

**Observations of Ioannis Lianos, Faculty of Laws, UCL
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The quantification of damages in competition law proceedings in a multi-jurisdictional setting and in the absence of extensive European harmonization (in competition law) may face a number of difficulties. Legal rules regarding evidence and quantification of damages are different from jurisdiction to jurisdiction. Although the amount of recoverable damages is a question of fact, the measure of damages on which the factual computation is based is a question of law, which is determined by the courts or the legislator in the various Member States. From this perspective, any effort to develop common principles for the quantification of damages in competition law cases should examine the limits to which might be subject the recourse to the universalistic techniques and language of economics. Indeed, the effectiveness of remedies in various jurisdictions is fundamentally determined by two factors: the prevailing conceptions of the remedies' nature and basis, and the procedural and institutional context within which the remedies are claimed and awarded.

The report will first examine the crucial issue of the assessment of economic evidence, in particular the different evidence gathering and assessment procedures use in various jurisdictions. The absence of Community guidance or harmonization with regard to the assessment of economic evidence renders necessary the analysis of the broader framework for assessing evidence in courts in the different legal systems in Europe. However, isolating the study of the issue of quantification of damages in competition law, from issues of quantification of damages in other areas of law, such as torts, breach of contract and other statutory offences, for example involving intellectual property rights, might be counter-productive in view of the role in this process of generalists courts. The second part will explore if the quantification of damages in intellectual property law infringements in Europe might provide some useful insights for competition law.

I. Economic evidence in courts: principal difficulties¹

The starting point for any discussion of the issue of economic expertise in courts, for instance for the quantification of damages, is the situation of epistemic asymmetry that exists between judges and experts. In deciding to call or listen to an economic “expert”, judges admit limitations to their knowledge for the purposes of legal decision-making, which is an essential dimension of their legitimacy and authority. Judges are supposed to know the law; but in this case the law has also an economic content which judges are discovering/assessing with the active assistance of the economic “expert”. In other words, there is a situation of epistemic un-equality between the judge and the expert. The epistemic asymmetry between the judge and the economic expert with regard to the economic content/dimension of the law is exacerbated by the existence of numerous biases, material, intellectual, other that might affect the relationship between the judge (principal) and the expert (agent).

Some jurisdictions impose on expert witnesses an explicit overriding duty to the court to provide unbiased expertise². The principle is that the function of the

¹ For a more extensive discussion see, Ioannis Lianos, “Judging Economists”: Economic expertise in competition litigation: a European view, in Ioannis Lianos & Ioannis Kokkoris (ed.), *Towards an Optimal Competition law System*, Kluwer International, The Hague, 2009, pp. 185-320.

expert is to ‘provide independent assistance to the Court by way of objective unbiased opinion in relation to matters within his expertise’³. The exact nature of the expert’s duty to the court is a matter of theoretical speculation⁴. Notwithstanding the speculative nature of the expert’s duty, in practice it is difficult to monitor this duty, as this supposes that the judge or the jury is able to identify instances where the expert did not provide unbiased information. This is extremely difficult to spot out in most cases without any previous knowledge of the field. It should also be noted that it is rare that experts are sanctioned for violation of this duty to the court⁵.

There are different institutional frameworks that could mitigate the epistemic asymmetry problem raised by economic expertise in courts. Common law jurisdictions (e.g. United Kingdom, United States) have traditionally employed different mechanisms from civil law jurisdictions (e.g. France, Germany) in order to address the epistemic asymmetry that exists between economic experts and judges and to ensure the objectivity of judicial decision-making⁶. They chose to emphasize the role of the adversarial process (expert witnesses) instead of the quest for a neutral arbiter (court appointed experts), mechanism traditionally chosen by civil law jurisdictions. The nature of the judicial system, inquisitorial or adversarial, could influence the institutional framework of expert evidence in courts. Adversarial systems generally accord an important role to expert witnesses, whereas inquisitorial systems emphasize the role of judge-appointed experts and in-house expertise in courts that could address the problem of impartiality and will fit perfectly with the investigation function of the judge in these systems.

Recent reforms in civil litigation have, nevertheless, taken different directions. They led to an integration of the function of the expert and that of adjudication by creating specialised tribunals, by the appointment of economists as judges as well as by the appointment of assessors and by the systematic training of judges in the analytical methods of competition law economics. Others have emphasized the monitoring task of the judges in managing the experts by offering procedures such as the “hot tub” or the possibility to appoint joint experts. This section will highlight these approaches and will critically assess their implications on competition litigation.

These different institutional arrangements face two challenges. First, it is important to ensure the legitimacy (in terms of persuasiveness and epistemic

² According to Part 33.2 United Kingdom Civil Procedure Rules, ‘An expert must help the court to achieve the overriding objective by giving objective, unbiased opinion on matters within his expertise’. Part 35.3 UK Civil Procedure Rules: ‘This duty overrides any obligation to the person from whom he has received instructions or by whom he is paid’.

³ *National Justice Compania Naviera SA v. Prudential Assurance Co Ltd. The Ikarian Reefer* [1993] 2 Lloyd’s Rep. 68 per Cresswell J, at 69; *Ancho v. Pentek Corp.* 157 F.3d 512, 519 (7th Cir. 1998), ‘[A]n expert... must testify to something more than what is ‘obvious to the layperson’ in order to be of any particular assistance to the jury’.

⁴ Déidre Dwyer, *The Judicial Assessment of Expert Evidence* (Cambridge Univ. Press, 2008), at 248–250.

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⁶ *Ibid.*, at Part 4.2, examines five different approaches to expert civil evidence. The UK Civil Procedure Rules perceive courts as active managers of cases (case management system), allow expert witnesses and have instituted the procedure of single joint expert; the US Federal Rules of Evidence provides the opportunity for the appointment of court-appointed experts as well as the possibility of expert witnesses; the French Nouveau Code de procedure civile of 1975 provides only for court-appointed experts (it is however possible for the parties to use shadow experts); the German Zivilprozessordnung 1933 provides only for court experts, as the parties’ experts, if appointed, are not able to testify; the Italian Codice di procedura civile 1940 gives the opportunity to the Court and to the parties to appoint their own expert (or consulenti).

competence) of the decision reached, which may require the intervention in the decision-making process of an impartial and epistemically competent player. Second, maintaining the principle of adversarial process will be compatible with a more pluralistic view of scientific discourse, as it will make possible to hear a variety of points of view, thus ensuring greater competition in the upstream marketplace of ideas. The selection of the adequate institutional framework largely depends on the priorities of the decision maker.

A. Expert witnesses

Expert witnesses have been the dominant method of providing expertise in Common law jurisdictions since the 16th century. It is also used informally in Continental jurisdictions (shadow experts), in conjunction with the appointment of neutral experts. There are two problems with this point of entry of economic expertise in courts: first, the absence of regulation and institutional support for this type of expertise at the European level, and second, risks that arise from the partisan character of expert witnesses. The second problem led to specific instruments in order to mitigate that risk.

If we turn to the experience at the European Union (EU) level, Barbier de la Serre and Sibony observe that the status of expert witnesses under EU law is “unclear” and “informal”⁷. This informality exists both at the level of EU courts and at that of national courts. Although it is possible for parties to submit evidence based on expert reports, the Courts’ Rules of procedure do not allow party experts to put forward explanations during the hearing⁸. Experts are not considered as “advisors” in the sense of Article 19 of the Statute of the European Court of Justice, although “in practice, the EC courts often allow non-lawyers to address the Court at the hearing ‘in the presence and under the supervision of the lawyer’”; however, it is rare that they will be cross-examined by the opposing party⁹. The input of expert witnesses has been considered in a number of competition law cases, with unequal results¹⁰. In some cases, the EU

⁷ Eric Barbier de la Serre & Anne-Lise Sibony, *Expert Evidence Before the EC Courts*, (2008) *Common Market L Rev* 941, at 965.

⁸ Article 58 of the ECJ Rules of Procedure & Article 59 of the CFI Rules of Procedure.

⁹ Eric Barbier de la Serre & Anne-Lise Sibony, *above*, at 965.

¹⁰ E.g. *Joined Cases 6 & 7/73, Istituto Chemioterapico Italiano S.p.A. & Commercial Solvents Corp. v. Commission*, [1974] ECR 223, para 11, 14 & 22 (definition of the existence of a dominant position, the divergence between Zoja’s and Commercial Solvents’ experts had no practical importance, the ECJ concluding that the Commission was right to refuse the request of the parties for an additional expert’s report); *Case 45/85, Verband der Sachversicherer v. Commission* [1987] ECR 405, para 7 (noting the specificity of the insurance sector which should be taken into consideration by competition law); *Case T-34/92, Fiatagri UK Ltd and New Holland Ford Ltd v Commission* [1994] ECR II-905, para 82 (to determine if price parallelism is the result of collusion or oligopolistic interdependence); *Case T-17/93, Matra Hachette SA v Commission* [1994] ECR II-595, para 59 & 112 (analysis of restrictive effects on competition and dynamic efficiency gains under article 81-3); *Case T-395/94, Atlantic Container Line AB and others v. Commission* [2002] ECR ECR II-875, para 251, 346-348 (theory of the contestable market, the Court took into account the expert reports presented by the applicants and the Commission but ranged itself to the side of the Commission as it did not find a manifest error of assessment); *Case T-25/99, Roberts v. Commission* [2001] ECR II-1881, para 51, 69 (market definition); *Case T-342/99, Airtours v. Commission* [2002] ECR II-2585, para 212 (mergers); *Joined Cases T-236, 239, 244-246, 251-252/01, Tokai carbon Co. Ltd v. Commission* [2004] ECR II-1181, para 182 (setting of fines); *Case T-210/01, General Electric v. Commission* [2005] ECR II-5575 (mergers: the Commission relied on an economic model of mixed bundling before withdrawing it after a second expert report questioned its premises); *Case T-168/01, GlaxoSmithKline Services v. Commission* [2006] ECR para 246 (studies developed after the decision under review were disregarded as evidence, although these were “not

Courts proceeded in undertaking their own appraisal of the reliability of the expert's report. Barbier de la Serre & Sibony claim that there are many examples of cases "in which the conclusions of the expert's reports were not irrelevant but were questioned and/or judged unfounded (e.g. when the other party submitted an expert report that contradicted the findings of the other report, the report did not put forwards the 'slightest evidence' supporting its conclusions, the expert's conclusions were based on complex premises which in view of their number and complexity did not permit sufficiently definite conclusions, the expert's qualifications did not correspond to the factual issues at stake, and the report was based on incomplete knowledge of the facts" or simply "unreliable"¹¹.

An important problem of this unclear status of partisan expert evidence in EU law is that there are no Community rules that regulate expert witnesses in national courts, when the latter enforce EU competition law. It is important, for example, in order to ensure the effectiveness of private enforcement of EC competition law, in particular after the recent policy decision to increase the incentives for private enforcement in Europe, that plaintiffs in Continental jurisdictions are not put in a different position than plaintiffs in Common law jurisdiction, in relation to the production of economic evidence. The principle of procedural autonomy may explain the lack of European procedural rules in the past. However, it is clear that, in some areas, procedural harmonization of national law has already started, following the need for greater effectiveness in EU law enforcement, an important example being EC competition law¹². Many proposals have been made as to the development of a European framework regarding disclosure and production of evidence, in general, and economic evidence in particular, in competition law. The *Green paper* adopted by the European Commission on action for damages raised the problem of expert witnesses but seemed to understate their importance and suggested instead the possibility for the parties to "agree on an expert to be appointed by the court rather than by themselves" (Option 35): The explanation given for such a reduced role for expert witnesses was the following:

established for the specific purpose of contesting or defending" (the contested decision). The Court took, however, into account the expertise referred to in the Commission's decision (which included submissions by party appointed experts). The reticence of the Court to examine economic arguments that were not included in the decision may be explained by the important margin of appreciation the case law of the EC Court recognizes to the European Commission in the context of complex economic assessments (actions for annulment); Joined Cases T-259-264 & 271/02, *Raiffeisen Zentralbank Österreich AG v. Commission* [2006] ECR II-5169, para 265 et seq. (impact of a cartel); Case T-271/03, *Deutsche Telekom v. Commission* [2008] not yet published, para 153 (on the abusive nature of margin squeeze).

¹¹ Eric Barbier de la Serre & Anne-Lise Sibony, above, at 968. The authors refer to case T-464/04, *Impala v. Commission* [2006] ECR II-2289, para 345 ("the data prepared by the economic advisers to the parties to the concentration, quite apart from the fact that it is impossible to see how they might permit the conclusion which the Commission draws from them, are unclear and do not appear to be reliable"). More analysis of the substantive assessment by the EC Courts of the economic expertise is presented in Section 5.2.

¹² The Ashurst Study on the conditions of claims for damages in case of infringement of EC competition rules notes as one of the main obstacles to damages actions in EC competition law commissioned by the European Commission (2004), available at http://ec.europa.eu/comm/competition/antitrust/actionsdamages/comparative_report_clean_en.pdf, at 2, noted "the fact that non-specialised courts, often without the necessary expertise, are competent to hear such claims", thus linking the question of expertise to that of effective enforcement of EC competition law. As the Report notes (at p. 10), "Greater recourse to greater expertise could improve predictability in the application of the law".

“Given the complexity of damages actions for infringement of antitrust law, use of expertise in court is particularly important to ensure efficient proceedings. If experts were appointed by the court, cost savings might result since fewer experts would be required. This would also reduce the multitude of experts giving conflicting evidence, depending on their client’s standpoint”¹³.

The recent European Commission’s *White paper* on damages actions ignored, however, the issue of expert witnesses versus court-appointed experts¹⁴.

In essence, three problems may be identified: first, the issue of the increasing costs of litigation, because of the appointment of experts (private costs), thus putting non deep-pockets plaintiffs in disadvantage in relation to corporate defendants; second, the issue of the increasing length of the litigation and the social costs that this entails; and third, the issue of the limited quality (in the sense of independence and reliability) of partisan expertise, in relation to court-appointed experts. The first is a non-problem: parties will anyway be inclined to employ experts just in order to be able to prepare the case and eventually to scrutinize the court-appointed expert: the costs would be incurred in all circumstances¹⁵. The second problem will also occur if the court decides to appoint neutral experts. The third problem, the issue of impartiality, constitutes therefore the main reason explaining the distrust to expert witnesses.

Expert witnesses are paid by the respective parties and therefore are bound to be partisans “rather than being disinterested and hence presumptively truthful, or at least honest, witnesses”.¹⁶ This does not necessarily mean that expert witnesses are hired guns but that the experts are dependent on the parties in order to collect data, such as costs, output, sales prices, market shares that are not on the public domain. One could also add that parties have the incentive to present expert evidence that favours their case and that they will inevitably have a selection bias in favour of experts that represent a position which is close to them.

The collection and analysis of the data involves some degree of discretion, with regard to the relevant data and the methodology applied. “The selected and omitted data will determine the final results, and may be used in such way that the desired outcome, the one aligned with the parties discourse, is achieved”¹⁷. Mathematical modelling also requires the choice by the analyst of the relevant facts and of a limited

¹³ European Commission, Green paper – Damages actions for breach of the EC antitrust rules, COM(2005) 672 final, at p. 11. See also, Ashurst Report, at 11, “this source of expertise (expert witnesses) may not bring with it the same guarantees of independence that can to a greater or lesser extent be associated with, for example, court appointed experts or opinions/decisions of national competition authorities. Moreover, the use of experts can significantly increase the costs of litigation, acting as a disincentive to private actions and where appointed by the parties could result in the economically stronger party being favoured. Finally, the use of court appointed experts in place of party appointed experts would help avoid duplication of costs”. See also the discussion in Commission Staff working paper, SEC(2005) 1732, para 255-260.

¹⁴ European Commission, White Paper on Damages Actions for Breach of the EC antitrust rules, COM(2008) 165.

¹⁵ Andrew Gavil, ‘The Challenges of Economic Proof in a Decentralized and Privatized European Competition Policy System: Lessons from the American Experience’, (2008) 4(1) *Journal of Competition Law and Economics* 177, at 203.

¹⁶ Richard A. Posner, ‘The Law and Economics of the Economic Expert Witness’, (1999) 13(2) *Journal of Economic Perspectives* pp. 91-99, at 93.

¹⁷ Juan D. R. Gutiérrez, ‘Expert Economic Testimony, Economic Evidence and Asymmetry of Information in Antitrust Cases’, (October 2007): Available at SSRN: <http://ssrn.com/abstract=1023494>, at 2.2.3.

number of variables¹⁸. Simplification always leads to the exclusion of a number of facts and there is the risk that the expert may eliminate these facts in order to obtain a predefined result that would be favourable to her client. Richard Posner was right to observe that experts may hide behind “an impenetrable wall of esoteric knowledge” and therefore can easily mislead judges and juries¹⁹.

Finally, opposing experts can cancel each other out, with the result that the judge will ignore their expertise and decide the case using a principles-based approach, rather than on detailed analysis, or on the basis of non-expert intuition. This is particularly true for economics, where because of the relative importance of the assumptions of the economist, her prior beliefs or the lack of considerable empirical research in the area of competition economics, it is possible that disagreement between experts may occur more frequently than in “harder” scientific disciplines.

There are certainly areas of economics where there is an overwhelming consensus over the anticompetitive character of certain business practices in a specific setting. However, as it is highlighted by Posner,

“(w)here the use of economic experts is more problematic is in the areas of economics on which there is no professional consensus. This used to be and to some extent still is the situation with regards to antitrust economics. A perfectly respectable economist may be an antitrust “hawk”, another equally respectable economist an antitrust dove. Each might have a long list of reputable academic publications fully consistent with systematically pro-plaintiff or pro-defendant testimony, and so a judge or a jury would have little basis for choosing between them”²⁰.

The partiality/partisan character of expert witnesses is one of the main problems identified with this model of expertise, if one adopts the traditional view of experts as educators or translators. The possible strategic/opportunistic behaviour of the parties (in selecting their experts) and of the economic experts (acting as “hired guns” for the parties and not representing a “neutral” scientific view point) is a related claim. The risk is perceived as particularly significant in the United States, where the important role of the jury in the process of judicial decision-making reduces the ability of judges to monitor the process of expertise. This criticism assumes that juries are less capable than non-expert judges to comprehend complex economic expertise. This assumption seems to be influential in the US, as the courts have established a complexity exception to the Seventh Amendment right to jury trial under the U.S. Constitution if that would impair the Fifth Amendment’s due process right to have a rational and fair adjudication in certain circumstances (technically complex issues)²¹.

Concerns about the impartiality of expertise have been the main justification for the reform of expert evidence in civil procedure in recent years in the UK. Lord Woolf noted in his Interim *Access to Justice* Report that

“(m)ost of the problems with expert evidence arise because the expert is initially recruited as part of the team which investigates and advances a party’s contentions and then has to change roles and seek to provide the independent expert evidence which the court is entitled to expect. As Lord Wilberforce, in *The Ikarian Reefer* (1993, 2 Lloyds Reports 68) stated, “It is necessary that

¹⁸ Ibid.

¹⁹ Richard A. Posner, “The Law and Economics of the Economic Expert Witness”, above, at 93.

²⁰ Ibid., at 96.

²¹ See, for an application of this exception in antitrust, *In re Japanese Electronic products Antitrust Litigation*, 631 F.2d 1069 (3d Cir. 1980).

expert evidence presented to the court should be and should be seen to be the independent product of the expert uninfluenced as to form or content by the exigencies of litigation." In many cases the expert, instead of playing the role identified by Lord Wilberforce, has become ... 'a very effective weapon in the parties' arsenal of tactics'.²²

In addition, Lord Woolf observed the fact that, employing expert witnesses, may lead to considerable delay and costs in litigation with the "shortage of experts" that are "sympathetic to particular causes" and the "tendency of solicitors to rely on the experts who are familiar to them".²³ The problem of impartiality, and consequently, of moral hazard that might exist between judges and expert witnesses, has been an important concern in the organization of judicial procedure and has led to proposals to reinforce the monitoring role of the judge in the process (the "case management" system) in the UK, an experience which could be helpful at the EU level as well.

The objective of the "case management" system is to increase the impartiality of the process of expertise by creating instruments that attempt to loosen the links that exist between the expert witness and the parties. This is done either by not putting the accent on the adversarial dimension of the process or by emphasizing the "scientific" dimension of the debate between the different experts (limitation of the "material" aspect of the dispute). I will analyze briefly two procedures: the hot tub (or the organization of pre-trial conferences between experts) and the possibility for the parties to appoint a single joint expert.

The "hot tub" procedure, developed by the Australian Competition Tribunal in the 1970s²⁴, aims to maintain the basic principles of the adversarial system, while at the same time to orchestrate interaction among experts. Economists submit written statements prior to the oral proceedings, but after they have received written non-expert evidence. Then, at the conclusion of the oral evidence but prior to counsel's submissions, they may be called upon to participate in a short seminar or debate before the Tribunal. The procedure ensures that the experts called have an opportunity to deal with the case on the basis of the evidence adduced and the issues raised by both parties in a disconnected way. During these "concurrent evidence sessions", expert witnesses may make extended statements and comments on the evidence presented by the other experts. In this part of the procedure, the judge, and not the lawyers of the parties, has the control: there is no cross-examination by the lawyers. The second part of the procedure is the classic adversarial trial: lawyers take control and they may cross-examine the expert witnesses. The process attempts to emulate the environment of a scholarly scientific debate in a colloquium, rather than the environment of the conventional adversarial proceedings. The "hot tub" procedure attempts to limit partisanship, enhance communication and joint analysis between the experts and reduce the time of the trial by narrowing the debate to the real issues, as these are perceived by the experts.

One of the important innovations brought in the UK Civil Procedure Rules (CPR) following Lord Woolf's report has been the concept of the single joint expert.

²² Lord Woolf, Access to Justice, Interim report to the Lord Chancellor on the civil justice system in England and Wales, June 1995, chapter 23, para 5, available at <http://www.dca.gov.uk/civil/interim/woolf.htm>.

²³ Ibid., para 13.

²⁴ Gary Edmond, "Secrets of the 'Hot Tub': Expert Witnesses, Concurrent Evidence and Judge-led Law reform in Australia", (2008) 27 Civil Justice Quarterly 51, at 58; Maureen Brunt, "Antitrust in the Courts: The Role of Economics and of Economists", Chapter 20 in Barry Hawk (ed.), 1998 Fordham Corporate Law Institute – International Antitrust Law and Policy (1999), 357, at 364-366.

If the issue is not contentious, the parties are encouraged to use a single joint expert. Part 35.7 of the Civil Procedure Rules endorses Lord Woolf's suggestions: "where two or more parties wish to submit expert evidence on a particular issue, the court may direct that the evidence on that issue is to be given by one expert only"²⁵. Where the instructing parties cannot agree on who the expert should be, the court may either select the expert from a list prepared by the instructing parties or may devise a different procedure to select the expert²⁶. The UK Civil Procedure Rules include also procedures that facilitate the interaction between expert witnesses: "(t)he court may, at any stage, direct a discussion between experts for the purpose of requiring the experts to identify and discuss the expert issues in the proceedings and to where possible, reach an agreed opinion on those issues"²⁷. The court keeps a dominant role in the process: first, it specifies the issues the experts should discuss, second, it directs the discussion between experts, who should complete a statement showing to the Court the issues they agree and the issues and reasons they disagree. However, the revision of the CPR did not go as far as ending the adversarial character of the proceedings. First, the content of the discussion between the experts cannot be referred to at the trial unless the parties agree. Second, "(w)here experts reach agreement on an issue during their discussions, the agreement shall not bind the parties unless the parties expressly agree to be bound by the agreement"²⁸.

B. Court-appointed experts

In the presence of conflicting expertise, the judge may decide to appoint a "neutral" expert. A neutral expert will mitigate the risk of impartiality that mines the option of expert witnesses. According to article 25 of the Statute of the Court of Justice, the Court may at any time entrust any individual, body, authority, committee, or other organisation it chooses with the task of giving an expert opinion. The ECJ may order, as a measure of inquiry and after hearing the Advocate general, the commissioning of an expert's report.²⁹ Similarly, according to article 65(d) of the Rules of procedure of the Court of First Instance, "the CFI may request the commissioning of an expert's report". Furthermore, according to Article 70 of the Rules of procedure of the CFI:

"the CFI may order that an expert's report be obtained. The order appointing the expert shall define his task and set a time-limit within which he is to make his report. After the expert has made his report, the CFI may order that he be examined, the parties having been given notice to attend. Questions may be put to the expert by the representatives of the parties".

Either of the parties may request the appointment of a neutral expert. The appointed experts are not instructed by the parties but by the judge³⁰. The EC Courts may also commission an expert's report *ex officio*³¹. The expert operates under the supervision of the Judge Rapporteur³². The process is, to some degree, adversarial in the sense that the parties should be able to follow the neutral expert's work (e.g. be shown the

²⁵ Part 35.7 of the CPR (Civil Procedure Rules).

²⁶ *Ibid.*

²⁷ Part 35.12 of the CPR.

²⁸ *Ibid.*

²⁹ Article 45 of the ECJ Rules of procedure.

³⁰ Compare with Rule 35.7 CPR.

³¹ Eric Barbier de la Serre & Anne-Lise Sibony, above, at 944.

³² Art. 49(2) of the ECJ Rules of Procedure; Art. 70(2) of the CFI's Rules of procedure.

documents he has taken into account) or should have the opportunity to make their views known during the preparation of the expert's report and put questions to the expert³³, in particular if the report is likely to have a "preponderant influence on the assessment of the facts by the court"³⁴.

The appointment of experts by courts mitigates the risks associated with the epistemic asymmetry between judges and experts, in particular the problem of biased expertise. Court-appointed experts have the incentive to present a balanced position that would rely on principles and views for which there is a broad consensus in the community of academic economists. The view of the neutral expert will acquire authority only if it is vested with "objectivity", in other words it has the support of the impartial, because not linked with the material interests of the case, community of academic economists. A legal system that made the choice of court-appointed experts, instead of expert witnesses, thus favours the appointment of economists that represent the middle ground, not antitrust "hawks" or "doves".

On the contrary, a system based on expert witnesses "favors the selection of experts with extreme views, rather than views that are representative of the scientific community", which may give the impression that "there is less consensus in a field than actually exists"³⁵. This may explain why the idea that there are conflicting schools of antitrust analysis that influence periodically antitrust discourse has not been as influential in framing the competition law debate in Europe, in comparison to the US. This hypothesis needs to be empirically verified. Academic economists will have the incentive to adopt middle ground views, in order to increase their chances to be appointed as court-appointed experts. The system of court-appointed experts will alter the incentives of antitrust economists and lead to a different kind of specialisation: some economists will specialise in providing expertise to courts or antitrust agencies, others in providing support to the litigants as "shadow" experts or party experts in common law jurisdictions. This strengthens the boundaries between the community of academic economists and that of professional forensic economists. Academic discourse will evolve independently, thus providing a useful check to the views advanced by forensic antitrust economists. In other words, the institutional choice of a court-appointed experts system may have important effects on the evolution of research in economics, as it will dissociate the market for forensic/partisan economists from that of academic economists.

The system of court-appointed experts presents, however, important shortcomings. First, it may reduce the adversarial character of the procedure. This could be problematic for two interrelated reasons: first, there is a higher risk of error if the judge is advised by one expert instead of being confronted to an array of expertise and, in some cases, the judge cannot be confident that the picked expert is "a genuine neutral"³⁶. Second, the system assumes that there is an objective scientific

³³ Art. 49(5) of the ECJ Rules of Procedure. See also, Art. 46 of the ECJ Rules of Procedure.

³⁴ These procedural guarantees are necessary, following the case law of the European Court of Human Rights on the interpretation of Article 6(1). According to the Court, there is an abstract principle that where an expert has been appointed by a court, parties must in all instances be able to attend interviews held by him or to be shown documents he has taken into account: European Court of Human Rights, Judgment of 18 March 1997, *Mantovanelli v. France*, Online. UNHCR Refworld, available at: <http://www.unhcr.org/refworld/docid/3ae6b68820.html>, para 36 [accessed 1 December 2008] quoted and examined by Eric Barbier de la Serre & Anne-Lise Sibony, above, at 947.

³⁵ Joseph Sanders, "The Merits of the Paternalistic Justifications for Restrictions on the Admissibility of Expert Evidence", (2003) 33 *Seton Hall L Rev* 881, 921.

³⁶ This risk may be addressed by directing the party-designated experts to agree upon a neutral expert whom the judge will appoint as the court's expert: see, Daniel L. Rubinfeld, "Econometrics in the

knowledge/”truth” that the neutral expert will be able to discover and present. This does not take into account the pluralistic character of economic discourse. The expert may have particular assumptions and may defend the ideas of his “school” or “network”. The system of court-appointed experts will tend to maintain the *status quo*, represented by mainstream and well accepted economic theories, and will reduce the opportunity for minority views to gain access to the courtroom.

The appointment of a panel-college of experts rather than one expert may avoid this problem, although it will most probably lead to higher litigation costs. This possibility exists and has already been used in the context of the WTO. Article 13 of the Dispute Settlement Understanding (DSU) provides that “each panel shall have the right to seek information and technical advice from any individual or body which it deems appropriate” (Art. 13.1) and that “with respect to a factual issue concerning a scientific or other technical matter raised by a party to a dispute, a panel may request an advisory report in writing from an expert review group” (Art. 13.2). The procedure for the appointment of expert review groups is set out in detail in Appendix 4: the expert review groups are under the WTO panel's authority and file a final report to the panel after they have submitted a draft report to the parties to the dispute with a view to obtaining their comments, and taking them into account, as appropriate. The panels have employed the possibility offered by Article 13.2 in a number of cases, although the panel did not usually ask for a consensus report from the experts and preferred to obtain their opinions individually.³⁷ A possible explanation lies on the composition of the WTO panels that are usually formed by well-qualified governmental and/or non-governmental individuals with “a sufficiently diverse background and a wide spectrum of experience”, chosen according to their specific expertise in “the sectors or subject matter of the covered agreements” (Art. 8.2. and 8.4. of the DSU).

In other words, the WTO panel can be compared to a specialised court: the members of the jurisdiction feel confident in their expertise to assess conflicting scientific evidence. The fact that this procedure has proven successful in the context of specialised courts does not therefore imply that it will be adequate in the context of generalist courts. The EC Courts have appointed several experts but the experts were asked to produce a single report, “a means of narrowing down the scope of the dispute over facts”³⁸. The aim is not to provide the judge with an array of competing explanations from which he has to make a choice, based on some normative principle or other instrumental objective, but to simplify the decision making process by offering to the judge an “objective” representation of the scientific knowledge of the field from which he can easily draw authoritative conclusions. In practice, the judge

Courtroom”, (1985) 85 Columbia L Rev 1048, 1096. According to Judge Posner in re High Fructose Corn Syrup Antitrust Litigation, 295 F.3d 651, 665 (2002, 7th Cir.), “the judge and jury can repose a degree of confidence in his testimony that it could not repose in that of a party’s witness. The judge and the jury may not understand the neutral expert perfectly but at least they will know that he has no axe to grind, and so, to a degree anyway, they will be able to take his testimony on faith”. This procedure has already been used at the European Court of Justice: see, Case 48/69, ICI v. Commission [1973] ECR 619, 726-727. In other circumstances, the parties may decide to pool the necessary information (statistical data) by common agreement, thus avoiding the appointment of an expert: Joined cases T-68, 77 & 78/89, Societa Italiana Vetro SpA v. Commission [1992] ECR II-1403, para 43.

³⁷ David Palmetier & Petros Mavroidis, *Dispute Settlement in the World Trade Organization* (Cambridge Univ. Press, 2004), at 121-123.

³⁸ See, Eric Barbier de la Serre & Anne-Lise Sibony, above, at 945, note 21. It should also be noted that Article 70 of the CFI Rules of procedure seems to exclude the possibility of appointing more than one experts: See, Anne-Lise Sibony, *Le juge et le raisonnement économique en droit de la concurrence* (LGDJ, 2008), at 562, footnote 259.

delegates her adjudicatory authority to the experts by adopting as such their findings.³⁹

Second, there is also the difficulty of devising a procedure of appointment of really neutral experts. The judge may appoint an expert chosen from a list submitted by the parties⁴⁰. However, in EU law, the neutral expert is not instructed by the parties but appointed by the judge. There is no indication in the Statute of the Court and the ECJ and CFI internal rules of procedure on the method of appointment of experts other than that the parties may object to the appointment on the ground that the expert is not competent or the proper person to act as an expert.⁴¹ The procedure for the appointment of neutral expert(s) should ensure impartiality (independence from the material interests of the case) but also achieve the representation of different perspectives/positions that could be relevant for the adjudication of the specific case.

Some authors advance the view that the procedure used to select arbitrators could provide some important insights⁴²: “a common method of selecting arbitrators is for each party to choose an arbitrator and for the two arbitrators to then choose a neutral, who generally casts the deciding vote”⁴³. Other possibilities include the appointment of experts from a list of experts registered in the EU and national courts⁴⁴ or from a list of experts of the specific field nominated/suggested by professional associations, such as the European Economic Association. However, it is unclear from the Statute of the Court or the internal rules of procedure how the judge should proceed if the parties do not agree with the choice of the expert⁴⁵. Furthermore, there is nothing that guarantees that the neutral experts will not be biased, in particular in situations where they frequently participate as partisan experts in antitrust litigation and have therefore the interest to ensure consistency between the views expressed when they act as a court-appointed expert and those when they act as partisan experts. Intellectual interest bias may also be an important concern, if the expert favors a position for the simple reason that it reinforces his “school” or “network”.

Third, the EC Courts have rarely appointed experts in practice.⁴⁶ The European Courts have ordered an expertise in the *Dyestuffs* and the *Wood Pulp* cases. In *Dyestuffs*, the Court ordered an expert’s report after it had appointed two experts following the common agreement between the parties on the names of the two experts⁴⁷. The commissioning of a neutral expert’s report was justified by the

³⁹ *Ibid.*, pp. 962-964 (noting that “once the EC Courts have decided to rely on an expert’s report, they rarely question its conclusions. The experts are therefore used as actual assessors”).

⁴⁰ This is the procedure mostly employed for the appointment of single joint experts in the UK. Rule 35.7 CPR.

⁴¹ Art. 50 of the ECJ Rules of Procedure; Art. 73 of the CFI Rules of Procedure. Article 25 of the Statute of the ECJ, “The Court may at any time entrust any individual, body, authority, committee or other organisation it chooses with the task of giving an expert opinion”.

⁴² Daniel Rubinfeld, “Econometrics in the courtroom”, above, at 1096.

⁴³ Richard A. Posner, “The Law and Economics of the Economic Expert Witness”, above, at 96.

⁴⁴ See the proposals in Eric Barbier de la Serre & Anne-Lise Sibony, above, at 977-978.

⁴⁵ Eric Barbier de la Serre & Anne-Lise Sibony, above, at 946, footnote 25 note that “in at least one instance, the Court took a preventive step and ensured that parties consented to the Court’s choice for a court-appointed expert”, referring to Opinion of A.G. Darmon in Joined Cases C-89, 104, 114, 116, 117 & 125-129/85, *Ahlström and Others v. Commission*, [1993] ECR I-1445, para 333, where “the Court also submitted the draft questions to the parties” (para. 339).

⁴⁶ Eric Barbier de la Serre & Anne-Lise Sibony, above, at 949, document 25 cases overall (including competition law cases).

⁴⁷ Case 48/69, *ICI v. Commission* [1973] ECR 619, 726-727. The two neutral experts who were finally appointed by the Court (Horst Albach and Wilhelm Norbert Kloten) were different from the ones the

divergent opinions defended by the expert witnesses of the parties with regard to the plausibility of a concerted practice in the oligopolistic dyestuffs market⁴⁸. In *Wood Pulp*⁴⁹, the Court had initially ordered an expert's report on the existence of a price parallelism in the market and then a second expert report on the presence, or not, of a causal link between the price parallelism and the alleged horizontal concertation⁵⁰. The Court adopted the conclusions of the experts' reports⁵¹, despite the substantial objections raised by the Commission (which were also based on an expert's report) and the extensively argued reticent opinion of AG Darmon to accept all the court-appointed experts' conclusions.⁵²

Barbier de la Serre and Sibony explain the few instances the European courts appointed neutral experts by the conjunction of a number of factors: strict substantive requirements ("the EC Courts do not commission an expert report unless the evidence before it is deficient in some material respect or the requesting party provides prima facie evidence in favour of his argument"), the specificity of the EC courts function, the costs and length of the procedure, the margin of appreciation enjoyed by the European Commission in certain fields, or the EC courts reliance on their own expertise⁵³. A consistent trend is also that the courts generally adopt as such the conclusions of neutral experts⁵⁴.

Fourth, an additional difficulty with court-appointed experts in the European context exists in situations where the EU Courts intervene in the process of judicial review of a Commission's decision. Under Article 230 EC, when the appreciation of the facts involves complex economic assessments, the European Commission benefits from a considerable margin of appreciation. The CFI observed in *Microsoft* that

"...it follows from consistent case-law that, although as a general rule the Community Courts undertake a comprehensive review of the question as to whether or not the conditions for the application of the competition rules are met, their review of complex economic appraisals made by the Commission is necessarily limited to checking whether the relevant rules on procedure and on stating reasons have been complied with, whether the facts have been accurately stated and whether there has been any manifest error of assessment or a misuse of powers.

Likewise, in so far as the Commission's decision is the result of complex technical appraisals, those appraisals are in principle subject to only limited review by the Court, which means that the Community Courts cannot substitute their own assessment of matters of fact for the Commission's

parties had initially suggested in their submissions: Friederich A. von Hayek for the applicants and Erhard Kantzenbach for the European Commission.

⁴⁸ For a description of the conflicting views and/or expert reports, see Case 48/69, above, at 720-724.

⁴⁹ Joined Cases C-89, 104, 114, 116, 117 & 125-129/85, *Ahlström & Others v. Commission* [1993] ECR I-1445.

⁵⁰ *Ibid.*, para 31-32

⁵¹ *Ibid.*, para 126-127 & 137

⁵² Opinion of A.G. Darmon in Joined Cases C-89, 104, 114, 116, 117 & 125-129/85, above, at I-1525-1547 (para 331-333 for the conclusions). AG Darmon criticized the "economic models" used by the experts, which did not seem coherent or comprehensive in explaining all the different facts of the case).

⁵³ Eric Barbier de la Serre & Anne-Lise Sibony, above, at 949.

⁵⁴ See, for instance, Joined cases 24/58 & 34/58, *Chambre syndicale de la sidérurgie de l'est de la France and others v. High Authority of the European Coal and Steel Community* [1960, English special edition] ECR 281, at 293 ("on the basis of the findings of the expert's report which it adopts and accepts as its own...").

However, while the Community Courts recognise that the Commission has a margin of appreciation in economic or technical matters, that does not mean that they must decline to review the Commission's interpretation of economic or technical data. The Community Courts must not only establish whether the evidence put forward is factually accurate, reliable and consistent but must also determine whether that evidence contains all the relevant data that must be taken into consideration in appraising a complex situation and whether it is capable of substantiating the conclusions drawn from it⁵⁵.

The Courts usually rely on the Commission's economic appreciation, in particular if the latter based its decision on specially commissioned expert reports, and they do not take the risk of appointing a neutral expert who will second-guess the Commission's expert analysis. In some recent merger control cases⁵⁶, however, the Court addressed directly the economic arguments advanced by the parties and, according to some authors, the judges have endorsed the role of economic expert for themselves⁵⁷. This is certainly an improvement from previous case law where the judges of the Court had relied on their own analysis of the issue, although this was very remotely based on economics⁵⁸.

C. Hybrid options

The greater recourse to economic analysis in competition has led to the development of additional options to the two main models of integration of economic expertise in courts. Particular emphasis is now given to the development of sources of internal economic expertise, in particular because of the important costs of contracting out (judge appointed expert) and the risks of relying on expert witnesses (moral hazard) in conjunction with the more intensive use of economic expertise after the modernization of European competition law. Déirdre Dwyer cites a number of variables that are taken into account in deciding the allocation of tasks in judicial decision-making. These can be whether the court should be unicameral deciding questions of law and fact, or bicameral, consisting of separate tribunals of law and fact, as it seems to be the case in the US with the allocation of tasks between judges and juries; whether those composing the court should be lawyers or non-lawyers; whether they are specialist in the factual subject matter in the case or not⁵⁹. Depending on the emphasis put on each of these variables, it is possible to identify different hybrid options that address the issue of epistemic asymmetry and expert bias.

⁵⁵ Case T-201/04, *Microsoft v. Commission* [2007] ECR II-3601.

⁵⁶ Case T-342/99, *Airtours v. Commission* [2002] ECR II-2585 ; Case 310/01, *Schneider Electric / Commission* [2002] ECR II-4071; Case T-5/02, *Tetra Laval v. Commission* [2002] II-4381; Case T-210/01, *General Electric / Commission* [2005] ECR II-5575; Case T-464/04, *Impala v. Commission* [2006] ECR II-2289; Case T-87/05, *EDP / Commission* [2005] ECR II-3745; Case C-13/03P, *Commission v. Tetra Laval* [2005] ECR I-1113; Case C-413/06, *Bertelsmann AG and Sony Corporation of America v Independent Music Publishers and Labels Association (Impala)* [2008] not yet published.

⁵⁷ See David Gerber, 'Courts as Economic Experts in European Merger law', in Barry E. Hawk (ed.), *Annual Proceedings of the Thirtieth Fordham Corporate Law Institute Conference on International Antitrust Law & Policy* (Juris Publishing, New York, 2003), 475-494.

⁵⁸ e.g. Case C-27/76, *United Brands Company and United Brands Continentaal BV v Commission* [1978] 207 and the "functional", mostly introspective, definition of the relevant market of bananas...

⁵⁹ Déirdre Dwyer, *The Judicial Assessment of Expert Evidence* (Cambridge Univ. Pres, 2008), at 34.

1. Assessors and special juries

The practice of assessors or special juries attempts to “incorporate the community of practice directly into the tribunal of fact”, thus adopting a bicameral approach in judicial decision-making⁶⁰. In the UK, the Court may decide to appoint assessors, a judge’s or magistrate’s assistant. Following the recommendations of Lord Woolf⁶¹, Rule 35.15 CPR gives the courts authority to appoint an assessor, with the aim to assist the court in dealing with the matter of her expertise and to “educate the judge”. Assessors (or technical advisors, as they are called in the US) are only appointed to assist the court to fulfil its obligations. Contrary to court-appointed experts, they are not strictly subject to the adversarial process, which may present some risks, in terms of methodological and substantive theory pluralism⁶², as well as from the point of view of a possible infringement of article 6(1) of the European Convention on Human Rights⁶³. One could also envision “special juries” involving specialists in the tribunal of facts⁶⁴.

2. Amicus curiae or advice from the competition authorities

According to Art. 15 of Regulation 1/2003,

“in proceedings for the application of Article 81 or Article 82 of the Treaty, courts of the Member states may ask the Commission to transmit to them information in its possession or its opinion on questions concerning the application of Community competition rules”

In addition, according to Article 15(3) of Regulation 1/2004,

“Competition authorities of the Member States, acting on their own initiative, may submit written observations to the national courts of their Member State on issues relating to the application of Articles 81 and 82. With the permission of the court in question, they may also submit oral observations to the national courts of the member State”.

When the coherent application of Article 81 or 82 so requires, the Commission, acting on its own initiative, may submit written observations to courts of the Member States and with the permission of these courts may make oral observations.

However, there is no possibility, at least with the current procedural rules for economists, antitrust or economic associations (e.g, the Association of Competition Economists) to act as *amicus curiae*.

3. Internal economic expertise (clerks, research and documentation units in courts formed by economists)

⁶⁰ *Ibid.*, at 112.

⁶¹ Lord Woolf, Access to Justice: Interim Report to the Lord Chancellor on the civil justice system in England and Wales (June 1995) available at <http://www.dca.gov.uk/civil/interim/woolf.htm>, Chapter 23, point 24.

⁶² The US Federal rules on procedure distinguish between the situation of a judge appointed expert, subject to cross-examination (Rule 706 Federal Rules) and technical advisors (Rule 104a).

⁶³ See the analysis in Déirdre Dwyer, *The Judicial Assessment of Expert Evidence* (Cambridge Univ. Pres, 2008), at 323-332.

⁶⁴ For an historical perspective see, Déirdre Dwyer, *The Judicial Assessment of Expert Evidence*, above, at 261-263.

A further option could be to recruit economists as judicial clerks. This may be an option to explore at the EU Courts level but they are presently very few judicial clerks working at the Court of First Instance and the European Court of Justice with some form of economic background. It is also possible to recruit economists at the Research and Documentation Unit of the EU Courts. The Judge-Rapporteur could request from the Research and Documentation unit to prepare a research note on economic authority issues that could be used by the Court. The systematic training of judges in competition law and economics may provide an additional option, although the outcomes of these training programmes do not seem to make an important difference, if one measures their effect with regard to the number of cases that were appealed successfully⁶⁵. Finally, it is possible for economists to be members of the EU and national jurisdictions enforcing competition law. Historical examples are not lacking: French economist Jacques Rueff was a judge at the European Court of Justice from 1958 to 1962, unfortunately some years before the main competition law cases brought to the Court. In 2004, economist Frédéric Jenny was appointed a judge at the French Supreme Court (*Cour de Cassation*).

4. Specialised or trans-disciplinary courts

One could also imagine a system where competition disputes will be brought only to specific courts with judges trained in competition law and economics⁶⁶. It would be possible to constitute a specific competition law section at the generalist court or proceed by “opinion specialization”, that is, select the judges that will sit in competition law cases only from those with considerable experience in the field, which is what apparently happens in practice⁶⁷. A specialised court, such as the Competition Appeal Tribunal (CAT) in the UK could be another option. There have been some proposals for the constitution of a specialised European court in competition law⁶⁸. The Court would be composed by distinguished academics, practitioners with experience in the field of competition law and economics. I would be in favour of such a proposal. I consider that the risks that are usually linked with this type of specialist courts (e.g. the DC Federal Circuit as an IP court in the US; IP courts favour IP owners and interpret IP statutes extensively) are less likely to materialise in competition law. It is also highly desirable to reduce the epistemic asymmetry between experts and judges, without at the same time reduce the adversarial dimension of the procedure.

⁶⁵ Michael R. Baye & Joshua D. Wright, ‘Is Antitrust Too Complicated for Generalist Judges? The Impact of Economic Complexity & Judicial Training on Appeals’ (January 27, 2009). George Mason Law & Economics Research Paper No. 09-07. Available at SSRN: <http://ssrn.com/abstract=1319888> .

⁶⁶ This is the case in France, where the appeals to the decisions of the Autorité de la concurrence are brought to the Court of appeal of Paris. In addition, there is a specific number of Court of appeals hearing competition cases and the judges of these specialized chambers receive training in competition law and economics (Discussion with Judge Frédéric Jenny, May 2008).

⁶⁷ For an analysis of ‘opinion specialization’ see the empirical research of Edward K. Cheng, ‘The Myth of the Generalist Judge’, (2008) 61 Stanford L Rev 519.

⁶⁸ See, Confederation of British Industry (CBI) proposal for the creation of an EU Competition Court, CBI Report, 15 June 2006. The suggestion has been examined by the House of Lords, European Union Select Committee, 15th report of Session 2006-07, An EU Competition Court, HL Paper 75, 23 April 2007. For a further discussion see, Christopher Bellamy, ‘An EU Competition Court: the continuing debate’, this volume.

D. Substantive assessment of economic expertise

It is possible to distinguish two steps in the substantive assessment of economic evidence. First, there is the issue of the admissibility of economic expertise (which is linked to reliability of the expert's methodology). Second, an additional issue is the weight to be attached to the economic expertise that was found reliable. The two stages are clearly separated in US law, which recognizes a gatekeeper function to the judge: the later has to exclude problematic expertise, such as "junk science", "hired guns" etc from being heard by the jury. This is mainly the result of the specificities of the US legal system, in particular the right to be judged by a jury, and the risk that this entails if a jury of non-specialists hears problematic expertise, without being capable of distinguishing "scientific" from "un-scientific" statements.

Adopting specific rules on the admissibility of expertise was justified in the US by the numerous tort liability claims that relied on questionable expertise. The issue is not therefore specifically related to antitrust. The structural problem is, however, the same in both situations: the existence of a number of incentives that favour excessive (rent-seeking) private litigation. This problem is not as acute in EU competition law, where private enforcement of competition law is still nascent. Therefore, there is no specific policy-based reason to adopt two different steps of assessing economic evidence in Europe.

Establishing rules regulating the admissibility of economic evidence could also be subject to the same criticism. Clearly distinguishing between the two different steps may lead to the exclusion of important evidence that may rely on minority views in science but which could, at the same time, provide a more adequate explanation of the facts of the case and therefore a more plausible narrative. I would therefore oppose the exclusionary ethos, of clearly distinguishing between the two steps, with the discursive (but not necessarily inclusive) ethos of assessing evidence by defining the standard of proof (which could also be expressed as the standard of persuasion) to be reached in each circumstance. The exclusionary approach followed in the US mainly asks from the judge to compare the methodologies used with what is acceptable in the discipline. The discursive approach forces the judge to engage with the expert's discipline itself and in particular with the substance of economic authority before reaching her decision.

Following common law precedent, the US courts have long recognized that expert testimony must be subject to a strong and careful judicial gatekeeper function. The idea is that although recourse to expertise and economic authority involves some form of delegation of the translation task to be performed to the expert, the judge should keep some form of control of the process of translation⁶⁹.

The DC Circuit laid down a test to determine the admissibility of pure opinion expert testimony (opinion not based on own experience, observation or research) in *Frye v. United States*⁷⁰. Under the *Frye* standard expert testimony was admissible only if the methodology was generally accepted (consensus has been reached) in the relevant scientific community⁷¹. The traditional common law test accorded a

⁶⁹ As it is noted by Rochelle Cooper Dreyfuss, 'Is Science a Special case? The Admissibility of Scientific Evidence After *Daubert v. Merrell Dow*', above, at 1786, "the problem ... is that scientists mainly evaluate the research involved in their own pursuit of knowledge; they do not necessarily pay attention to research that is conducted at the behest of other people, such as litigants".

⁷⁰ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

⁷¹ *Ibid*, at 1014, "a novel scientific technique "must be sufficiently established to have gained general acceptance in the particular field in which it belongs".

considerable importance to the marketplace in order to delimit the boundaries of admissible scientific knowledge: the admissibility of expertise was dependent on the expert's success in a profession/community that embraced that knowledge (commercial marketplace test)⁷². The validity of the expert's opinion was tested by cross-examination of the expert witnesses, in essence by the adversarial process. The *Frye* test integrated means of recognition, which are external to the trial, by developing the concept of "general acceptance" in the particular field/scientific community: the commercial's marketplace acceptance or the adversarial system is not essential, one should also look to the marketplace of ideas (intellectual marketplace test)⁷³. The key issue is the diffusion of this specific method or knowledge in the relevant scientific discipline or opinion. Contrary to the previous common law standard that focused on demand, the acceptance of expertise by the market, and the adversarial process, the *Frye* test was offer-oriented and, at the same time, a form of out-sourcing of the assessment of the expertise: it is the scientific community that produces knowledge that is the final arbiter of the admissibility of the specific expertise. The Federal Rules of Evidence (FRE), enacted in 1975, included Rule 702, which created a statutory standard of "factual assistance" that seemed to be in conflict with *Frye*. Rule 702 of the Federal Rules of Evidence (FRE 702), which governs all proceedings in the U.S. federal court system and imposes restrictions on the admissibility of expert testimony:

"if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualifies as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise".

Rule 702 requires therefore a showing that (1) the proposed witness possesses an acceptable degree of expertise on a scientific technical or specialized matter and (2), that the evidence will facilitate the resolution of a purely factual dispute, thus ignoring the general acceptance criterion of *Frye*.

Concerning the first element of the test, Rule 702 provides that the expert witness is deemed to have the requisite degree of expertise if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. However, Rule 702 does not suggest any standard to appreciate these factors, either individually or collectively. The tension between the *Frye* test and the Federal Rules of Evidence was manifest in a number of low courts decisions that followed the enactment of the FRE. This led to a divergent interpretation of the Rules by different circuits, eventually pushing the Supreme Court to intervene in order to establish the definitive standard for assessing the admissibility of expert evidence.

In *Daubert*, the Supreme Court held that the "rigid" *Frye* standard did not survive the enactment of the "liberal" Federal Rules of Evidence that relaxed "traditional barriers to opinion testimony"⁷⁴, but also interpreted Rule 702 FRE as requiring that scientific expert testimony be grounded in the methodology and reasoning of science⁷⁵. The Court embraced reliability as the primary criterion for

⁷² David L. Faigman, Michael J. Saks, Joseph Sanders & Edward K. Cheng, *Modern Scientific Evidence*, Vol. 1 (2008-2009 Edition), at 6-7.

⁷³ *Ibid.*, at 9.

⁷⁴ *Daubert v. Merrell Dow Pharm, Inc*, 509 U.S. 579, 588-589 (1993)

⁷⁵ *Ibid.*, at 590.

admitting expert evidence as it collapsed the scientific standard of reliability (does the principle support what it aims to show?) and validity (does application of the principle produce consistent results?) into a legal standard of reliability: evidentiary reliability⁷⁶. However, in order to qualify as scientific knowledge, “an inference or assertion must be derived by the scientific method”⁷⁷. The evidence must be more than “subjective belief or unsupported speculation”⁷⁸.

The judge should also examine the “fit” of the expert testimony. Expert testimony should relate to the issues in the case. It should be “sufficiently tied to the facts of the case that will aid the jury in resolving the legal dispute”⁷⁹. This condition is primarily linked to relevance: “(e)xpert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful”⁸⁰. The expert testimony is admissible only if it is based upon sufficient facts or data (which excludes excessive speculation) and sound knowledge of the industry. The relevance requirement is interpreted restrictively so as to constitute a bias (presumption) for exclusion of scientific evidence. As the Ninth circuit explained on remand in *Daubert*,

“scientific expert testimony carries special dangers to the fact-finding process because it can be both powerful and quite misleading because of the difficulty in evaluating it. Federal judges must therefore exclude proffered scientific evidence under Rules 702 and 403 unless they are convinced that it speaks clearly and directly to an issue in dispute in the case and that it will not mislead the jury”⁸¹.

The standard for analyzing the fit of an expert’s testimony is “higher than bare relevance” but “lower than the standard of correctness”⁸². The fit requirement is important when economists rely on theoretical models. The justification should be fact-based. *Daubert* requires a thorough analysis of the expert’s economic model, which should not be admitted if it does not apply to the specific facts of the case.

Finally, the Courts examine the qualifications of the experts⁸³. In *Berlyn, Inc v. Gazette*, the district court excluded the testimony of the plaintiff’s expert, who was an experienced newspaper executive, on the relevant market in question, for the simple reason that he was not an economist or an attorney and had never published anything related to economics or antitrust: “general business experience unrelated to antitrust economics does not render a witness qualified to offer an opinion on complicated antitrust issues such as defining relevant markets”⁸⁴. In some cases the analysis of the expert’s qualifications leads the courts to the perilous exercise of characterizing the expert’s profile... In *Casper v. SMG*, the district court excluded the testimony of an expert detaining a J.D. (law degree) and a Ph.D in Economics. The Court looked to

⁷⁶ Ibid, at 590 & n. 9, “(i)n a case involving scientific evidence, evidentiary reliability will be based upon scientific validity”.

⁷⁷ Ibid.

⁷⁸ Ibid., at 590.

⁷⁹ Ibid., at 591.

⁸⁰ Ibid.

⁸¹ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311, 1321 (9th Cir. 1995); See also, re *Linerboard Antitrust Litigation*, 497 F.Supp.2d 666, 673 (E.D.Pa 2007); *United States v. Ford*, 481 F.3d 215, 220 n. 6 (3d Cir. 2007).

⁸² re *Linerboard Antitrust Litigation*, at 673; *United States v. Williams*, 2007 WL 1643197, 3 (3d Cir. Jun.7, 2007).

⁸³ In re *Paoli R.R. Yard PCB Litig.*, 35 F.3d 717 (3d Cir. 1994); *Raskin v. Wyatt Co.*, 125 F.3d 55, 66 (2d Cir. 1997), the courts make an initial determination as to whether the proposed witness qualifies as an expert before inquiring into whether the scientific testimony is both relevant and reliable.

⁸⁴ *Berlyn Inc. v. Gazette Newspapers, Inc.*, 214 F. Supp. 2d 530, 536 (D. Md. 2002).

the expert's resume and extensive list of publications and found that "he is most accurately characterized as a lawyer who also holds a doctorate in economics rather than an economist who also holds a law degree!"⁸⁵ The court found that the part of the expert's report was an impermissible legal opinion, as the expert's testimony relied on case law and statutes and the testimony given was speculative, the expert's inferences being based on subjective belief rather than a specific methodology⁸⁶.

In *Kumho Tire Company, Ltd & al. v. Patrick Carmichael*, the Supreme Court extended the "general gatekeeping obligation" of the judges not only to testimony based on scientific knowledge, but also to testimony based on technical and other specialised knowledge (therefore economic expertise)⁸⁷. An expert, whether basing testimony upon professional studies or personal experience, should employ in the courtroom "the same level of intellectual rigor that characterizes the practices of an expert in the relevant field"⁸⁸. As a result of *Kumho*, *Daubert's* criteria apply to all forms of technical expert testimony, including economic expertise in antitrust cases⁸⁹. In conclusion, the Supreme Court loosened the application of the *Daubert* test by indicating that not all the factors used to ascertain scientific validity might apply, or that they might apply differently to other areas of expertise.

The application of *Daubert* requires from the judge to assess "whether the reasoning or methodology underlying the testimony is scientifically valid" and "whether that reasoning or methodology properly can be applied to the facts at issue"⁹⁰. It is not clear which party has generally the burden to establish by a preponderance of the evidence standard that the expert testimony meets or does not meet the requirements of FRE 702⁹¹. The Courts take into account a certain number of

⁸⁵ Casper v. SMG, 389 F. Supp 2d 618, 620 (D.N.J. 2006).

⁸⁶ *Ibid.*, at 623.

⁸⁷ *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

⁸⁸ *Ibid.*, at 152.

⁸⁹ Previously to *Kumho*, some lower courts distinguished explicitly between natural and social sciences: see, *State of Ohio Ex Rel. Montgomery v. Trauth Dairy*, 925 F.Supp. 1247, 1252 (S.D.Ohio 1996), "neither economic or statistics seems to completely qualify as scientific knowledge [...] Although the proffered experts' testimony may not qualify as scientific knowledge, the reasoning of *Daubert* still applies". The district court observes, however, that

"the *Daubert* analysis should be modified in the case of social science or other non-scientific expertise. In this case the inquiry is whether the experts are testifying to economic, statistical or econometric knowledge that will assist the trier of fact to understand a fact in issue"

The focus is on the relevance of the advanced evidence rather than on its reliability. The Court indeed found that, "econometric and regression analyses are generally considered reliable disciplines" (*ibid.*). Since *Kumho Tire*, however, social science is subject to the same standards of reliability than natural sciences. The courts have certainly a margin of discretion, as the test is flexible to take into account the particular standards of the field, but according to the reliability standard, the evidence should at least always be testable.

⁹⁰ *Daubert v. Merrell Dow Pharm, Inc.*, at 593.

⁹¹ Compare *In re Scrap Metal Antitrust Litig.*, 2006 U.S. Dist. LEXIS 75873, at 49 (Daubert does not require that a party who proffers expert testimony carry the burden of proving to the judge that the expert's assessment of the situation is correct... (t)hus under *Daubert*, the rejection of expert testimony is the exception rather than the rule") with *Aventis Environmental Science USA LP v. Scotts Co.*, 383 F. Supp. 2d 488, 513 (S.D.N.Y. 2005); *Mcintosh v. Monsanto Co.*, 462 F. Supp. 2d 1025, 1032 (E.D. Mo., 2006), "(t)o satisfy the reliability requirement, the proponent of the expert testimony must show by a preponderance of the evidence both that the expert is qualified to render the opinion by a preponderance of the evidence and that the methodology underlying his conclusions is scientifically valid... Courts should resolve doubts regarding the usefulness of an expert's testimony in favor of admissibility"; *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007); *Discover Financial Serv.v. VISA USA Inc.*, 2008 WL 4615788 (S.D.N.Y. 2008), at 2;

factors, such as the qualifications of the expert, although this requirement may seem redundant as the parties have the incentive to signal that the expert hired is very competent and that his testimony will have a high quality. An expert's testimony must also "be grounded in an accepted body of learning or experience in the expert's field, and the expert must explain how the conclusion is so grounded"⁹². The Court mentioned in *Daubert* four non-exclusive factors that could be taken into account for the purpose of this inquiry:

First, it is important to determine whether a theory or technique is "scientific knowledge". According to the Court (which cited Hempel), "scientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes science from other fields of human inquiry"⁹³ According to the Court (citing this time Popper), "(t)he criterion of the scientific status of a theory is its falsifiability, or refutability, or testability"⁹⁴. In other words, the statements constituting a scientific explanation must be capable of empirical testing (which is compatible with the verificationism of Hempel and the falsificationism of Popper). However, the Court explicitly embraced the Popperian concept of falsifiability, or refutability, in order to define "scientific knowledge". The importance the majority opinion in *Daubert* gave to the criterion of "falsifiability" was questioned by the dissenting opinion of the then Chief Justice Rehnquist and Justice Stevens, who found this concept "mysterious" enough for federal judges to define.⁹⁵ An additional complication with this condition of *Daubert* is the amalgam that the Court seemed to make between Popper's theory, which equates falsifiability to testability (ability to be tested), and the Court's focus on falsification and the requirement that the theory "has been tested", not just that it can be tested⁹⁶. It is finally ironic that the Court made the choice to cite philosophical authorities for propositions which have not been tested and some would even argue that they cannot be tested.

Second, an additional consideration is whether the theory or technique has been subjected to peer review and publication. The Court noted that "submission to the scrutiny of the scientific community is a component of good science in part because it increases the likelihood that substantive flaws in methodology will be detected"⁹⁷.

Third, "in the case of a particular scientific technique, the court ordinarily should consider the known or potential rate of error"⁹⁸.

Fourth, "general" or "widespread" acceptance in the relevant scientific community (which introduces the previous *Frye* test as an additional factor of the analysis) has still a bearing on the inquiry. According to the Court, "a known

⁹² Notes of Advisory Committee on Rule FRE 702, available at <http://www.law.cornell.edu/rules/fre/ACRule702.htm> (2000).

⁹³ *Daubert v. Merrell Dow Pharm, Inc.*, at 593.

⁹⁴ *Ibid.*, at 593.

⁹⁵ *Ibid.*, at 600.

⁹⁶ *Ibid.*, at 593. This is the interpretation one could give to the Notes of Advisory Committee on Rule FRE 702, available at <http://www.law.cornell.edu/rules/fre/ACRule702.htm>, according to which, "an expert's testimony must be grounded in an accepted body of learning or experience in the expert's field, and the expert must explain how the conclusion is so grounded". See also the discussion in D.H. Kaye, "On 'Falsification' and 'Falsifiability': the First *Daubert* factor and the Philosophy of Science", (2005) 45 *Jurimetrics* 473, 478-480.

⁹⁷ *Daubert v. Merrell Dow Pharm, Inc.*, at 593.

⁹⁸ *Ibid.*, at 594.

technique which has been able to attract only minimal support within the community may properly be viewed with scepticism”⁹⁹.

The inquiry is flexible enough and it focuses on principles and methodology, not on the conclusions of the expert¹⁰⁰. Some authors have analyzed this dichotomy as a matter of distinguishing between “general causation”, which “refers to the proposition that one factor (or more) can produce certain results, and thus the finding transcends any one case” and “specific causation”, which “considers whether those factors had those results in the specific case at bar”¹⁰¹. In other words, methodology is trans-case and should be subject to an admissibility control while the conclusions reached by the expert in applying the particular methodology to the case in hand is a matter that should be examined by the jury in the stage of evaluating/weighing the evidence. The Court’s approach seems more liberal, in comparison to the *Frye* general acceptance standard, as it includes a richer set of criteria to scrutinize methodology but still recognizes a gatekeeper role to the judge, which could eventually allow for the exclusion of invalid evidence. Although falsifiability is only one relevant factor of the inquiry, it underpins at least the second one: obviously, a non testable hypothesis cannot have an error rate. Testability may be treated as a prerequisite rather than just another factor. As the Supreme Court itself recognized, this approach may sanction “a stifling and repressive scientific orthodoxy” and be “inimical to the search for truth”¹⁰². *Daubert* did not address the appellate review standard for evidentiary rulings but only indicated the important latitude of the trial judge to declare admissible or non-admissible expert evidence. In subsequent decisions the Court noted that the admissibility of expert testimony is not reviewable *de novo*, but it is reviewable under an abuse of discretion standard¹⁰³.

More importantly, the *Daubert* rule may lead to establishing the dominance of a particular theory, without giving the opportunity to newer theories that it has not been possible to subject to systematic testing and empirical research, to be heard in court¹⁰⁴. Anticompetitive damages are commonly assessed in US courts with either the before and after approach (essentially an interrupted times-series analysis where the economist compares the prices during the cartel with those practised after the end of the cartel) or the yardstick method (identifying geographic markets that resembles the market under examination in which the collusion has occurred, adjusting of course for any costs differentials). The courts seem to accept primarily only these approaches, although they are in some cases open to alternative if neither of the “generally acceptable” methodologies are unavailable¹⁰⁵.

This may have profound implications on the outcomes of antitrust cases. And indeed, empirical research is telling: According to a recent empirical study on the

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ David L. Faigman, David H. Kaye, Michael J. Saks & Joseph Sanders, *Modern Scientific Evidence: The Law and Science of Expert Testimony*, Vol. 1 (2nd ed., 2002, West Publishing), at 32.

¹⁰² *Daubert v. Merrell Dow Pharm, Inc.*, at 596.

¹⁰³ *General Electric Company v. Robert Joiner*, 522 U.S. 136 (1997); *Kumho Tire Co. v. Patrick Carmichael*, 526 U.S. 137 (1999).

¹⁰⁴ See, John E. Lopatka & William H. Page, “Economic Authority and the Limits of Expertise in Antitrust Cases”, (2005) 90 *Cornell L Rev* 617.

¹⁰⁵ See, Herbert Hovenkamp, *Economic Expertise in Antitrust Cases*, Ch. 14 in *Modern Scientific Evidence: The Law and Science of Expert Testimony.*, (ed. David L. Faigman, David H. Kaye, Michael J. Saks, and Joseph Sanders), at 738 noting only *Conwood Co. v. United States Tobacco Co.*, 290 F.3d 768 (6th Cir. 2002) as an example of a case where the Court allowed for “an untested methodology even when the conventional methodologies were available” (at 741).

application of the *Daubert* rules to economic expertise in antitrust cases, the successful challenges of an expert economist amount to 40% of all *Daubert* challenges in antitrust cases, which indicates that economists in antitrust cases are more likely to be challenged than any other experts or any other economic experts¹⁰⁶. In addition, the study compared the percentage of exclusion of economic expertise when the *Daubert* challenge is presented by the defendant against the plaintiff's expert with situations where it is presented by the plaintiff against the defendant's expert and found that the exclusion rate for plaintiff's economic expert's is much higher than that of the defendant's economic experts. This finding confirms the hypothesis that the *Daubert* rule favors defendants more than plaintiffs. The study concludes that "antitrust plaintiffs appear to have a substantial likelihood of being challenged and having their cases thrown out based on *Daubert* grounds, since virtually all antitrust cases need experts to articulate the theory, provide evidence and data on liability, and estimate damages"¹⁰⁷. Indeed, "economists testifying on liability and/or damages for the plaintiff have close to a 1 in 2 chance of some or all of their opinion being excluded once challenged, while economists testifying for the defense have closer to a 1 in 4 probability of being fully or partially excluded after challenge"¹⁰⁸. These results underscore the asymmetry of *Daubert*'s effects on plaintiffs and defendants and seem incompatible with the idea that *Daubert* entrusts to the judges a "neutral gatekeeping function that preserves the fact-finding role of the jury"¹⁰⁹. More than a simple methodological issue, the *Daubert* rule seems to affect the legal conclusions/interpretation reached by the courts and the outcome of antitrust cases.

A possible explanation for these results may be the fact that "higher quality experts self select as defense witnesses"¹¹⁰. More empirical investigation needs to be done, but a brief examination shows that the testimony of well-known and internationally respected economists has also in some cases been excluded as inadmissible. One may also expect that the plaintiff's experts have more time to prepare their testimony than defendant's experts, as they might have been consulted before the litigation was engaged, but this is not always the case.

An additional criticism of the exclusionary ethos of the *Daubert* rule is that the Court emphasizes superficial criteria of admissibility (such as general acceptance, qualifications, publication, peer review, error rate of the theory's predictions) that do not offer the possibility to the court to seriously engage with the essence of the expertise. One of the reasons advanced for this is the methodology/conclusions distinction. But the real reason for this distinction may be more profound. It represents the choice of the US legal system to favor a system of "peripheral or heuristic" processing of information, whereas the decision-maker is expected not to focus on the quality and validity of arguments but to adopt shortcuts to determine the value of a message (e.g. the communicator's credentials), rather than a system of "central processing", which would require the decision-maker to examine the "content

¹⁰⁶ James Langenfeld and Chris Alexander, "Daubert Challenges of Antitrust Experts" (AAI Working Paper 08-06, December 4, 2008), at 3, available at <http://www.antitrustinstitute.org/Archives/workingpaper0806.ashx>

¹⁰⁷ *Ibid.*, at 8.

¹⁰⁸ *Ibid.*, at 7.

¹⁰⁹ John E. Lopatka & William H. Page, above, at 694-695.

¹¹⁰ James Langenfeld and Chris Alexander, above, at 7.

of a communication to assess its validity” and therefore to examine the quality (in terms of persuasiveness) of the arguments advanced¹¹¹.

The development of admissibility standards (and of the *Daubert* rule) could be perceived as a division of tasks between judges and juries: at the first step of the assessment of expert evidence, the judges will conduct both a peripheral processing of the information, as well as a central processing regarding the scientific methodology used, while, at the second step, the jurors will proceed to the central processing of the information which was not excluded at the first step. In other words, the *Daubert* rule implies a lack of confidence in the jurors’ capacity to perform the peripheral processing of the *Daubert* criteria of the qualification of the experts, publication and peer review, or the central processing of scientific methodology used, while they are considered as able to conduct the central processing of the economic evidence presented. This seems paradoxical, as one would have expected that if the jurors were able to perform the more difficult task of central processing in the evaluation of evidence step, they should be able to conduct at least parts of the peripheral or central assessment required by *Daubert* in the admissibility step. One could argue that in this case the distinction between central and peripheral processing is artificial, as in reality the judges maintain also the control of the central processing step, simply by defining the standard of proof (standard of persuasion) required for the evidence to be deemed convincing. The jurors are thus absent from the first step and only the nominal masters of the process in the second step.

The *Daubert* rule, as well as the *Frye* rule, are based on the principle of “epistemic paternalism”¹¹²: the aim is to protect the jurors from their propensity to focus on peripheral criteria and not on the essence of the issues. Brian Leiter notes that the *Daubert* rule develops two types of epistemic rules: primary epistemic rules requiring the exclusion of unscientific evidence, a rule justified by “the epistemic shortcomings of jurors” (“their susceptibility to confusion and prejudice or their generally modest level of intellectual ability”), and secondary epistemic rules requiring judges to exclude unscientific evidence, which, however, do not fit with the epistemic shortcomings of judges, in particular, “their general lack of expertise in scientific matters”¹¹³. Indeed, if there is some empirical and laboratory support of the epistemic shortcomings of jurors in complex cases¹¹⁴, the situation of generalist judges is not better, in particular for the central processing bits of *Daubert*. Of particular interest is the finding that “only four percent of the judges offered an explanation that involved a clear understanding of falsifiability and thirty-five percent gave answers that were clearly wrong”¹¹⁵. Most of the analysis from generalist judges of admissibility questions focused on peripheral processing, such as the issues of

¹¹¹ Joseph Sanders, “The Merits of the Paternalistic Justifications for Restrictions on the Admissibility of Expert Evidence”, (2003) 33 Seton Hall L Rev 881, 909.

¹¹² Alvin Goldman, “Epistemic Paternalism: Communication Control in Law and Society”, (1991) 88 Journal of Philosophy 113; Brian Leiter, “The Epistemology of Admissibility: Why even good philosophy of science would not make for good philosophy of evidence”, (1997) Brigham Young University Law Review 803, 814.

¹¹³ Brian Leiter, above, at 814-815.

¹¹⁴ Joseph Sanders, above, at 901-907; W. Kip Viscusi, “Jurors, Judges and the Mistreatment of Risk by the Courts”, (2001) 30 Journal of Legal Studies 107.

¹¹⁵ Sophia Gatowski et al., “Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a post-Daubert World”, (2001) 25 Law and Human Behavior 433, finding that 35% of judges’ explanations of falsifiability were blatantly wrong, 10% were wrong in their assessment of error rate and 86% gave error rates that were equivocal.

relevance and qualifications¹¹⁶. It follows that, even if the epistemic paternalism argument is true, there is a considerable misfit between the justification of paternalism and the tools that have been used in order to overcome the respective epistemic shortcomings of judges and experts.

In conclusion, juries and generalist judges present many similarities, as in both cases there is a “novice” (jury or generalist judge), who is not in a position to assess the “expert’s” testimony by using her own opinion¹¹⁷. Emphasizing the specific role of judges as gatekeepers would therefore lead to increase the amount of peripheral processing in presence of conflicting expert testimony. Alvin Goldman cites different sources of evidence that a novice may have in order to trust one expert rather than another: argumentative justification (strong support for the premises of a specific argument¹¹⁸), dialectical superiority of one expert to the other (this may be linked to the ability of the expert to communicate clearly its expertise but also a greater capacity to collect or manipulate relevant information), agreement from other experts of the field (although he defends that numbers do not always matter), “evidence of distortion interests and biases that might be behind a putative expert’s claims”¹¹⁹, or using past track-records¹²⁰. It is submitted that these criteria might be helpful complements to the analysis and may affect the probative value of the evidence. However, it would be wrong to elevate this type of peripheral processing to an absolute barrier for the admissibility of the proffered evidence.

The model is very different in the context of an “expert/expert” situation, which characterizes the context of expertise in a specialized tribunal or in the presence of a court-appointed expert: in this case, the judges proceed to either “direct calibration”, that is “use their own opinion about the subject matter in question”, or “indirect calibration”, that is, use the opinion of other scientists, whose opinions they have previously evaluated by direct calibration, “based on their own opinion about the subject-matter in question”¹²¹. There is a propensity of the “expert” judge to critically assess the economic reasoning presented by the “expert” (a specialized authority integrating expertise in the case of judicial review or a stand alone expert witness) and to proceed to a different economic assessment.

An example is the clear rejection by the Competition Appeal Tribunal (CAT), a specialised UK competition court, of the so-called ‘Efficient Component-Pricing Rule’ (ECPR) as an applicable pricing rule to determine margins and any alleged squeeze. Briefly, ECPR is a form of marginal-cost pricing according to which it is optimal to set the access price to a bottleneck equal to the direct cost of providing

¹¹⁶ Joseph Sanders, above, at 929.

¹¹⁷ Alvin I. Goldman, “Experts: Which Ones Should you Trust?”, (2001) 63 *Philosophy and Phenomenological Research* 85, 90

¹¹⁸ For example, a laissez-faire minded judge would have relatively more difficulty to accept a conclusion that will lead to more state intervention in the economy.

¹¹⁹ Alvin I. Goldman, “Experts: Which Ones Should you Trust?”, above, at 104-105. He gives the example of someone “who is regularly hired as an expert witness for the defense in certain types of civil suits: who has the “economic interest in delivering strong testimony in any current trial, because her reputation as a defense witness depends on her present performance”. The bias may also “infect a whole discipline, sub-discipline, or research group”, which “would make the numbers game trickier for the novice to negotiate”. Two examples of biases are provided (ibid, at 105): (1) “the exclusion or underrepresentation of certain viewpoints or standpoints within a discipline or expert community, (2) the economics or politics of the research community and the constant need of “experts” to “exaggerate the probativeness” of evidence that supports their findings, especially to outsiders”.

¹²⁰ Ibid, at 106.

¹²¹ Ibid.

access plus the opportunity cost of providing access to the interested provider, which is equivalent to the reduction of the incumbent profit caused by the provision of access –i.e., the price minus the direct cost and the marginal cost. ECPR is then a pricing rule proposed as a second-best access rule in cases where the user-level price has already been fixed (ensuring absence of monopoly rents) and the regulator is concentrated *solely* on productive efficiency. In the *Albion* case the CAT felt more confident than “experts” regulators to decide whether the application of such debatable rule was meritorious or not, or even worse, whether the rule was reasonable enough to be applicable.¹²² The perception of expertise may not only be linked to the status of specialised tribunal but could also be justified on increased familiarity with economic thinking, for example because of previous exposure to a certain type of cases. Even an “expert” judge needs, however, to respect the institutional constraints of her role, in particular if the “expert” authority maintains a discretionary power to make policy choices. This should nonetheless be the only reason limiting the scope of the “expert” judge’s intervention in reviewing economic reasoning.

Daubert’s emphasis on methodology (with a small m) does not also take into account the fact that the objectives and values of legal decision-making are different from those of scientific research and that this approach may affect the admissibility of relatively new, non-tested, theories, even if they are generally accepted by the specific scientific community. The exclusionary ethos of *Daubert* might block useful information that could be taken into account, along with other data and theories, during the assessment/evaluation of evidence phase. The judge may give less weight to an idiosyncratic opinion at the stage of the assessment of evidence. If examined in conjunction with other facts and data, these idiosyncratic economic theories may nevertheless make more sense (in other words fit better with the facts of the case). The analysis of the reliability of evidence precedes the examination of the issue of relevance. In other words, if the theory or methodology advanced does not fulfil some of the peripheral processing type of conditions of reliability under *Daubert*, it could not be examined at the stage of relevance. Consequently, the result of *Daubert* is that the excluded expertise will be ignored both by the judge and the jury when they assess the facts of the case, thus excluding the benefit of important insights to the decision maker.

Less restrictive alternatives are possible in order to mitigate the risks of “hired guns” and “expert witness shopping”. Richard Posner has suggested mandatory disclosure rules as an alternative¹²³. Parties will be asked to disclose the list of economists contacted by their lawyers, even those experts that did not accept to work for them. Posner also suggests the establishment of a roster managed by an economists association or non-profit firm that will contain “all testimonial appearances by members of the association... an abstract of the member’s testimony... and would also record any criticisms of the testimony by the judge or by the lawyers or experts on the other side of the suit.¹²⁴” This record would allow the academic community to “monitor its members’ adherence to high standards of probity and care in their testimonial activities”. This suggestion underlines the need to develop rules of evidence that regulate the pre-trial, the trial process and the post-trial

¹²² CAT, *Albion Water Limited & Albion Water Group Limited v. Water Services Regulation Authority* [2006] CAT 23, para. 873.

¹²³ Richard A. Posner, ‘The Law and Economics of the Economic Expert Witness’, (1999) 13(2) *Journal of Economic Perspectives* 91.

¹²⁴ *Ibid.*, at 96.

process, thus expanding the scope of evidence law beyond the trial-focused traditional conception¹²⁵.

Another possibility, which has been explored in UK criminal law procedure consists in establishing extra-judicial bodies (sort of interdisciplinary commissions), which will regulate the quality standards of the forensic science market and will conduct some form of post-conviction scrutiny focusing on the issue of the reliability of forensic evidence. The House of Commons Select Committee on Science and Technology published in 2005 a report “Forensic Science on Trial” where it suggested the creation of a Forensic Science Advisory Council (FSAC), which will “oversee the regulation of the forensic science market and provide independent and impartial advice on forensic science”, the creation of a forum for Science and the Law and the establishment of a Scientific Review Committee within the Criminal Cases Review Commission¹²⁶. The Report considered that, “the absence of an agreed protocol for the validation of scientific techniques prior to their being admitted in court is entirely unsatisfactory” and that “judges are not well-placed to determine scientific validity without input from scientists”. The Report recommended that one of the most important tasks of the Forensic Science Advisory Council will be to develop a “gate-keeping” test for expert evidence, which should be done in cooperation with judges, scientists and other key players and should build on the US Daubert test¹²⁷. The Report was adopted following some high profile criminal law cases where forensic evidence in the form of statistics led to concerns of miscarriage of justice¹²⁸.

The FSAC was established in 2007 with the mission to regulate the market of forensic science but nothing is mentioned in the FSAC’s terms of reference on possible intervention in the area of ex-post conviction assessment of the admissibility of forensic evidence. However, other examples exist in the UK criminal procedure system. The Criminal Cases Review Commission (CCRC) in England or the Scottish Criminal Cases Review Commission (SCCRC) have been established to conduct a post-conviction scrutiny of forensic evidence with the possibility to refer a case back to the court of appeal if the forensic evidence relied on was found inadmissible and they believe that “a miscarriage of justice may have occurred”¹²⁹. Some have argued that these “cross-border institutions”, should have the mission to scrutinize the reliability of scientific evidence that has been submitted in specific cases and decide whether the scientific theory or the application of this theory in the specific case, was unreliable¹³⁰. These recommendations for post-trial scrutiny may be considered as a form of compensation for the relatively liberal UK standards for the admissibility of evidence and expertise in courts. They indicate an alternative way to address concerns of admissibility of scientific evidence. Their applicability in the competition law context could, however, be subject to doubt. First, the costs of false convictions in the criminal law field are much more important than the costs of type II errors in the enforcement of competition law, in particular in the EU, where there is no provision

¹²⁵ John D. Jackson, ‘Analyzing the New Evidence Scholarship: Towards a New Conception of the Law of Evidence’, (1996) 16(2) Oxford Journal of Legal Studies 309, at 324.

¹²⁶ House of Commons Select Committee on Science and Technology, Forensic Science on Trial, 2005, available at <http://www.publications.parliament.uk/pa/cm200405/cmselect/cmsctech/96/96i.pdf>.

¹²⁷ Ibid, at 76, para 173.

¹²⁸ Science baffles juries, as MPs, The Guardian, 29 March 2005, available at <http://www.guardian.co.uk/uk/2005/mar/29/ukcrime.immigrationpolicy>

¹²⁹ Available at http://www.opsi.gov.uk/acts/acts1997/ukpga_19970048_en_4

¹³⁰ Peter Duff, “Criminal Cases Review Commissions and ‘Deference’ to the Courts: The Evaluation of Evidence and Evidentiary Rules”, (2001) Criminal Law Review 341, 391.

for criminal sanctions for competition law infringements. Second, their existence has been mainly justified by the “asymmetrical distribution of knowledge and means of proof” between the defendants and public prosecution in the context of a criminal trial to the benefit of public prosecution¹³¹. In contrast, in EC competition law, as it is recognized by the European Commission’s staff working paper on damages, “(c)ompetition cases are characterised by a very asymmetric distribution of the available information and the necessary evidence: it is often very difficult for claimants to produce the required evidence, since many of the relevant facts are in the possession of the defendant or of third persons and are often not known to claimants in sufficient detail”.¹³² Such a process of post-conviction evaluation under *Daubert*-like standards of scientific evidence will nevertheless offer the opportunity to transform the *Daubert* test from a “past-oriented” analysis of the of a theory to a “future-oriented assessment of the falsifiability of the theory, without incurring the risk of opening widely the door to non-admissible scientific arguments.

One could also argue that the gate-keeper role of the judge advanced by *Frye* and *Daubert* does not take sufficiently into account the need to guarantee both greater reliance on the scientific Method in addressing complex issues of facts and a more effective judicial decision-making process. The important point is not to examine if a theory is “formally” scientific but to determine “when it is rational to accept a scientific theory for the purpose of decision making”¹³³. This highlights the need for a decision-theoretic approach in order to address the complexity of scientific evidence, in presence of epistemic asymmetry. However, it also leads to an inevitable blurring of the distinction between admissibility and evaluation of scientific evidence, as in such a setting, the “quantitative” assessment of how the verified consequences of a theory have increased our rational belief in its truth, which is inspired by the Hempel part of *Daubert* replaces the “qualitative” Popperian requirement of the testability of the theory¹³⁴.

The European Commission has recently adopted best practices for the submission of economic evidence in the context of public enforcement of competition law. According to this document, “in order to determine the relevance and significance of an economic analysis for a particular case, it is first necessary to assess its intrinsic quality from a technical perspective the Commission should evaluate “whether the hypothesis to be tested is formulated without ambiguity and clearly related to facts, whether the assumptions of the economic model are consistent with the institutional features and other relevant facts of the industry, whether economic models are well established in the relevant literature, whether the empirical methods and the data are appropriate, whether the results are properly interpreted and robust and whether counterarguments have been given adequate consideration”¹³⁵. The second step of the

¹³¹ Burkhard Schafer, Colin Aitken and Dimitris Mavridis, “*Daubert* in the UK – Second order evidence between courts and commissions”, Discussion paper, available at <http://www.maths.ed.ac.uk/~cgga/Cutting%20the%20Daubert%20knot.doc>.

¹³² Commission Staff Working Paper on Damages Actions for Breach of the EC antitrust rules, SEC(2008) 404, 2.4.2008, available at <http://ec.europa.eu/comm/competition/antitrust/actionsdamages/documents.html>

¹³³ Burkhard Schafer, Colin Aitken and Dimitris Mavridis, “*Daubert* in the UK – Second order evidence between courts and commissions”, above.

¹³⁴ *Ibid.*

¹³⁵ DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, available at http://ec.europa.eu/competition/consultations/2010_best_practices/best_practice_submissions.pdf, para. 3.

analysis focuses on the congruence and consistency of the economic analysis with other pieces of quantitative and qualitative evidence¹³⁶. The focus is clearly on methodology. This document, in particular the first step of the analysis, introduces to some degree an admissibility test for economic evidence in competition law proceedings, at least at the Commission level. The Commission does not clearly distinguish admissibility from substantive assessment of economic evidence, but it is not clear how the different factors mentioned in the first step of the analysis will be considered: for example, would it be possible to exclude economic evidence from consideration because the economic models are not well established in the relevant literature? It remains to be seen how these best practices will be applied in public enforcement and how, or if, they could apply in the context of private competition law enforcement in courts.

II. Quantification of damages in intellectual property cases

According to Article 45(1) of the TRIPS agreement, “the judicial authorities shall have the authority to order the infringer to pay the right holder damages adequate to compensate for the injury the right holder has suffered because of an infringement of that person’s intellectual property right by an infringer who knowingly, or with reasonable grounds to know, engaged in infringing activity”. According to Article 45(2) of the TRIPS agreement, “in appropriate cases, Members may authorize the judicial authorities to order recovery of profits and/or payment of pre-established damages even where the infringer did not knowingly, or with reasonable grounds to know, engage in infringing activity”. There are various degrees of discretion the courts have in quantifying damages for infringements of IP rights.

In some cases, damages are set by statute. This may aim to mitigate the difficulties of providing evidence for the calculation of actual damages and the high burden of proof that consequently would fall on the right holder. Pre-established or statutory damages would thus lessen the burden of the right holder to establish damages by offering a lump sum based on certain pre-determined factors that have to be taken into account by the courts. In the US, there are statutory damages in trademark counterfeiting cases, following the Anticounterfeiting Consumers Protection Act 1996. The Act permits the plaintiff at any time prior to the final judgment to opt for a recovery of statutory damages instead of actual damages and profits if it is established that the defendant has used a counterfeit trademark. The plaintiff is entitled to no less than \$100 and no more to \$100.000 per counterfeit mark per type of goods or services sold, offered for sale, or distributed. In circumstances of wilful counterfeit, the court may be able to award statutory damages up to \$1.000.000. A similar statutory type of damages regime applies in copyright cases, following the enactment of the Digital Theft Deterrence and Copyright Damages Act of 1999 and the Digital Millennium Copyright Act of 1998.

Similarly, Article 13(1)b of Directive 2004/48/EC on the enforcement of Intellectual Property rights, offers, “in appropriate cases”, judicial authorities the option of setting “the damages as a lump sum on the basis of elements such as at least the amount of royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property right in question”. These statutory provisions do not, however, limit the discretion of the judiciary with specific lump sum figures.

¹³⁶ Ibid., apar 4.

Rules of thumb may also constitute an evidence-facilitating device, guiding judicial discretion, in situations where proof of the exact amount of damages might be particularly difficult. In patent law infringements, US courts have widely accepted the 25% rule of thumb, suggesting that 25% of the operating profit from sales of a product should be credited to the intellectual property that enables the product¹³⁷.

The courts have also set general rules and standards relating to the calculation of compensatory damages in intellectual property infringement cases, although these do not go as far as indicating specific economic methodologies (e.g. benchmarking, yardstick method) for the calculation of damages. They do, however, set broad legal standards and in some cases more precise factors that can offer guidance to the judicial decision-maker.

A. IP damages in the United States

In US patent law, typically damages are awarded in the form of lost profits or reasonable royalties or both. The Patent Act of 1952 provides that

“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed [...]

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances”¹³⁸.

Damages cannot thus fall below the floor of the “reasonable royalty” level.

The courts employ a four-prong test for awarding lost profits in a patent infringement case¹³⁹. They permit an award of lost profits on the establishment of four elements: “(1) demand for the patented product, (2) absence of acceptable noninfringing substitutes, (3) manufacturing and marketing capability to exploit the demand, and (4) the amount of the profit he would have made (the *Panduit* test). The first three factors relate to the causation issue between the infringement and the “but for” situation. The final factor relates to the question of the quantification of damages.

These factors have been interpreted by subsequent case law. Lost profits awards are made on the basis of incremental profits (thus excluding fixed costs) from the analysis¹⁴⁰. The Federal Circuit has also stressed that the *Panduit* test is accepted as “a useful, but non-exclusive, way for a patentee to prove entitlements to lost profit damages”¹⁴¹. In *BIC Leisure Products Inc. v. Windsurfing International Inc.*, the court noted, with regard to the first factor, that if the patent owner competes in a different market segment from the infringer, it is unlikely that he has lost any sales because of the infringement¹⁴². The courts have, however expanded the scope of allowable

¹³⁷ This figure was based on observations by Robert Goldscheider, *The Negotiation of Royalties and Other Sources of Income from Licensing*, IDEA, Journal of Law and Technology PTC Research Foundation of Franklin Pierce Law Center, 1995.

¹³⁸ U.S. Patent Law, 35 U.S.C. 284.

¹³⁹ *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir.), cert. denied, 439 U.S. 856 (1978)

¹⁴⁰ *Paper Covering Machine Company v. Magna-Graphics Corporation*, 745 F. 2d 11 (Fed. Cir. 1984).

¹⁴¹ *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1545 (Fed. Cir. 1995)

¹⁴² *BIC Leisure Products Inc. v. Windsurfing International*, 1 F.3d 1214 (Fed. Cir. 1993).

damages by allowing in *State Industries, Inc. v. Mor-Flo Industries, Inc* an award of lost profits damages to be based on market share, thus inferring the amount of lost profits from the percentage of market share of the plaintiff, even if infringing substitutes or alternatives were available¹⁴³. The case law also suggests that in a two-supplier market, the first two factors can normally be inferred¹⁴⁴. The four factors are a starting point and do not exclude any other methodology for damages calculation, the Federal Circuit being relatively open to new methodologies¹⁴⁵.

Similarly, the district court set out 15 factors to serve as a framework for calculating reasonable royalties in *Georgia Pacific v. United States Plywood (Georgia Pacific factors)*¹⁴⁶. The Georgia Pacific factors, as developed and applied by the courts for determining reasonable royalties in patent damage cases, have also been recently applied by U.S. courts also in the FRAND context¹⁴⁷. The factors are the following:

1. The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.
2. The rates paid by the licensee for the use of other patents comparable to the patent in suit.
3. The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold.
4. The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.
5. The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.
6. The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or conveyed sales.
7. The duration of the patent and the term of the license.
8. The established profitability of the product made under the patent; its commercial success; and its current popularity.
9. The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.
11. The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.

¹⁴³ *State Industries, Inc. v. Mor-Flo Industries, Inc*, 883 F.2d 1573 (Fed. Cir. 1989)

¹⁴⁴ *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1327 (Fed. Cir. 1987).

¹⁴⁵ See, Liane M. Peterson, Grain processing and crystal semiconductor: use of economic methods in damage calculations will accurately compensate for patent infringement, (2003) 13 Fed. Circuit Bar Journal 41, 60.

¹⁴⁶ *Georgia Pacific v. United States Plywood*, 318 F. Supp. 1116 (S.D.N.Y. 1970).

¹⁴⁷ See *ESS Tech., Inc. v. PC-Tel, Inc.*, No. C-99-20292 RMW, 2001 WL 1891713, at 3-6 (N.D. Cal. Nov. 28, 2001).

12. The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.

13. The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.

14. The opinion testimony of qualified experts.

15. The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily – who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention – would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.

The determination of a reasonable royalty requires a fact-intensive, case-specific analysis using a variety of approaches, including an income approach (estimating the value of IP based on the expected value of the future economic benefits that accrue to the owners of IP), a market approach (value estimated based on the transaction of other purchasers and sellers in the marketplace) and cost approaches (estimating the value of an IP asset by employing the concept of replacement costs).

The courts employ, in most cases, the “rules of thumb” approach as a starting point, before moving to a an “analytical approach” in the examination of the 15 Georgia-Pacific factors. The district courts enjoy discretion in choosing the methodology for assessing and computing damages¹⁴⁸. The approach was initially formalized by the court in *TMW v. Dura*¹⁴⁹. It is theoretically based on an hypothetical negotiation between a licensor and a licensee, starting with the anticipated gross profit of the infringer from which it then subtracts the infringer’s overhead expenses as well as a normal net profit to the infringer and awards the remaining profit to the patentee. Remarkably, sales in order to define the anticipated gross profit may include sales of unpatented products, which are normally sold with the patented product or conveyed with the sale of the patented product¹⁵⁰.

Congress has recently introduced the Patent Reform Act 2009, which provide new rules for damages calculations¹⁵¹. The bill suggests the revision of Section 284 of the Patent Act as following:

“The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances. The admissibility of such testimony shall be governed by the rules of evidence governing expert testimony. When the damages are not found by a jury, the court shall assess them.

“(c) Standard for Calculating Reasonable Royalty-

“(1) IN GENERAL- The court shall determine, based on the facts of the case and after adducing any further evidence the court deems necessary, which of the following methods shall be used by the court or the jury in calculating a reasonable royalty pursuant to subsection (a). The court shall also identify the factors that are relevant to the

¹⁴⁸ King Instruments Corp. v. Perego, 65 F.3d 941, 952 (Fed. Cir. 1995).

¹⁴⁹ TWM Manufacturing Co., Inc. v. Dura Corp., 789 F. 2d 895, 899 (Fed. Cir. 1986).

¹⁵⁰ Ibid., at 900

¹⁵¹ H.R. 1260 would amend title 35, United States Code, to provide for patent reform.

determination of a reasonable royalty, and the court or jury, as the case may be, shall consider only those factors in making such determination.

`(A) ENTIRE MARKET VALUE- Upon a showing to the satisfaction of the court that the claimed invention's specific contribution over the prior art is the predominant basis for market demand for an infringing product or process, damages may be based upon the entire market value of that infringing product or process.

`(B) ESTABLISHED ROYALTY BASED ON MARKETPLACE LICENSING- Upon a showing to the satisfaction of the court that the claimed invention has been the subject of a nonexclusive license for the use made of the invention by the infringer, to a number of persons sufficient to indicate a general marketplace recognition of the reasonableness of the licensing terms, if the license was secured prior to the filing of the case before the court, and the court determines that the infringer's use is of substantially the same scope, volume, and benefit of the rights granted under such license, damages may be determined on the basis of the terms of such license. Upon a showing to the satisfaction of the court that the claimed invention has sufficiently similar noninfringing substitutes in the relevant market, which have themselves been the subject of such nonexclusive licenses, and the court determines that the infringer's use is of substantially the same scope, volume, and benefit of the rights granted under such licenses, damages may be determined on the basis of the terms of such licenses.

`(C) VALUATION CALCULATION- Upon a determination by the court that the showings required under subparagraphs (A) and (B) have not been made, the court shall conduct an analysis to ensure that a reasonable royalty is applied only to the portion of the economic value of the infringing product or process properly attributable to the claimed invention's specific contribution over the prior art. In the case of a combination invention whose elements are present individually in the prior art, the contribution over the prior art may include the value of the additional function resulting from the combination, as well as the enhanced value, if any, of some or all of the prior art elements as part of the combination, if the patentee demonstrates that value.

`(2) ADDITIONAL FACTORS- Where the court determines it to be appropriate in determining a reasonable royalty under paragraph (1), the court may also consider, or direct the jury to consider, any other relevant factors under applicable law.”

B. The position in Europe

Damages for IP infringement in Europe are initially compensatory: they are sought in order to redress loss which has been suffered and to compensate the claimant¹⁵². In civil law systems damages awards for wrongs aim exclusively to compensate for loss effectively suffered. Although damages in common law are often concerned with the compensation of the victims, they may also have different goals¹⁵³. Damages can of course be exemplary but there are also other forms of gain-based damages that go beyond simple compensatory damages (such as *damnum emergens* and *lucrum cessans*).

Restitutionary damages are available in order to inverse a wrongful transfer from a claimant to the defendant. They focus on an objective enrichment of the defendant to the expense of the claimant. They differ from compensatory damages “in that the claimant need not have suffered any financial loss – the only requirement is that some objective benefit has been wrongfully obtained by the defendant through the claimant’s assets or rights or their use”.¹⁵⁴ Disgorgement damages “aim to strip profits made by the infringer, irrespective of the loss suffered by the plaintiff”¹⁵⁵. It is a remedy that operates irrespective of any transfer of value in order to deter wrongdoing.

Restitutionary damages are of course available for intellectual property infringements. Following the wrong committed (infringement of the IP right), the parties may have lost an opportunity to bargain at a rate higher than the market (because of the claimant’s strong bargaining position) or they may have never agreed on a deal. Since the enactment of Directive 2004/48 on the enforcement of IP rights across the member States¹⁵⁶, the level playing field between different European jurisdictions has been somehow homogenized with regard to damages rules¹⁵⁷. According to Article 13 of the Directive,

‘1. Member States shall ensure that the competent judicial authorities, on application of the injured party, order the infringer who knowingly, or with reasonable grounds to know, engaged in an infringing activity, to pay the rightholder damages appropriate to the actual prejudice suffered by him/her as a result of the infringement.

¹⁵² See, for instance the strict requirements of Article 1382 of the French Civil Code: only injuries that are caused by the violation can be compensated and the harm must be directly related to the violation, current and certain. Damages are governed by the principle of “réparation intégrale” according to which a prejudice suffered must be proved and “all the prejudice and nothing but the prejudice” must be compensated. See also, § 823 of the German BGB. The extent of the damages is determined by §§ 249 et seq. BGB. §§ 249-252 BGB describe the principle that the obligee must either put things into the status quo ante, or to pay compensatory damages (including both *damnum emergens* and *lucrum cessans*).

¹⁵³ *Attorney General v. Blake*, [2001] 1 AC 268 (HL) Lord Nicholls stating “the common law, pragmatic as ever, has long recognized that there are many commonplace situations where a strict application of this (compensatory) principle would not do justice between the parties”. See the seminal analysis of James Edelman, *Gain-based Damages – Contract, Tort, Equity and Intellectual Property* (Hart Pub. 2002).

¹⁵⁴ *Ibid.*, at 243.

¹⁵⁵ James Edelman, *Gain-based Damages – Contract, Tort, Equity and Intellectual Property* (Hart Pub. 2002). This form of damages was accepted by the English courts as a remedy for a breach of contract: *Attorney General v. Blake*, [2001] 1 AC 268, 285 (Lord Nicholls, “when awarding damages, the law does not adhere slavishly to the concept of compensation for financially measurable loss. When the circumstances require, damages are measured by reference to the benefit obtained by the wrongdoer”).

¹⁵⁶ Directive 2004/48 on the enforcement of IP rights [2004] OJ L 195/16.

¹⁵⁷ The Directive has been enacted in the UK by the Intellectual Property (Enforcement, etc.) Regulations 2006/1028.

When the judicial authorities set the damages:

(a) they shall take into account all appropriate aspects, such as the negative economic consequences, including lost profits, which the injured party has suffered, any unfair profits made by the infringer and, in appropriate cases, elements other than economic factors, such as the moral prejudice caused to the rightholder by the infringement;

or

(b) as an alternative to (a), they may, in appropriate cases, set the damages as a lump sum on the basis of elements such as at least the amount of royalties or fees which would have been due if the infringer had requested authorisation to use the intellectual property right in question.

2. Where the infringer did not knowingly, or with reasonable grounds know, engage in infringing activity, Member States may lay down that the judicial authorities may order the recovery of profits or the payment of damages, which may be pre-established.¹⁵⁸

There remains, however, important discretion for national courts to interpret the damages rules set out by the Directive. National courts may take divergent positions on the meaning of undefined terms, such as unfair profits, as well as on the methodology employed to quantify the broadly defined damages terms set out in the Directive.

The transposition of Directive 2004/48 in the UK may have implications on the issue of quantification of damages. According to the case law, prior to the transposition of the Directive, the claimant was required to restore the victim to the position they would have been in if no wrong had been committed¹⁵⁹. The amount of damages was also limited as it could not exceed double the amount which would have been payable as a license if such a license on those terms had been granted before the earliest infringement¹⁶⁰. Contrary to the US, the courts have been generally reluctant to lay down more detailed rules as to the quantification of damages¹⁶¹.

Prior to the adoption of Directive 2004/48, there have been two possible ways of action. The claimant was required to choose between an enquiry as to damages or an account of the defendant's profits. Once an election between damage remedies was made, recovery under the alternative remedy was prohibited.

Similarly to US law, there are two ways damages could be calculated. One way is by reference to the profits which the claimant lost as a result of the competing sales of infringing goods/services made by the defendant. This introduces the difficult issue of causation and the plaintiff may often encounter difficulties in providing

¹⁵⁸ Emphasis added.

¹⁵⁹ According to Mr Justice Kitchin in *Ultraframe (UK) Limited v. Eurocell Building Plastics* [2006] EWHC 1344 (Pat) "(i) Damages are compensatory. The general rule is that the measure of damages is to be, as far as possible, that sum of money that will put the claimant in the same position as he would have been in if he had not sustained the wrong. (iii) The burden of proof rests on the claimant. Damages are to be assessed liberally. But the object is to compensate the claimant and not to punish the defendant".

¹⁶⁰ Patent Act 1977, Section 46(3).

¹⁶¹ Regarding the calculation of a plaintiff's 'true loss' in cases of tort, see the general discussion by Lord Nicholls in *Kuwait Airways Copr. V. Iraqi Airways Co.* [2002] 2 AC 833 (para. 69-73) distinguishing two steps in the analysis: "I take as my starting point the commonly accepted approach that the extent of a defendant's liability for the plaintiff's loss calls for a twofold inquiry: whether the wrongful conduct causally contributed to the loss and, if it did, what is the extent of the loss for which the defendant ought to be held liable. The first of these enquiries, widely undertaken as a simple 'but for' test, is predominantly a factual inquiry."

accurate evidence of lost profits. As it has been mentioned by in *Gerber Garment Technology Inc. v. Lectra Systems Ltd.*, “(q)uantification of damage in a case such as the present (of a patentee manufacturer) is a much harder, and less certain, task than I had hitherto thought”¹⁶². A patent infringement is a statutory tort, whereby damages are quantified by reference to the following rules: “(1) that the overriding principle is that the victim should be restored to the position he would have been in if no wrong had been done; and (2) that the victim can recover loss which was (i) foreseeable, (ii) caused by the wrong, and (iii) not excluded from recovery by public or social policy.”¹⁶³ Factors accepted in the UK in assessing the quantification of damages include marginal and incremental profits as lost profits are calculated by deducting the marginal or incremental cost of producing each of the additional units lost as a result of the infringement and take into consideration price erosion¹⁶⁴.

The courts recognize that identifying damages is an exercise involving reasonable probability rather than precise facts. They are thus prone to employ an approach similar to the market share approach in the US in order to determine sales that would have been made without the infringement. If a claimant is unable to claim damages on lost profits, the court may make an award on a royalty basis. IP infringement liability is a separate trial in the UK, as it is first established that the IP is valid and infringed before considering damages. This leads indirectly to settlements more frequently than in the US.

The case law has not established a set of factors for determining a reasonable royalty, as the US courts have done with the *Georgia-Pacific* factors. According to Mr Justice Kitchin in *Ultraframe (UK) Limited v. Eurocell Buidling Plastics*,

“(viii) The reasonable royalty is to be assessed as the royalty that a willing licensor and a willing licensee would have agreed. Where there are truly comparable licences in the relevant field these are the most useful guidance for the court as to the reasonable royalty. Another approach is the profits available approach. This involves an assessment of the profits that would be available to the licensee, absent a licence, and apportioning them between the licensor and the licensee.

(ix) Where damages are difficult to assess with precision, the court should make the best estimate it can, having regard to all the circumstances of the case and dealing with the matter broadly, with common sense and fairness.”¹⁶⁵

The courts may also award damages for secondary losses, as well as exemplary damages in exceptional cases.

Prior to the transposition of Directive 2004/48, the claimant had the choice between damages and an account of the profits of the defendant. It was not, however, possible to claim it in addition to damages. By conflating damages and account of profits, the Directive makes possible, across Europe, the award of restitutionary

¹⁶² *Gerber Garment Technology Inc. v. Lectra Systems Ltd.* (1995) R.P.C. 383; [1997] RPC 443.

¹⁶³ *Ibid.*,

¹⁶⁴ See, *Ultraframe (UK) Limited v. Eurocell Buidling Plastics* [2006] EWHC 1344 (Pat) [Mr Justice Kitchin] “(vii) The assessment of damages for lost profits should take into account the fact that the lost sales are of “extra production” and that only certain specific extra costs (marginal costs) have been incurred in making the additional sales. Nevertheless, in practice costs go up and so it may be appropriate to temper the approach somewhat in making the assessment”.

¹⁶⁵ *Ultraframe (UK) Limited v. Eurocell Buidling Plastics* [2006] EWHC 1344, para 47. The Courts follow often an income approach that quantifies the expected value of the future economic benefits that accrue to the owners of IP), a market approach (value estimated based on the transactions of other purchasers and sellers in the market-place), or a cost approach (estimating the value of an asset employing the concept of replacement costs as an indication of market value).

damages, at least in the area of IP law. The courts should now consider both the claimant's lost profits and any unjust profits made by the infringer. This has led to more important changes in civil law systems, where strictly compensatory damages were recognized until then¹⁶⁶. It is thus surprising that this evolution towards gain-based damages, surely motivated by the need to protect more effectively intellectual property rights from infringement, for public policy reasons (promoting innovation and economic progress) was not followed in other types of statutory infringement, such as competition law violations¹⁶⁷.

It is important to examine if the development of case law based factors guiding judicial discretion in quantifying damages, as it has occurred for damages for IP law infringements, is preferable from the publication of detailed guidelines by the European Commission. In addition, the form of guidance should also be carefully considered. There are different options: a document focusing on methodology (such as the best practices for the submission of economic evidence and data adopted by the European Commission) a rules of thumb approach¹⁶⁸, a more analytic multi-factor approach (such as that followed in *Georgia-Pacific*), an extremely detailed analysis of different "generally acceptable" methods and methodologies.... It is crucial also to consider the different national experiences in the quantification of damages in other areas of law, such as torts, intellectual property, breach of contract before moving to the publication of best practices or guidelines. Finally, in case the Commission adopts guidelines or best practices, these should be relatively open-ended so as not to exclude innovative methodologies, and they should be regularly revised in order to reflect the most recent economic thinking.

¹⁶⁶ See, for a discussion of the changes brought in France by the integration of Directive 2004/48(EC), Yaniv Benhamou, Compensation of damages for infringements of intellectual property rights in France, under Directive 2004/48/EC and its transposition law - new notions? (2009) 40(2) International Review of Intellectual Property and Competition Law 125-152 (noting that the integration of the Directive in the French legal system "will inevitably lead to awards of compensation greater than the prejudice suffered, going beyond the strict domain of civil liability"). In Germany, although damages are only compensatory, in IP cases, the injured party can also choose to claim the gain made by the injurer (§ 97(1)2 UrhG for Copyright, § 139(2)2 PatG for patents, § 42(2) GeschmMG, § 15(2)2 GebrMG) or by claiming the usual license fee. This "threefold damages calculation" (ie actual calculation of loss, usual license fee, injurer's gain) is also used where trademarks, trade names etc. are infringed, and in cases of unfair trade practices. Many thanks to my colleague Florian Wagner von Papp for this information.

¹⁶⁷ *Devenish Nutrition Ltd v. Sanofi-Aventis SA*, [2008] EWCA Civ 1086.

¹⁶⁸ See for instance, concerning the quantification of competition law damages, the Hungarian Competition Act, providing for a rebuttable presumption that 'the competition infringement affected the price by 10% unless the contrary is evidenced'.