because the cartel members were temporarily unable to agree on global market shares. However, they managed to reinstate high cartel prices around \$1.20 after a couple of months until June 1995, when the cartel broke down due to FBI dawn raids.

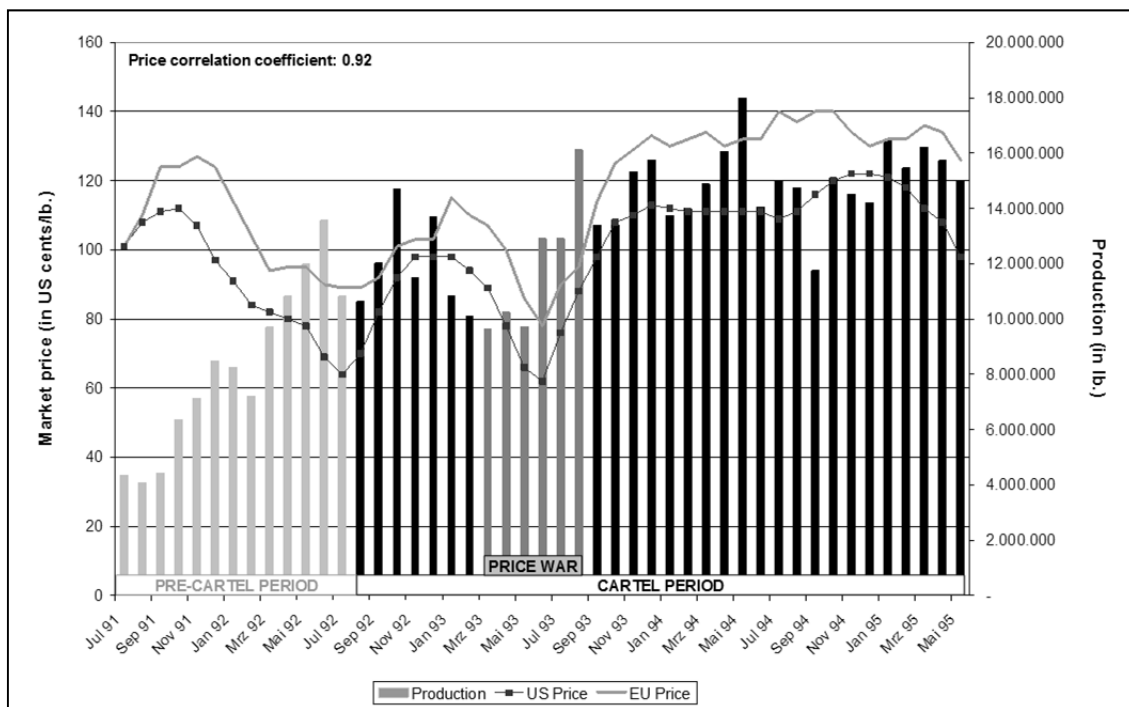


Figure 1: Average monthly lysine prices and ADM's lysine production between July 1991 and June 1995

Source: Hüschelrath²³³; raw data stems from Connor²³⁴

In the aftermath of the cartel's detection, claims for damages were filed in the US. Most were settled quickly in July 1996, with three cartel members agreeing to pay damages of (in sum)

²³² Connor, Global cartel redux (supra note 231), p. 259. By 1993, ADM accounted for one-third of global capacity (780 million pounds).

²³³ Kai Hüschelrath, Competition Policy Analysis – An Integrated Approach, ZEW Economic Studies, Bd. 41, Heidelberg, p. 361 (2009).

²³⁴ Connor, Global cartel redux (supra note 231), p. 261).

about \$45 million to their customers.²³⁵ The criminal prosecution in the US resulted in corporate fines of \$92.5 million in August 1998 and total prison terms of 99 months.

a) Cartel duration and overcharge

Theoretically, the finding that the cartel operated from August 1992 to June 1995 (FBI-dawn raids), with a price war between March and August 1993, can be construed in two ways: A temporary price war can either put an end to a first anti-competitive agreement, which is later followed by a distinct (second) cartel, or it can merely suspend a single continuous infringement. According to the public prosecution, the lysine cartel falls into the latter category.²³⁶ We therefore start out from a single conspiracy during the entire period. For simplicity, we assume that the beginning and the end of the cartel's operation also mark the beginning and the end of its effect on market price, abstracting from a possible transition period.²³⁷

All three methods to estimate the 'but-for' price (sketched in Section II.1. above) were applied during the lysine-cartel litigation, with partly different results.²³⁸ As detailed average total cost data for the production of lysine around the time of the cartel are available, a cost-based approach is feasible. Based on Connor's analysis,²³⁹ we calculate a monthly cost-based 'but-for' price by adding to monthly estimates of ADM's average total cost (ATC) of lysine production an average return on investment of 6% of sales. This yields a but-for price of about USD 0.8 on average over the entire cartel period. This cost-plus approach has been criticized for unreasonably low but-for price estimates.²⁴⁰ Our simulation results may therefore be

²³⁵ Connor, Global Cartels Redux (supra note 231), p. 301; Connor, Global Price Fixing (supra note 231), p. 395-398. Those who had opted out of the class action settlement as well as those plaintiffs not included in the class also settled, reportedly between autumn 1996 and April 1997 and/or in 1998. Further particulars on these settlements are unknown, see John M. Connor, ADM – Price Fixer to the world, 4th ed. 2000, Purdue University Staff paper 00-11, p. 70, 132-136.

²³⁶ According to the European Courts, a single and continuous infringement exists if all actions in question are inspired by one and the same anti-competitive purpose, i.e. if they are part of a series of efforts made by the undertakings in question in pursuit of a single anti-competitive aim (joined cases T-25/95 et al., *Cimenteries CBR* [2000] ECR II-491, paras 2426, 4674; Case T-7/89, *Hercules Chemicals* [1991] ECR II-1711, 262 et seq.). This was obviously the case with respect to the lysine cartel. Accordingly, the cartel members were prosecuted and sentenced for one continuous infringement in Europe as well as in the US (see Case C-397/03 P, *Archer Daniels Midland* [2006] ECR I-4429, paras 8-17).

²³⁷ As mentioned by White (supra note 231), p. 27, a confidential report by Connor argued that lysine prices remained at an elevated level in the months after the detection by the FBI, partly due to lags in raising production post-cartel. He therefore extended the cartel period to December 1995.

²³⁸ See Connor, Global cartel redux (supra note 231), pp. 262 et seqq; White (supra note 231), pp. 27-29.

²³⁹ Connor, Global cartel redux (supra note 231), pp. 269 et seqq.

²⁴⁰ White (supra note 231), p. 28 argues that the lysine industry "... had virtually all of the characteristics of an industry in which *implicit* oligopolistic coordination of some kind would likely have arisen in the absence of the *explicit* conspiracy". In his view, the true but-for price is therefore likely to be significantly higher than the estimates resulting from either the cost-based or the before-and-after approaches applied by Connor.

considered as an upper bound, which however does not impair our analysis of the effects of the law on interest and inflation.

b) Initial ‘basic’ damages amount

Building on the estimates derived above, the damages initially caused by the lysine cartel in the United States should ideally be calculated by subtracting the monthly (cost-based) but-for prices from actual prices and multiplying the result (the overcharge per unit) with monthly sales. However, sufficiently detailed sales data are unavailable. We must therefore fall back on an approximation by assuming that the whole monthly production is sold in the same month at the US market price.

Conceiving the lysine cartel as a single continuous infringement implies that, insofar as prices fell below the (hypothetical) competitive level during the price war, the cartel temporarily turned out to be advantageous for the customers. From a legal as well as an economic point of view, these advantages have to be offset against the disadvantages.²⁴¹ For this reason, in our

²⁴¹ From a legal perspective, this holds for all legal systems considered in this paper. US law requires the value of a benefit specially conferred on the plaintiff as a result of the defendant’s tortious conduct be considered in mitigation of damages, provided that the benefit is to the same interest of the plaintiff as that which has been injured, and only to the extent that mitigation is equitable (*Harper, James and Gray on Torts*, 3rd edition 2007, Vol 4, § 25.4 p. 613, 616; *American Law Institute*, Restatement of the Law 2nd, Torts 2d, Vol. 4, § 920 and comments a-f). With respect to a cartel price war, one might object that the sub-competitive prices benefit every buyer during the price war, irrespective of whether this buyer has previously been damaged by the cartel. Based on this, the respective benefit might seem common to the community, i.e. not specially conferred onto the plaintiff, which would exclude mitigation (see further *American Law Institute*, Restatement of the Law 2nd, Torts 2d, Vol. 4, § 920 comment c). However, this argumentation presupposes a rather low correlation between the customers during the cartel period and during the price war. Therefore it cannot be made for cartels in product markets with stable supplier-customer relationships. These are likely to be found with respect to intermediate products produced by an oligopoly, such as lysine, in the cartel period. The legal position in English law is similar to that of US law, albeit less clearly pronounced. Again, benefits received by the claimant as a result of the tort may reduce recoverable damages as part of the doctrine of mitigation (*Percy H. Winfield & John A. Jolowicz*, Tort, 17th ed. 2006, para 22-17; see *Clerk & Lindsell* (supra note 154), para 28-09). The guiding criterion is whether the benefit received is sufficiently causally connected with the defendant’s wrongdoing to require it to be brought into account. The issue is of general application in contract as well as in tort. Most of the authorities relate to the first field, but the broad principles are considered equally applicable to tort (*Winfield & Jolowicz*, Tort, 17th ed. 2006, paras 22-17, 22-31).

In German law, the question whether benefits that flow from the tortious act have to be offset from recoverable damages is governed by the legal institution of *Vorteilsausgleichung*. According to the relevant case law, benefits reduce damages if – firstly – there is a sufficient causal link between the damaging event and the benefit (*adäquater Kausalzusammenhang*), and – secondly – deducting the benefit from recoverable damages is compatible with the purpose of the right to damages, i.e. it neither places an unreasonable burden on the injured party nor favours the infringing party unfairly. These broad criteria are fleshed out with respect to groups of cases with distinct features; see further *Grüneberg* (supra note 163), Vorb. v § 249 para 67 et seqq.; *Frank Ebert*, in: Erman (supra note 183), Vor §§ 249-253, paras 82 et seqq.

In contrast to the aforementioned jurisdictions, there is no clearly-defined legal institution in French law that deals with the consideration of benefits conferred onto the plaintiff in the wake of the tortious conduct. Nevertheless, if the tortious conduct itself causes damages as well as benefits, the legal assessment is ultimately broadly in line with the other jurisdictions analyzed here. In principle, it is well-accepted in French law that an award of damages shall not enrich the plaintiff (see *Le Tourneau* (supra note 187), n° 2523, p. 797, n° 2525, p. 798, n° 2545, p. 805; *Chartier* (supra note 187), para 456 p. 568; *Cécile Le Gallou*, La

simulation, the resulting negative damage amounts reduce overall damages. This yields the (non-inflated) monthly damages reported in Table 1. They add up to a total of about USD 109.32 million.

Table 1: Monthly damage caused by the Lysine cartel (in USD, non-inflated)

	January	February	March	April	May	June
1992	-	-	-	-	-	-
1993	1.949.703	1.411.454	867.785	-204.809	-1.362.044	-2.322.302
1994	4.393.143	4.337.214	4.611.960	4.974.523	5.576.651	4.354.549
1995	6.751.525	5.872.666	5.186.046	4.405.454	2.700.765	2.360.791
	July	August	September	October	November	December
1992	-	-1.062.380	240.304	1.762.119	2.068.038	2.463.935
1993	-516.436	1.289.656	2.409.577	3.749.698	4.599.603	5.198.980
1994	4.355.385	4.573.985	4.228.594	6.035.748	6.091.029	5.963.727
1995	-	-	-	-	-	-

Source: own calculations based on data from Connor (2002)

We use these values in the following as the starting point to calculate the final damage amounts including interest and inflation. We refrain from converting the values from USD to either EUR or GBP as exchange rate fluctuations would complicate a direct comparison of the different approaches towards interest and inflation.

2. Simplifications and assumptions

a) Simplified accounts of national legal systems

As shown in Section III above, national legal systems differ significantly in the way they take interest and inflation into account. To compare the corresponding effects of these different rules and regulations, we hold the occurrence and the magnitude of the damages constant by

nation d'indemnité en droit privée, para 370 p. 292 et seq. (2007); *Giese* (supra note 230), p. 75). For this reason, benefits that are due to the tortious conduct, i.e. that did not arise independent of the damaging event, may reduce the damage sustained (see *Viney/Jourdain* (supra note 189), para 249 p. 16; *Giese* (supra note 230), p. 75). Such a deduction requires more than mere causality between the damage and the benefit (*Giese* (supra note 230), p. 75; see e. g. *Le Tourneau* (supra note 187), n° 2543, p. 804: death benefit from the employer after a fatal accident does not affect damages, as they do not have a compensatory purpose; no reduction of damages if injured victim develops an activity from which it earns considerable revenues, because that is no necessary consequence of the damaging act). Furthermore, benefits common to a wider community that are not specially conferred onto the plaintiff are not considered as mitigating (*Gregor Thüsing*, Wertende Schadensberechnung, 2001, p. 223; see *Conseil d'État*, 16.4.1913, Rec. CE 1913, p. 418 et seq.; *Conseil d'État*, 22.11.1971, JCP 1973, II, 17301). All in all, French courts tend to be more restrictive than their common-law counterparts in accepting benefits as mitigating, see *Viney/Jourdain* (supra note 189), para 100 p. 248 et seq.. Apart from these broad guidelines, fixed criteria have not been developed (*Giese* (supra note 230), p. 75). This is probably explained by the fact that French judges enjoy a wide discretion when determining the amount of damages, without being obliged to state precisely the elements that led them to come to a certain award (*Viney/Jourdain* (supra note 189), paras 61 et seq., p. 177 et seq.; see *Le Tourneau* (supra note 187), n° 2515, p. 794; *Hans Jürgen Sonnenberger*, in: Festschrift für Reinhold Trinkner, 1995, p. 723, 730).

always referring to the data of the US lysine cartel, and apply to these the different laws on interest analysed above.²⁴² In a nutshell, we subject an identical infringement (the US lysine cartel) to different legal treatments consisting of the law on interest in different legal systems.

Naturally, a comparative simulation must concentrate on a standardized scenario that abstracts from aspects which are specific for a certain cartel victim. In particular, a simulation, if it wants to use real world data on cartel damages, cannot account for consequential damages for lost profits and for interest on damages on a case by case basis. This reflects the typical situation of cartel victims that did not incur or are not able to prove a respective damage position, which seems most likely for end consumers. Against this background, we discuss the following simplified accounts of national legal systems and of the economic approach to interest and inflation:

- *US federal law*: Insofar as claims for damages are based on federal antitrust law, pre-judgment interest is generally not available. However, an antitrust plaintiff may at least obtain an award of post-judgment interest pursuant to 28 USC § 1961 from the date the judgment is entered.
- *English law*: Cartel damages (the overcharges collected) bear simple interest as soon as they occur based on the LIBOR or the Bank of England base rate plus one to three percentage points. We assume the Bank of England base rate plus an add-on of two percentage points. We abstract from the possibility to claim compound interest as damages on a case by case basis. From the time of entering the judgment, the damages awarded carry interest at the rate on judgment debts of 8%.
- *German law until June 2005*: According to the conventional view, (former) German law in force until 2005 provides for simple interest only after the service of the claim for damages.²⁴³ As the exact date of service of the claim is not publicly available, we assume this date to correspond to the date of the first civil judgment. We abstract from the recently suggested alternative to award interest from the time of the loss at 4% p.a. pursuant to § 849 BGB, as it has not been incorporated in the case law yet. We also abstract from the possibility to claim compound interest on a case-by-case basis, which seems most likely especially for consumers.

²⁴² We refrain from a discussion of inflation in the following as neither the legal systems analysed above nor the economic approach demands an explicit consideration of inflation.

²⁴³ If the defendant did not come into default earlier, e.g. because the claimant demanded damages before he filed a claim by sending a reminder.

- *German law since July 2005*: To illustrate the current legal situation, we also simulate damages pursuant to current German law, hypothetically bringing the reform forward to cover the time of the cartel. While the reform left interest rate provisions unchanged, it introduced accrual of simple interest from the time of the loss. For our simulations, we ‘backcast’ the situation before 2005 by applying the respective German national interest rates valid at the time.
- *French law*: Simple interest accrues by default from the date of the civil judgment. We assume that the judge does not award interest from an earlier point in time, as this is often not done and in any case seems rather unlikely for a period before the filing of the claim. A rational plaintiff will know that compound interest is available on request, but, based on the assumption that interest accrues only from the time of the judgment, cannot obtain compound interest from an earlier point in time.²⁴⁴ Furthermore, we assume that the judge does not make an order for provisional enforcement of the judgment that would increase the statutory interest rate.²⁴⁵ This seems likely if the case at hand raises complex and/or unresolved questions of law and/or if there is no reason to think that the claimant might not be able to obtain payment after litigation has been concluded. Besides, we abstract from the fact that French courts have occasionally awarded generous consequential damages which may de facto inflate losses to the date of the legal decision. Again, this scenario seems realistic in particular for consumers.²⁴⁶

Given the differences of the national systems in both substance and interest rates applied, the interpretation of our simulation results must consider the development of the respective interest and inflation rates over time. Figure 2 plots monthly nominal pre-judgment interest and inflation rates from 1992 to 2011; German and French law use the same statutory rates for pre-judgment and post-judgment interest. National inflation is represented by consumer price indices taken from Inflation.eu data.²⁴⁷

²⁴⁴ Cf. above, fn. 221 and accompanying text.

²⁴⁵ See above, text accompanying notes 209-216.

²⁴⁶ Besides, the publicly available data we use for our simulation do not include specific features for particular claimants, which would however be necessary for a simulation of consequential damages.

²⁴⁷ <http://www.inflation.eu/inflation-rates/cpi-inflation-1990.aspx>

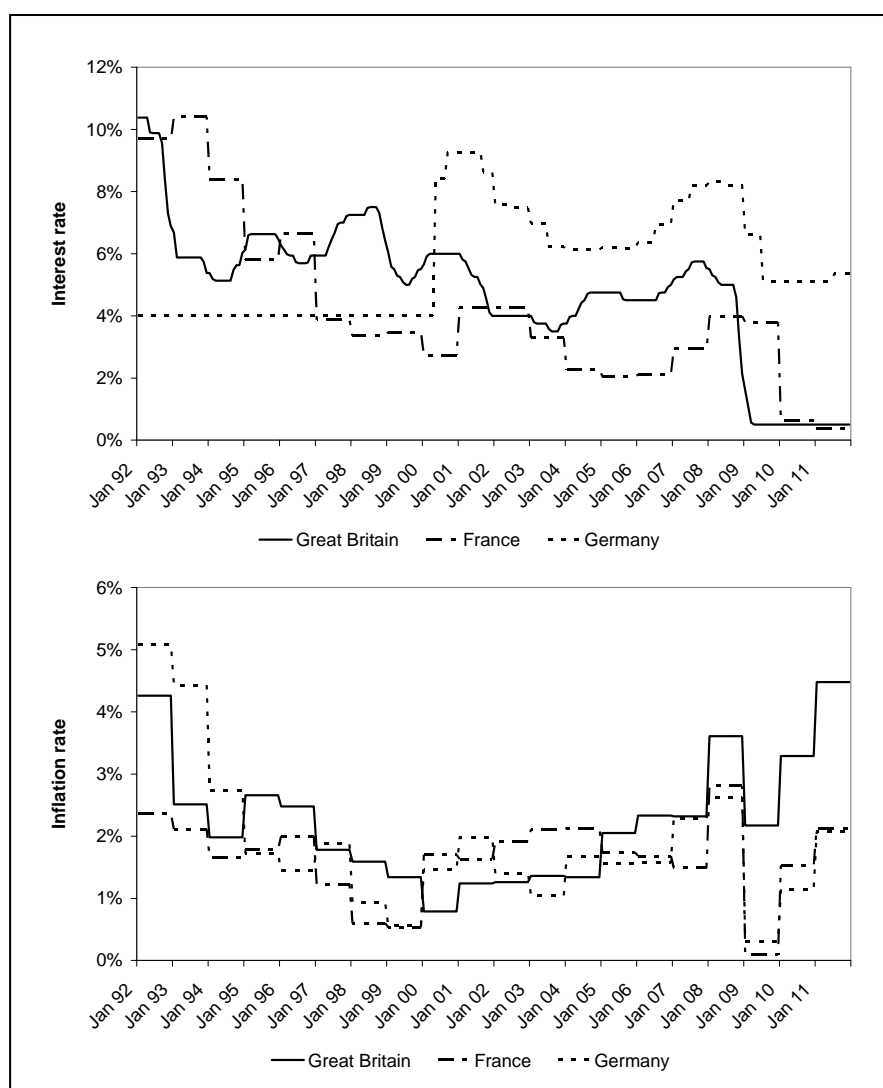


Figure 2: National interest rates (upper chart) and inflation rates (lower chart) (1992-2011)

The French and English interest rates move in a roughly similar way – both following a general downward trend. By contrast, the German statutory interest rate was set by law at 4% before 2000 and subsequently (at least) five percentage points above the relevant (central bank) base rate. The recent macroeconomic developments led to a substantial spread between the very low interest rates in England & Wales and France and the still relatively high German interest rate due to the markup of (at least) 5 percent. Besides, Figure 2 shows that, compared to interest rates, inflation rates move much closer together, experiencing substantial differences only in the last few years.

b) Scenarios of private enforcement

The short time frame in which the class action against the members of the US lysine cartel was settled has been considered unusual and unreasonably short.²⁴⁸ Solely with respect to the “cost of time”, especially in view of the restrictive US approach to interest, cartel victims receiving damages only 13 months after the discovery of the cartel is however close to a ‘first best scenario’. Further settlements reportedly were concluded between 1996 and 1998,²⁴⁹ i.e. up to three years after the cartel breakdown. But even these settlements fare quite well against the average delay between damages and judgment estimated at eight to nine years.²⁵⁰ Especially for large cases that affect several (member) states, the period might be much longer. In the US and in the EU, respectively, there have even been cases with cartel victims waiting 14 and more than 18 years, respectively, until compensation.²⁵¹ While these are rather upper-bound values, there is arguably a considerable percentage of cases where only the private litigation lasts more than six years,²⁵² to which the time from the occurrence of the damages to the start of the litigation must still be added. It is these cases where the law on interest plays a crucial role. In the light of the foregoing, two different scenarios suggest themselves for a simulation:

- *Scenario A – Quick resolution scenario*: A first simulation approach is based on the course of the lysine case in the United States, i.e. a very short period from the end of the cartel (in June 1995) to the filing of the private lawsuit (in September 1995) and the signing of a settlement agreement as a proxy for a final court decision (in July 1996). The specifics of the case are suitable to illustrate the effects of the different rules on post-judgment interest,

²⁴⁸ *Connor* (supra note 231), p. 398, citing a column by *John C. Coffee* in the *National Law Journal*.

²⁴⁹ See above fn. 235.

²⁵⁰ See above fn. 14.

²⁵¹ A recent illustrative example is the *self-copying paper-cartel* case that has received much attention in Germany. The defendant had participated in a cartel from 1992-1995, for which he was fined by the European Commission in 2001. The decision was finally endorsed by the Court of Justice in 2009. Relying on the Commission decision, an indirect cartel customer instituted a follow-on claim for damages concerning the years 1994-1996. A judgment in first instance was handed down by the lower regional court of Mannheim in 2005 (*LG Mannheim*, judgment of 29.4.2005, case 22 O 74/04 Kart.) followed by a judgment on appeal (*Berufung*) by the higher regional court of Karlsruhe in 2010 (*OLG Karlsruhe*, judgement of 11.06.2010, case 6 U 118/05 (Kart.) (08), BeckRS 2011, 26582) and a further judgment on appeal in legal matters (*Revision*) by the German Federal Court in 2011, *BGH*, judgment of 28.06.2011, case KZR 75/01, WuW/E DE-R 3431-3446 = 65 NJW 928 (2012), who has remanded the case for pending further decision. These still wait to be decided at the time of writing, 18 years after the end of the infringement period. Similar, though a bit dated examples from the United States are the *Hannover Shoe Case*, in which the time lag between the court decision convicting United Shoe of monopolizing and the Supreme Court decision awarding Hannover Shoe treble damages reportedly was 14 years, see *Jones* (supra note 9), p. 230, as well as the antitrust case *Fishman v Estate of Wirtz*, which involved section 1 and 2 Sherman Act and lasted 14 years, too, see *Fishman v Estate of Wirtz*, 807 F2d 520 (7th Cir 1986) 583–584 (Easterbrook, J., dissenting) para 245.

²⁵² See the references in fn. 13 above.

but mask important characteristics of the national legal systems which can affect results substantially in long proceedings. This limitation motivates the second simulation scenario.

- *Scenario B – Hypothetical follow-on lysine case:* The second simulation is a thought experiment on the consequences if the civil proceedings following the detection of the lysine cartel had been an (“EU-type”) follow-on scenario in which, first, (putative) victims file a suit only after a (final) public decision, and second, the parties of the civil suit litigate through all instances.²⁵³ As representative cross-jurisdictional data on such cases is missing, this simulation requires assuming a fictitious course of a follow-on action based on illustrative realistic values. While these are naturally ad-hoc, the simulation provides a good account of the significance that the law on interest has in hard cases. Moreover, the results are important even for quick settlements, as the consequences of lengthy proceedings determine the parties’ outside options when bargaining. In our simulations below, we assume a period of eight years from the detection of the cartel to a civil judgment in first instance, followed by another eight years until the damage award becomes final on appeal(s) – a time frame that is probably above average but still below the recent German case of the self-copying paper cartel.²⁵⁴

3. Results

In the framework just developed, national interest rates on the one hand and national approaches to interest and inflation as part of the damage assessment on the other are the two dimensions that may cause diverging awards. We first simulate the differences in the national legal systems as they stand in Scenario A (‘quick resolution’) and Scenario B (‘hypothetical follow on’), and then contrast the results with damages based on an economic approach.

a) Simulation 1: National legal systems and national interest rates

Simulated damages for existing national systems and national interest rates yield the compensation that would have been available for the Lysine cartel pursuant to the law of England & Wales, France or Germany (pre and post amendment). As discussed above, forum shopping is actually possible to a certain extent with respect to international cartels. The insights of the comparative simulations are therefore of immediate practical relevance.

²⁵³ This is likely in particular if many fundamental legal questions with respect to cartel damage claims are still open, as in most EU member states, if the courts are less experienced in handling competition law actions for damages and/or if the case is factually very complex and therefore conducive to conflicting economic expert opinions. Besides, corporate defendants might decide to go through all instances for commercial reasons (e.g. reduce reputational damage and/or postpone or avoid exclusion from tenders).

²⁵⁴ See above fn. 251.

aa) Scenario A

Scenario A closely follows the information on the actual US civil proceedings in the lysine cartel case. For illustrative purposes and as starting point for further discussion, Figure 3 plots the total damage amounts in million US-\$ for the four countries for Scenario A.

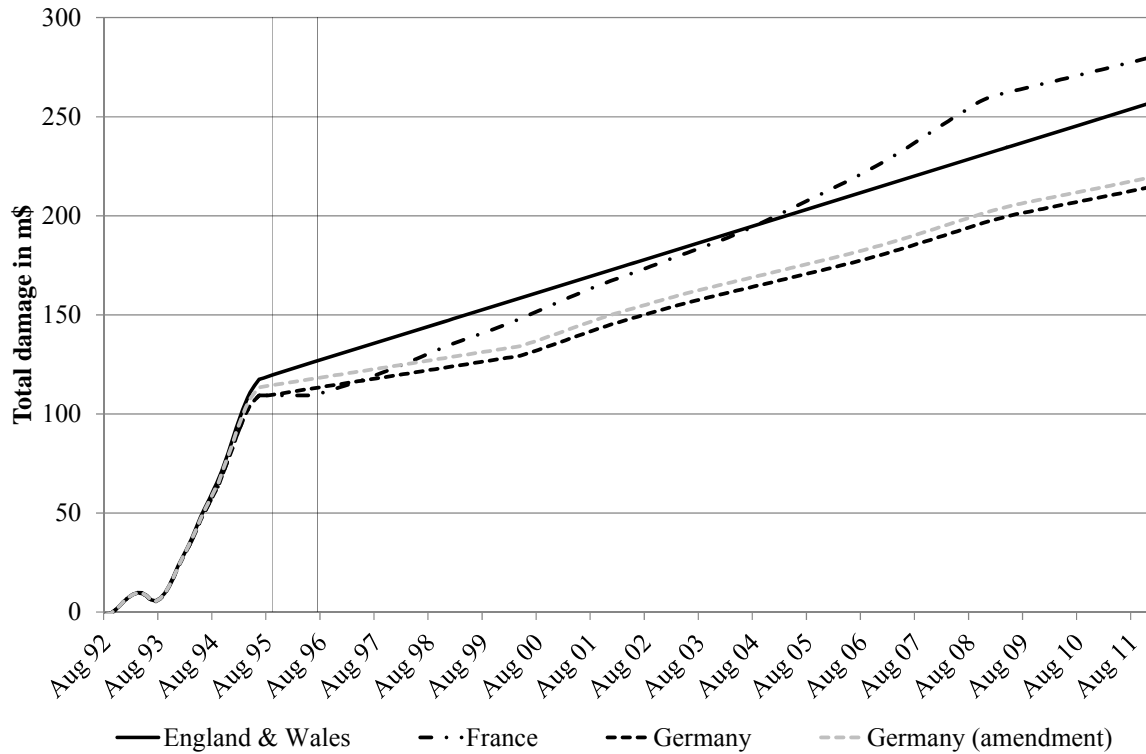


Figure 3: Total damages amounts for existing national systems and national interest rates (Scenario A - Europe)

The starting points for the interest calculations always depend on the jurisdiction under investigation: In England & Wales, interest accrues from the time of loss. By contrast, German law before 2005 provided for interest only from the filing of the lawsuit (in September 1995, marked by the first vertical line in Figures 3 and 4 below), and in France, interest on damage claims is granted as a rule only after the civil judgment (in July 1996, marked by the second vertical line in Figures 3 and 4 below). Technically, the respective functions for Germany (before 2005) and France stay flat at \$109.3m until September 1995 and July 1996, respectively. Had current German law, actually in force since 2005, already been introduced at the time of the cartel, interest would, like in England, have started to run from the time of the loss.

The left side of Figure 3 shows that damages amounts increased after the starting point of the cartel agreement in 1992, experienced a temporary downturn during the price war in 1993

(that reduced the aggregated damage amount) and increased sharply until the cartel broke down in June 1995. As explained above – and reflected in the graph – at that time, the overall damage of the cartel can be estimated at about \$109.32m. Due to the quick resolution scenario, the different starting points concerning the accrual of interest materialize only for a short period in Figure 3.

Tracing – for illustrative purposes²⁵⁵ – the development of damages post judgment until August 2011, the French system would lead to the highest figure of \$277.72m, followed by England & Wales with \$254.14m (8.5% lower than France) and Germany with \$217.52m (post-amendment) (21.7% lower) and \$212.67m (pre-amendment) (23.4% lower). The key reason for this substantial divergence is that the French system is the only one to allow for compound interest after a first court decision. In the specific scenario considered here, the compound interest effect is stronger over time, leading to a higher French damage figure from the year 2004 onwards, although the relevant interest rates in England & Wales and Germany were mostly higher than the French interest rate and although England & Wales grant simple interest on damages already from the time of the loss. This result forcefully illustrates the usually neglected and often underestimated effect of compound interest. It should however be noted that the outcome is largely driven by the assumptions of a very short time frame from the end of the cartel, the beginning of the civil suit and the judicial damage award in Scenario A.

These assumptions also explain why the amendment of German law in 2005 has only a rather small effect of about \$5m on the damage amount in Figure 3. The change of the German interest rate (which applies to damage claims) in the year 2000 is reflected in the graph through an increase in the slope of the two functions referring to Germany. The recent substantial drop in French interest rates manifests itself in a corresponding break in the damage function. Such a break does not figure for England & Wales, because post-judgment interest is fixed at 8% and the respective function therefore a straight line after the judgment in July 1996.

Figure 4 compares the European total damage amounts with the corresponding (hypothetical) US values: The mandatory trebling of damages leads to a figure of $\$109.32\text{m} \times 3 = \327.96m at

²⁵⁵ We are fully aware that the long time period from the end of the final court decision to the end of the interest-relevant period is rather unrealistic in practice. However, in order to illustrate the effect of granting compound interest, which is available only in France and the US post-judgment, as well as for reasons of comparability with the results of our ‘more realistic’ Scenario B, we decided to stick to the end of the interest-relevant period in August 2011 for Scenario A as well.

the time of the cartel breakdown. As post-judgment interest is available in the US, the sum increases from July 1996 onwards and reaches a final value of \$770.10m in August 2011.

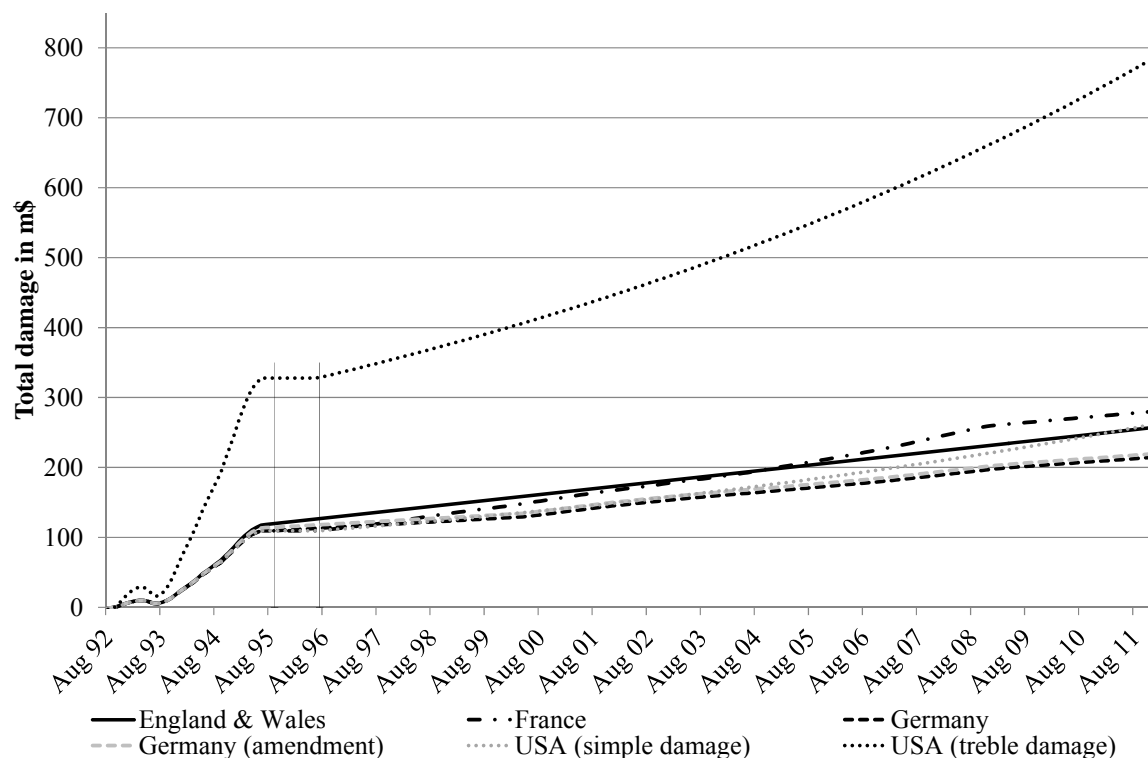


Figure 4: Total damages amounts for existing national systems and national interest rates (Scenario A – Europe and USA)

Compared to the largest figure from Europe – the French –, US damages would have been about 2.8 times higher.²⁵⁶ Thus, although the assumptions of this – purely illustrative – scenario are very favourable for US law insofar as the period between the cartel breakdown and a (first) court judgment is very short, it becomes already obvious that in the US framework effective trebling of damages hinges on quick compensation.

bb) Scenario B

Scenario A, while interesting with respect to the effect of compounding, clearly overdraws the usual effect of post-judgment interest and largely covers up the effect of pre-judgment interest. This is rather far away from the situation in Europe as well as in hard, contested cases in the US. Both are better captured by scenario B, which assumes a period of eight years from the detection of the cartel to a civil judgment in first instance (first vertical line in Figures 5 and 6), followed by another eight years until the damage award becomes final on appeal(s)

²⁵⁶ If, however, the US would decide to award simple damages only, Figure 5 reveals that the US value would reduce to \$256.82m, i.e. almost equal to the UK value in August 2011.

(second vertical line in Figures 5 and 6). Figure 5 plots the total damage figures in million US-\$ for the three EU countries.

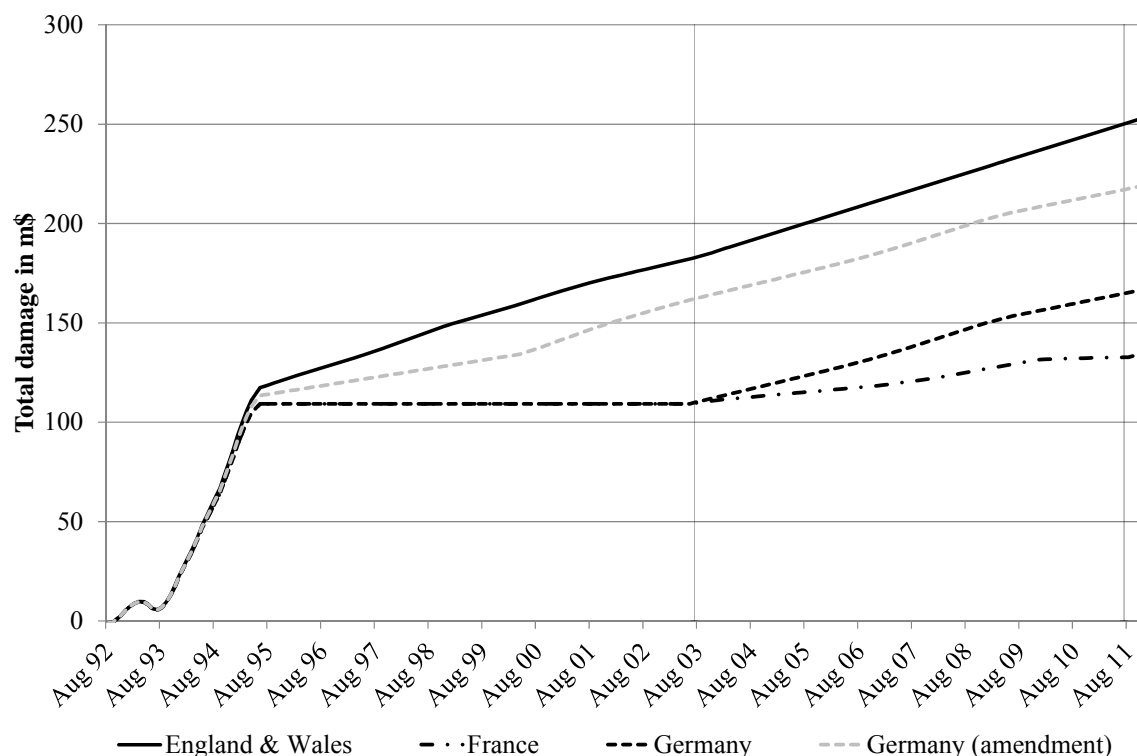


Figure 5: Total damages amounts for existing national systems and national interest rates (Scenario B – Europe)

The total damage values for Germany (post-amendment) stay at 217.52m. They are identical in both scenarios, as interest on damages always has to be paid right from the occurrence of the loss (which is exogenously given).

For France and Germany (pre-amendment), however, results differ quite substantially between the two scenarios: Due to the considerably longer time span between the detection of the cartel and the filing of / end of the civil suit²⁵⁷ without pre-judgment interest being available, the final damage values decrease from \$277.72m to \$132.75m for France and from \$212.67m to \$165.29m in case of Germany (pre-amendment). This exemplifies the substantial impact of the timing of the civil action on final damage awards. Furthermore, the amendment of German law in 2005 now turns out to have a much more significant effect. While the simulation arrived at a difference of about \$5m in Scenario A, the impact increases to about

²⁵⁷ Technically, the relevant point in time pursuant to French law is the first civil judgement and pursuant to German law (pre-amendment) the filing of the claim for damages. However, for simplicity, we do not differentiate between these two points in time as part of our simulations.

\$52m in Scenario B – for exactly the same competition law infringement and identical initial damages estimates.

For England &Wales, comparing Scenarios A and B shows a rather modest difference of \$3.29m (\$254.14m-\$250.85m). While pre-judgment interest rates were comparably high before the assumed first court decision in July 2003 – current rates are much lower, see Figure 2 –, the fixed post-judgment interest rate of 8% causes the respective trend to continue in the following years. Unlike in Scenario A, the French compound interest rule is not strong enough to overtake the English damage figure, partly because the relevant time period for post-judgment interest is much shorter in Scenario B, partly because interest rates in France dropped substantially.

Figure 6 adds the corresponding hypothetical US values to the simulation of the various European rules.

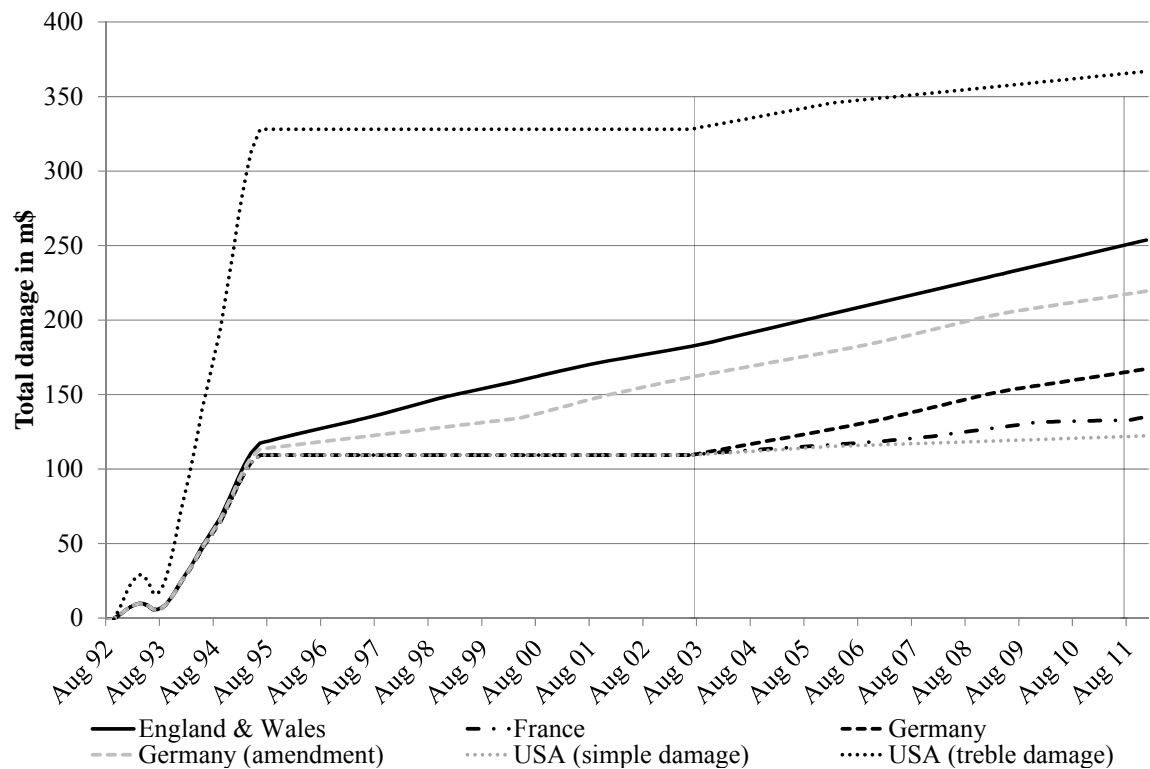


Figure 6: Total damages amounts for existing national systems and national interest rates (Scenario B – Europe and USA)

The trebling of damages again increases the damage award dramatically at the time of the cartel breakdown. However, due to the comparably longer time period from the end of the cartel until the first court decision in scenario B, the resulting damage figure remains constant until the first judgment on damages which we assume to be handed down in August 2003.

Subsequently, the damage award rises to the final value of \$365.68m after assumed appeals in August 2011.²⁵⁸ In this scenario of a hypothetical follow-on type case, the US damage award is thus only 45.93% higher than the award in England & Wales, 68% higher than the German figure (post amendment, 121.24% pre amendment), and 175.47% higher than the French. This implies that, in case of long proceedings, pre-judgment interest combined with post-judgment interest as available in England and Germany (post amendment) may itself more than double the initial damages figure. In such a scenario, it can therefore be said that the US system offers treble (initial) damages, while Germany as well as England and Wales offer at least double (initial) damages.

Besides, together with the results in scenario A, the simulation of scenario B forcefully illustrates that trebling of damages in the US, to deserve the name, hinges on compensation as fast as possible. In other words, US law pressures claimants to settle quickly, because, as judge Easterbrook put it, “the time value of money works in defendants' favor.”²⁵⁹ This effect will weaken defendants' bargaining positions in settlement negotiations, and thereby likely detract from settlement damage figures, too.

b) Simulation 2: Economic approach and national interest rates

The national legal systems depart from an economic approach to the “cost of time” in two ways: First, they resort to standardized methods of setting the interest rate that often do not reasonably approximate the rates that economists discuss as the optimal ones (see above II.2.). This is explained by ethical, historical as well as public policy reasons and difficult to change as long as economists disagree about the optimal rate. Second, however, the national legal systems also differ from an economic approach with respect to the time from which interest accrues and the issue of compounding:

From an economic point of view, the loss exists and therefore must be taken into account from the date when it occurred. Absent the cartel, a hypothetical investor would have had to pay less for the required quantity of lysine.²⁶⁰ Assuming that the investor seeks to maximize

²⁵⁸ If only simple damages would be available, the final value would reduce to \$121.89m, the lowest value of all countries included in the comparison. This is largely due to the relatively low post-judgment interest rate of 1.02% which is by law applied for the entire interest-relevant period.

²⁵⁹ *Fishman v Estate of Wirtz*, 807 F2d 520 (7th Cir 1986) 583–584 (Easterbrook, J., dissenting) para 245.

²⁶⁰ „But-for buyers“ who would have bought the implicated product at the non-cartel price, but did not do so at all at the supra-competitive price, are as a rule not legally entitled to damages (see *Rubinfeld* (supra note 1), p. 378, 385 on pragmatic reasons for this). The legal position of “but-for buyers” that would have bought more units at the competitive price might be better if they can prove their additional but-for purchases. This seems potentially feasible for undertakings that determine their optimal amount of inputs with calculation methods derived from production and cost theory.

his profits, he would have invested the overcharge such that he receives an adequate return which is at least the public interest rate. In the following period, the investor could then have reinvested this return and, at the end, would have received the invested money plus compound interest. Economically, damages should therefore comprise simple and compound (pre-judgment) interest from the time of the loss, which implies that the compensatory amount is independent of the timing of an action for damages. By consequence, it is not necessary to differentiate between Scenarios A and B. Figure 7 shows the resulting final damage figures, ignoring any specific constant post-judgment interest rates (such as in England & Wales), because they are less suitable to measure the actual “cost of time” the victim incurs (however, might still be justified, e.g., as an incentive for the debtor to repay as fast as possible). In a nutshell, the graphs are based on the different national interest rates that are taken as given, but apply an economic approach to calculating damages.

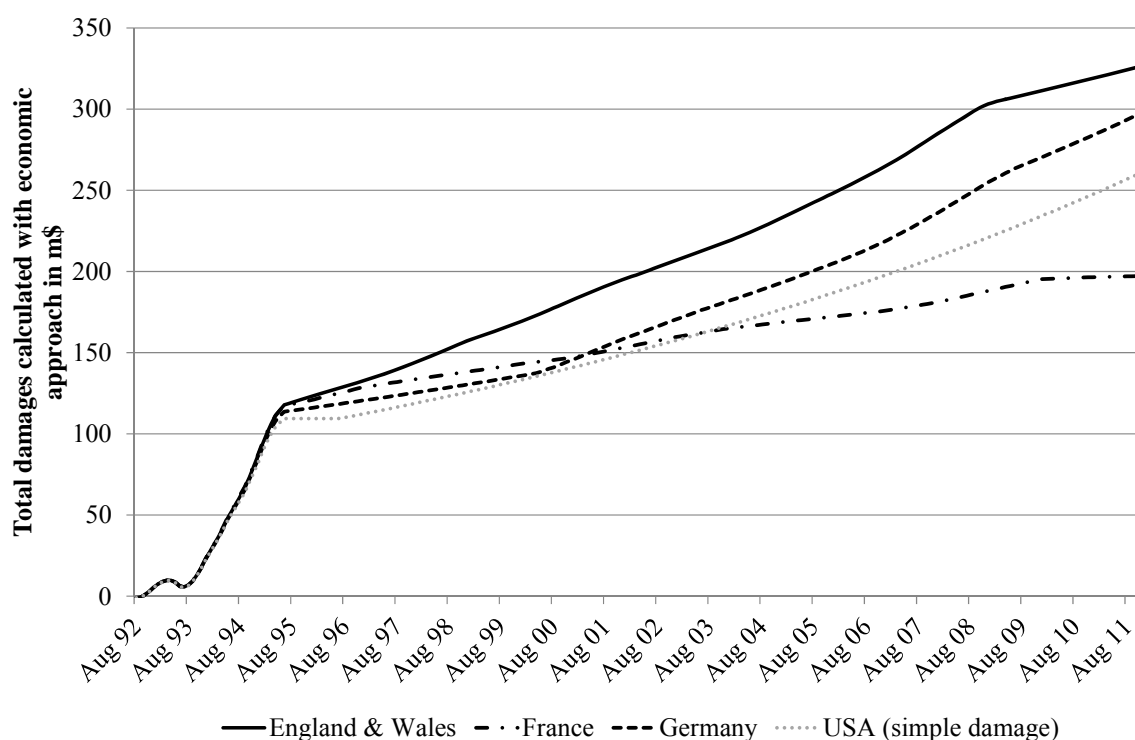


Figure 7: Total damages amounts for economic approach and national interest rates

Figure 7 shows that adopting the economic approach would increase the final damage amounts substantially compared to the status quo, mainly due to the introduction of compound interest. Nevertheless, national damage amounts would still differ considerably because of the diverging legal interest rates. Awards would be highest in England & Wales reaching a sum of \$324.18m in August 2011 compared to Germany with \$293.49m and France with \$196.95m. Contrasting the amounts of the economic approach with the figures

based on current national laws reported in Figure 5 (Scenario B) reveals differences of \$73.33m for England & Wales (\$324.18m – \$250.85m), \$75.97m for Germany (post-amendment) (\$293.49m – \$217.52m), and \$64.2m for France (\$196.95m – \$132.75m). The change in the German interest rate in 2000 materializes in the form of a break in the time series for Germany with an increase in the slope after 2000. This increase is however not sufficient to catch up with the English graph until August 2011.

4. Discussion

a) Main insights

Table 3 summarizes the final damage amounts of the two simulations for scenarios A (quick resolution, ‘US style’) and B (hypothetical follow-on action, ‘EU-style’).

Table 3: Total damages amounts for the different simulations (in \$m)

	1. National systems and national interest rates	2. Economic approach and national interest rates
<i>A. Total damages amounts following information on the US lysine case</i>		
England & Wales	254.14	324.18
France	277.72	196.95
Germany	-	293.49
<i>Post-amendment</i>	217.52	-
<i>Pre-amendment</i>	212.67	-
USA	-	256.82
<i>Simple damage</i>	256.82	-
<i>Treble damage</i>	770.10	-
<i>B. Total damages amounts following hypothetical lengthy follow on lysine case</i>		
England & Wales	250.85	324.18
France	132.75	196.95
Germany	-	293.49
<i>Post-amendment</i>	217.52	-
<i>Pre-amendment</i>	165.29	-
United States	-	256.82
<i>Simple damage</i>	121.89	-
<i>Treble damage</i>	365.68	-

Taken together, the figures first confirm that the different approaches towards the “cost of time” in the legal systems considered here are far from equivalent. They lead to enormous divergences in the damages cartel victims can obtain for an identical competition law infringement. The discrepancies are mainly due to diverging legal interest rates that fluctuate considerably over time. On the one hand, this is a direct consequence of different regulatory techniques to determine the relevant legal interest rate – based on state bonds in France and the US or certain central bank rates adjusted by mark-ups in Germany and the UK. On the other hand, national inflation and legal interest rates are influenced by the overall economic

situation in the respective country and the monetary policy of the ECB. The former can lead to variations between the member states' interest rates on damages, whereas the latter influences the (pre-judgment) interest rates in all member states in the same direction, though not necessarily to the same extent: Changes in the ECB's monetary policy would certainly alter damages amounts, but not necessarily the relative differences between France and Germany, as both countries are part of the European Monetary Union (EMU). For England, however, the relative differences to EMU countries could change, as England operates its own central bank. Due to the close ties of both economic areas, it can nevertheless be expected that the differences in the respective monetary policies are rather small.

Apart from different interest rates, the availability or non-availability of pre-judgment interest has a considerable effect on damage awards. By contrast, compound interest, while as such having the potential to increase damage awards greatly, is available only to a limited extent under the existing legal frameworks and plays a correspondingly minor role. This means that the associated losses are currently compensated only if a victim can set out and prove them on a case by case basis.

Second, the figures show that, with respect to long proceedings, the discrepancy between trebled (initial) damages in the US and single (initial) damages in the EU member states is much smaller than commonly perceived. The reason for this surprising result is that favourable EU legal systems effectively provide for more than double damages via pre- and post-judgment interest, while US law pursues an exceptionally restrictive approach in this regard.

Thirdly, however, the overview reveals that current damages amounts (1./B.) in the EU fall clearly below the amounts of a (more) economic approach (2.) that comprises interest on damages from the occurrence of the loss plus compound interest. Based on the respective national interest rates and focusing on Scenario B, damages currently awarded in England & Wales would be 29.2% too low, followed by Germany (post-amendment, 34.9% too low) and France (48.4% too low). Notwithstanding, compared to the initial damages amount of \$109.32m at the time of the cartel breakdown, it is obvious that even in the current frameworks interest on damages is highly important for cartel victims claiming compensation. While in the UK and Germany (post-amendment) cartel victims would receive (in August 2011) roughly 2.3/2.0 times the amount originally lost, the factor is a mere 1.2 for France. For the US, the table shows that damages awarded under the current framework would be roughly 1.4 times higher than the amount derived under the economic approach. This is largely due to

the compulsory trebling of the initial damage estimate. The US approach to interest as such would yield the lowest damage figure of all countries in our simulation (only about 47% of the damage derived under the economic approach).

b) Policy implications

In terms of legal policy, our findings first clearly speak for introducing the economic approach to calculating interest in all EU member states with respect to actions for damages for EU competition law infringements. As a further step, one might even think of introducing a uniform interest rate. The consequences can also be studied based on Table 3. For instance, choosing the economic approach and the English interest rate as the ‘European’ interest rate would change the status quo substantially by, referring to Scenario B, \$73.33m in England & Wales (\$324.18m-\$250.85m), \$106.66m in Germany (\$324.18m-\$217.52m) and \$191.43m in France (\$324.18m-\$132.75m). It should be noted, however, that since 2000 Germany has by far the highest pre-judgment interest rate (see Figure 2 above), and so taking this rate as the ‘European’ one would be more favourable for victims of more recent cartels. A European-wide harmonization also of the interest rate would, on the one hand, have important benefits: It would offer the possibility to bring the legal damage assessment more in line with an economic approach and strengthen the effectiveness of private enforcement. Moreover, it would contribute to an equal treatment of victims of international cartels across Europe, which might be considered valuable for normative reasons and would diminish plaintiffs’ incentives to engage in forum shopping. On the other hand, however, despite the European integration process having achieved great advances, the general economic developments in the member states are (partly) still very different in terms of both general state of the economy and the design of important parameters in the form of, e.g., fiscal or tax policies. The persisting economic differences across member states suggest substantial differences in capital costs. Therefore, different national (statutory) interest rates rather than one ‘European’ interest rate are arguably still the economically preferred option. From a legal perspective, it should be taken into account that altering the statutory interest rate only for cartel victims may cause frictions and thereby unintended costs as well as normative discrepancies in national legal systems. We thus support initiatives to prescribe mandatory pre-judgment interest and compound interest for all member states, but think that, insofar as interest rates are concerned, it is sensible to accept that total damage amounts for the “cost of time” continue to differ across Europe, even though this preserves different incentives of (purported) cartel victims to bring a civil suit. In this respect, forum shopping, though open mainly to sophisticated cartel

victims, will remain as a driver of competition between national legal systems and may thereby contribute to a convergence towards an optimal approach.

Second, our results suggest that introducing pre-judgment interest is also worth considering in the US. Punitive (trebled) damages do not conflict with the introduction of pre-judgment interest from the time of the loss. The solution to avoid an unintended increase of the punitive element, currently to be found in English case law, is to grant pre-judgment interest only on single damages, not on the punitive/exemplary part. This may seem warranted to make up for the restrictive case law on standing, a probability of prosecution below one and/or to prevent that time working in defendant's favour weakens cartel victims' bargaining position in settlement negotiations. Relying on trebling (initial) damages alone will probably fall short of compensating all these effects without losing a great deal of the deterrent purpose ascribed to private enforcement in the US. Furthermore, the status quo implies that victims are compensated unevenly depending on the timing of investigation and prosecution even if they cannot influence these events.

Critics of pre-judgment interest from the occurrence of the loss have pointed out that such interest may conflict with further compensation mechanisms that courts have occasionally used as substitutes where pre-judgment interest is unavailable or not granted, e.g. in France and the US. Indeed, these case specific substitutes, in particular generous consequential damages for the deprivation of funds and lost investment opportunities, cannot readily be combined with standardized pre-judgment interest. Otherwise, there would be a double compensation. In our view, however, an unproblematic and preferable middle course, currently applied in German and English law, is to grant the substitutes only insofar as, in the case at hand, the "cost of time" exceeds a standardized pre-judgment interest rate. Such an approach offers three decisive advantages: It assures a reasonable level of compensation for the "cost of time" for all cartel victims, especially also for consumers, it introduces cost-saving standardization and legal certainty into the calculation of damages, and, at the same time, allows for further refinements in a particular case if necessary. French practice can easily be adapted in this regard, and there seems to be no reason to draw a different conclusion for the US.

V. Conclusion

In this article, we provided a comparative law and economics perspective on how various jurisdictions treat interest and inflation as part of competition law actions for damages. Based on a comparative analysis of US federal and state law, England & Wales, German and French

law, we simulated the final damage figures in these legal systems for two enforcement scenarios using real-world data from the US lysine cartel, each time starting from the same estimate of initial (basic) cartel damages.

Generally, our analysis shows that the final damage awards depend on three key drivers: the event from which interest accrues, national pre-judgment as well as post-judgment interest rates and whether compound interest is available. The simulations revealed that the economic differences turn out to be substantial. Exactly the same cartel would lead to damage awards of \$250.85m in England & Wales, followed by Germany with \$217.52m (post-amendment), \$165.29m (pre-amendment) and France with \$132.75m. For the United States, trebling yields by far the highest amount of \$365.68m.

The divergences are largely driven by different national pre- and post-judgment interest rates. We identify quite significant fluctuations of these rates over time, that are explained by different regulatory techniques to determine the relevant legal interest rate, different national fiscal policies and changes in the ECB's monetary policy. Divergences with respect to the point in time from which interest accrues also have a significant impact on simulated damage awards. In this respect, French and US federal law are most restrictive in the sense that they provide for interest by default only after a civil judgment. By contrast, concerning compound interest, both are comparably generous in the sense that compound interest is available post-judgment.

Our findings are highly relevant for victims of international or European-wide cartels, who are often able to choose to a certain extent where to bring a claim. Furthermore, our findings have important implications in terms of legal policy. With respect to the EU, they raise the question whether the treatment of interest and inflation in competition law actions for damages should be harmonized on the European level. The Commission, as part of the current initiative on private enforcement, intends to prescribe interest from the occurrence of the loss, but does not attempt to make any requirement concerning the interest rate or the availability of compound interest. While the Council of the European Union has provisionally approved this part of the Commission's proposal, Parliament has recently opposed it, advocating more leeway to preserve the status quo.²⁶¹

We show that, from a purely economic perspective, the preferred solution is to grant interest from the time of the loss and compound interest by default. By contrast, the current legal

²⁶¹ See above fn. 5 and text accompanying fn. 94.

systems mostly exclude compound interest and – in case of France – do not automatically provide for pre-judgment interest. We find that, implementing the economic approach would increase the final damage amounts substantially, bringing the English (\$324.18m) and the German (post amendment) figures (\$293.49m) – in this particular example – very close to the amount for the United States (\$327.95m) which, instead of providing for interest, is trebled by law. Against these findings, we argue that it is indeed advisable to introduce mandatory pre-judgment interest in competition law actions for damages throughout the EU, but do not advocate a unified interest rate, in view of different capital costs in the EU member states. Our research thereby supports this particular aspect of the Commission's proposal. We furthermore argue that the introduction of mandatory pre-judgment interest is also an adequate option for the US if effective trebling of damages is considered appropriate, which may be warranted in the light of the restrictive US case law on standing, a probability of prosecution well below one and to prevent weakening victims' bargaining positions in settlement negotiations. We concede that mandatory pre-judgment interest requires adjusting the approach to further compensation mechanisms that are occasionally used as a substitute for pre-judgment interest. However, we argue that a combination of mandatory pre-judgment interest coupled with the possibility to claim further consequential damages on a case by case basis is preferable, combining effective redress for all cartel victims including consumers, cost-saving standardization and, if needed, room for case by case refinements. This holds for the EU as well as for the US, where "time is money" is a proverb currently unknown to antitrust law.