

TOWARDS LEGALLY REVIEWABLE DAMAGE AWARDS

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From the perspective of both plaintiffs and defendants, the measurement of damages quantum is obviously of the utmost importance. Therefore, it is surprising to see this process left entirely to the court's discretion—especially since the quantum is traditionally considered a factual question. The result is that each litigation becomes a unique case calling for a sui generis outcome.

This article shows the limits of that approach. It leads to a structural uncertainty that is detrimental to the legitimate expectations of both parties. In practice, it deeply corrupts the fundamental principle of full recovery. I would argue there exist ways to move towards a model in which the valuation of damages will be a question of law that follows rules and methods whose application will be reviewable. In this article, I begin to explore some of these ways, specifically with respect to damages for breach of contract, using two simultaneous methodologies. The first is a comparison between French civil law, American

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common law and international commercial law, and the second is an empirical study involving both qualitative interviews with practitioners and the quantitative analysis of a proprietary sample of cases in which damages are difficult to measure. The article concludes with recommendations for judicial practices and a discussion of the possibility of predictive justice through shared compensatory damages schedules, which could eventually lead to artificial intelligence models.

CONTENTS

I.	GENERAL INTRODUCTION: BASIC PRINCIPLES OF DAMAGES	3
A.	THE SUBSTANTIVE LEGAL ARGUMENT	3
B.	THE MORE TECHNICAL ARGUMENT.....	4
II.	THE PRINCIPLE OF FULL RECOVERY AND ITS PRACTICAL APPLICATION	8
A.	INTRODUCTION TO PART II	8
B.	THE PRO-BUSINESS EVOLUTION OF U.S. CASE LAW	9
C.	THE SLOW EVOLUTION OF FRENCH CASE LAW	13
D.	THE SOPHISTICATION OF THE METHODS USED IN INTERNATIONAL ARBITRATION	16
E.	CONCLUSION TO PART I: FULL RECOVERY, WHILE ALWAYS THE THEORETICAL OBJECTIVE, IS RARELY ACHIEVED IN PRACTICE	24
III.	APPLICATION TO LOST PROFITS	25
A.	INTRODUCTION TO PART II: OTHER FIELDS OF LAW HAVE USED DAMAGES SCHEDULES	25
B.	THE CHALLENGES OF EMPIRICAL STUDIES.....	30
C.	FINDINGS FROM QUANTITATIVE ANALYSIS OF CASE LAW	34
D.	STRIKING CONVERGENCE IN OUTCOMES BETWEEN JURISDICTIONS.....	35
E.	RECOMMENDATIONS FROM FINDINGS ON CASE LAW.....	39
F.	FINDINGS AND RECOMMENDATIONS FROM QUALITATIVE FIELD INTERVIEWS WITH PRACTITIONERS	40
IV.	GENERAL CONCLUSION AND ADDITIONAL RESEARCH: WORKING TOWARDS MORE SUBSTANTIVE REVIEW AND PREDICTABILITY IN DAMAGE AWARDS	43
	APPENDIX 1. A COMPARATIVE GLANCE AT THE THREE LAWS ON CONTRACT DAMAGES.....	45
	APPENDIX 2. QUALITATIVE INTERVIEWS WITH LEGAL PRACTITIONERS.....	46
	APPENDIX 3. QUANTITATIVE ANALYSIS OF CASE LAW, SAMPLE AND METHODOLOGY.....	49

I. GENERAL INTRODUCTION: BASIC PRINCIPLES OF DAMAGES

The measurement of economic loss and damages for breach of contract has traditionally navigated between two difficulties: legal uncertainty and technical complexity. Legal uncertainty is permanent, as damages are supposed to be a question of facts, calling for case-by-case *sui generis* solutions. Technical complexity arises when objective data is lacking or when such data exists, but current quantitative methods are too sophisticated and costly. For both reasons, the parties, their counsel, and sometimes even the courts essentially rely on bargaining. This increases the risk of ineffective negotiations, fruitless litigation, and unpredictable decisions, potentially lacking legitimacy.

Could we do better? Is there a way to preserve the trial court's discretion while at the same time circumventing the problem of unpredictable, even arbitrary, awards for economic loss? We will make two related arguments addressing the two above mentioned difficulties, legal and technical. 1) While actual loss and damage *quantum* should remain a question of facts appreciated at the discretion of the court, damage principles and calculation methods should be developed as a matter of law with more substantive review. 2) Injured parties could be compensated for the reasonably certain amount of their loss if courts use objective yet simple methods to measure economic loss. There are therefore good reasons to develop such alternative methods that will ultimately prove to be less costly than current quantitative methods.

A. The substantive legal argument

Our legal systems allow the courts to exercise their full discretion, which causes a significant degree of uncertainty for the parties. This state of affairs results, first, from a widespread idea that the valuation of damages is a question not of law, but of fact. This means that each dispute would be a case of first impression and would require a *sui generis* solution. However, while it remains true that economic loss is a question of fact, the academic debate has evolved considerably when it comes to the methods used for the valuation of recoverable loss—that is the measure of damages. It is now time to agree on a legal definition of recoverable loss, in order to measure it and provide compensation.

On these quasi-economic topics, such as the definition of a loss and the calculation of damages, globalization has not yet resulted in extensive homogenization. Legal texts remain varied. The attempt at homogenization is the result of a careful balance between the major legal systems, observation of legal practices, and the opinions of legal scholars. Will courts and lawmakers jealously guard their privileges? This situation, which we assume to be temporary, has provided the context for this study.

There is abundant literature on the theory of liability in contract in both the United States and France. However, the literature is much sparser with respect to damages. This is unsurprising in French civil law, where the default rule remains specific performance,¹ but it is also the case in the United States, where the default rule is an award of expectation damages. Even in international commercial law, the literature on the quantum of damages is practically nonexistent. The rare scholarship focusing on the quantification of contractual damages is written by economists. This

¹ Legal scholarship and, more recently, the law have evolved on this point. See, e.g., YVES-MARIE LAITHIER, *ÉTUDE COMPARATIVE DES SANCTIONS DE L'INEXÉCUTION DU CONTRAT* [COMPARATIVE STUDY OF SANCTIONS FOR BREACH OF CONTRACT] (L.G.D.J. ed., 2004) (Fr.). See also, CODE CIVIL [C. CIV.] [CIVIL CODE] art. 1221 (Fr.) (excluding specific performance where it “is impossible or where there is a manifest imbalance between its cost to the good-faith obligor and its value to the obligee”).

is because damages are theoretically not a question of law, but rather solely a question of fact in the three legal systems studied here.

However, lawyers have been less hesitant to deal with the quantum of damages in other areas of civil liability, in particular in Tort. For example, compensation for bodily injury has been the subject of significant literature, since (i) the insurance companies have been investing considerable resources to quantify it during the second half of the 20th Century, and (ii) the Dintilhac Report proposed a nomenclature to standardize it in 2005.² Initially, the idea of organizing different types of bodily injury into rubrics and damages schedules seemed surprising, even offensive, but today it is fully accepted. Back in the 18th century, the English judge Sir William Blackstone already suggested that the default rule applicable to tort property damages should also apply to contract damages.³ We will explore a similar transposition concerning the calculation methods of damages.

B. The more technical argument

An alternative calculation method would be to develop rubrics, guidelines and damages schedules for certain contractual losses. In addition to their use for bodily injury, simple indemnification schedules have been formalized more recently for injury due to dismissals from employment and to divorce. Our study asks whether it is possible to develop similar methods to compensate injury in the area of commercial contracts. Almost unanimously, the academics and practitioners we interviewed during the initial phase of our doctoral research⁴ believed that it would be much more complicated, since the documented case law is sparser and there are more factors to take into consideration. We agree, and the fact of its difficulty should not be sufficient to deter us.

We are aiming this research project to benefit the academic debate on public policy and also to provide practical assistance to commercial parties, their lawyers and eventually the judges who all must deal with the uncertainties of litigation. As a consequence, we will focus on those

² Delivered in July 2005, the Dintilhac Report, named for Jean-Pierre Dintilhac, the President of the Second Civil Chamber of the Cour de cassation who chaired a working group on indemnification for personal injury, proposed a nomenclature for the different types of injury. American personal injury schedules are also referred to below in Part II. JEAN -PIERRE DINTILHAC, RAPPORT DU GROUPE DE TRAVAIL CHARGÉ D'ÉLABORER UNE NOMENCLATURE DES PRÉJUDICES CORPORELS [REPORT OF THE WORKING GROUP TO PREPARE A NOMENCLATURE OF PERSONAL INJURY] (2005) (Fr.).

³ 1 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND IN FOUR BOOKS 139 (George Sharswood ed., vol. 1 1753) ("Even on the Blackstonian view, cases involving claims for property damage caused without intent or malice presented the strongest case for the adoption of a default rule of damages equal to the value of the victim's losses. This same rule, Blackstone had suggested, should also apply to claims for breach of contract."). See also John C. Goldberg, *Two Conceptions of Tort Damages: Fair v. Full Compensation*, 55 DEPAUL L. REV. 435, 444 (2006) ("In one place (Blackstone) suggests that an ordinary action for conversion (such as a conversion without malice) entails that 'the plaintiff shall recover damages, equal to the value of the thing converted.' He expresses similar views with regard to awards of damages in actions for breach of contract, as well as actions for restitution. Yet even in these categories of cases, the diminished value of the property, or the value of the performance withheld, is treated as establishing a guideline.").

⁴ Franck S. Giaoui, *Indemnisation du Préjudice Economique en Cas d'Inexécution Contractuelle: Etude Comparative en Common Law Américaine, Droit Civil Français et Droit Commercial International – Application aux Avant-Contrats, Atteintes à la Réputation Commerciale et Activités sans Base Etablie* [Recovery for Economic Loss Due to Breach of Contract: A Comparative Study of U.S. Common Law, French Civil Law, and International Commercial Law – Application to Agreements to Agree, Damage to Business Reputation, and Lost Opportunity for New Businesses], (Sept. 21, 2018) (Ph.D. dissertation, Sorbonne Doctoral School of Law) (on file with Cujas Library of Law and Economics).

damages combining a highest level of uncertainty for lack of actual data allowing undisputed calculation and a moderate economic stake making it inefficient to implement costly methods. Hopefully, our empirical analysis will show that most litigation cases claiming for expectation damages fit those features whenever there is no obvious market to substitute for contract performance.

These damages schedules would make decisions more predictable for most legal professionals and parties. However, this predictive vision for the law is not new. At the end of the Nineteenth Century, Oliver Wendell Holmes developed the “bad man” theory: according to Holmes, bad men are motivated only by the material consequences that knowledge of the law will permit them to predict. By adopting the point of view of this hypothetical social pariah, Holmes explained that it was possible to predict court decisions.⁵

On the other hand, Meyer Dan Cohen introduced this device of an “acoustic separation”⁶ between conduct rules and decision rules. Of course, he is applying this to criminal law. In commercial law which concerns this article, the “bad man” is the rational businessperson who is simply thinking of a profit maximizing structure. In either law and in all jurisdictions, one way to undermine the “bad man” is actually to use uncertain decision rules generating acoustic separation so that he cannot rationally determine what is the possible legal outcome of his actions.

Richard Brooks⁷ have asked whether the increasing predictability of court decisions that I promote would then favor the “bad man”. That is possible in the short term if the “bad man” benefits from information asymmetry. In this paper and in following ones, we hope to demonstrate that, in the long run, however, court decisions would be widely anticipated by all parties including the “good man”. Hence, the increased legitimacy and the improved efficiency would benefit all society.

Questions about the role of information technology in the law are not new either: In 1963, Reed Lawlor predicted that computers would be used to analyze facts, rules, and precedents in order to provide courts and lawyers with useful information for the cases before them.⁸

Thus, the development of damages schedules constitutes a step towards:

- improved access to the law, despite its increasing complexity and legislative inflation;⁹
- a decreased need for research by legal professionals, thus giving them more time for greater added value tasks;¹⁰
- assistance in crafting more effective legal strategies based on better-quality information;¹¹

⁵ Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 459 (1897).

⁶ Meir Dan-Cohen, *Decision Rules and Conduct Rules: On Acoustic Separation in Criminal Law*, 97 HARV. L. REV. 625, 630 (1984).

⁷ Ph.D. Dissertation Defense by Franck Giaoui with Richard Brooks, Dissertation Juror, Sorbonne Doctoral School of Law, in Paris, Fr. (Sept. 21, 2018).

⁸ Reed C. Lawlor, *What Computers Can Do: Analysis and Prediction of Judicial Decisions*, 49 A.B.A. J. 337, 337–38 (1963).

⁹ Nolan Goldberg & Micah Miller, *The Practice of Law in the Age of ‘Big Data’*, NAT’L LAW J. (Apr. 11, 2011), <https://www.law.com/nationallawjournal/almID/1202489457214/?slreturn=20190910000636>.

¹⁰ Guillaume Zambrano, *Précédents et Prédiction Jurisprudentielles à l’Ere des Big Data: Parier sur le Résultat (Probable) d’un Procès [Precedent and Jurisprudential Prediction in the Age of Big Data: Betting on the (Probable) Outcome of a Trial]*, HAL ARCHIVES-OUVERTES (Feb. 8, 2018, 10:54 AM), <https://hal.archives-ouvertes.fr/hal-01496098>.

¹¹ Zambrano, *supra* note 10.

- a less crowded docket as those recurring standard cases will be expedited and those cases with lower chances of success will be avoided;¹² and
- the development of tools to assist judges in making decisions that are consistent with fair Due Process and satisfy the parties,¹³ particularly in cases where information lacks to allow for full recovery.

Those two arguments can be developed to fill the lack of a specific definition of “damages”—other than through the notion of “full recovery”—and of a method for calculating those damages in the rules governing recovery for breach of contract under the three legal systems: the Anglo-American Common law, the Continental Civil Law, and the international commercial law.

Under the Common law of contracts, and particularly in the United States, the default rule is that damages should compensate for the party’s expectation interest. That is, the aggrieved party should recover fully the “benefit of his bargain by being put in as good a position as he would have been in had the contract been performed.”¹⁴

However, it is essential to define the limits of recoverable loss: contract damages are for ‘pure economic loss,’ defined as the pecuniary loss that is not accompanied by any physical harm to the victim’s person or property. Chief Judge Benjamin Cardozo of the New York Court of Appeals famously described pure economic loss as “liability in an indeterminate amount, for an indeterminate time, to an indeterminate class.”¹⁵ The notion of pure economic loss, which originated in England,¹⁶ has given rise to comparative studies in France and other countries of civil law. These studies highlight several limitations on the principle of full recovery of the expectation interest in Common law systems.

“Despite the general principle of full recovery, it becomes apparent when we examine trends in recent decisions and laws that there is a hierarchy between personal and economic injury—and economic injury ranks lower.”¹⁷ Under U.S. contract law, recovery for a loss requires a breach of contract, a reasonably certain and foreseeable loss, and a causal link between the breach and the loss. An indirect loss of profits may be recovered through consequential damages. However, plaintiffs have a duty to mitigate their damages, which is still not standard under French civil law. Potential loss of profits is also recognized in law and economics. Furthermore, Quebecois law, of hybrid origin, allows for punitive damages in such cases.

In Continental civil law, and more specifically under the French law of contractual obligations, the basic principle of damages is the “full recovery for the loss” – in other words, all damages, whether economic, personal or otherwise, are recoverable as long as they are direct and certain. The logical consequence of this principle, according to Laurent Aynès, is that “in [French] law, there is no reason, other than descriptive, to distinguish between different categories of loss.”

¹² *Id.*

¹³ Jean-Jacques Urvoas, *Lettre du garde des Sceaux à un futur ministre de la Justice [Letter from the Minister of Justice to His Successors]*, DALLOZ, Apr. 19, 2017.

¹⁴ RESTATEMENT (SECOND) OF CONTRACTS § 344 (AM. LAW INST. 1981).

¹⁵ *Ultramares Corp. v. Touche*, 174 N.E. 441, 444 (N.Y. 1931).

¹⁶ *Derry v. Peek* [1889] 14 App. Cas. 337 (HL) 347 (appeal taken from Eng.).

¹⁷ Laurent Aynès, Professeur à l’Université de Paris I (Panthéon-Sorbonne) [Professor at the Univ. of Paris I (Panthéon-Sorbonne)], *Réparation intégrale et la typologie des préjudices: Quelques données juridiques [Full Recovery and the Typology of Harm: Some Legal Data]*, 1 (Apr. 26, 2007) (transcript available at https://www.courdecassation.fr/venements_23/colloques_4/2007_2254/reparation_integrale_typologie_prejudices_1_0399.html).

In fact, “economic loss is not defined in the law or even in the legal scholarship.”¹⁸ If strictly applied, this principle makes it impossible as a matter of fact, if not as a matter of law, to compensate victims (especially legal entities) for the full loss actually suffered. It limits recovery to the loss that is certain, actually suffered by the promisee, solely and directly caused by the breach of contract, and foreseeable by the promisor.¹⁹

Tools for the harmonization and standardization of international commercial law, such as the United Nations Convention on Contracts for the International Sale of Goods (the “CISG”)²⁰ and the UNIDROIT Principles of International Commercial Contracts (the “UNIDROIT Principles” or “PICC”)²¹ are similar to Continental civil law both in that they fail to define “full recovery” and in that all types of losses are recoverable. The CISG and the PICC, like French civil law, permit recovery for non-pecuniary damages; contract law in the United States generally excludes them. On the other hand, the CISG drew on Anglo-American common law with respect to recovery for indirect loss of profits and the duty to mitigate damages.

Our comparison will primarily use the CISG and the PICC as a third reference. Both sets of rules are used with increasing frequency in international commercial arbitration practice,²² in an effort to reconcile apparently contradictory concepts in the two principal legal systems. Occasionally, we will refer to the International Centre for Settlement of Investment Disputes (“ICSID”)²³ and to the Principles of European Contract Law (“PECL”).²⁴

The methodology adopted in our research and this paper is predominantly comparative between U.S. Common law, French Civil law, and international commercial law. It uses multiple sources from statutes and doctrine, to secondary analysis of case law, and, most importantly, to two proprietary empirical analysis. The first is a qualitative analysis based on in depth field

¹⁸ *Id.*

¹⁹ CODE CIVIL art. 1231-2-1231-6 (fr.). A concordance table showing former and new articles of the French Civil Code is available at legifrance.gouv.fr.

²⁰ Brooke Marshall, *The Hague Choice of Law Principles, CISG, and PICC: A Hard Look at a Choice of Soft Law*, 66 AM. J. COMP. L. 175, 180 (2018) (discussing the United Nations Convention on Contracts for the International Sale of Goods, known as the Vienna Convention, was signed in Vienna by 89 countries on April 11, 1980. It entered into effect on January 1, 1988 and constitutes both a supranational law and a set of rules in effect in the positive law of the countries that ratified it).

²¹ *Id.* at 175–95 (discussing the UNIDROIT Principles of International Commercial Contracts, also known as the PICC, are principles articulated by the International Institute for the Unification of Private Law. Published in Rome in 1994, they were reviewed and amended in 2004, 2010, and 2016. Unlike the CISG, they constitute a source of “soft law”).

²² The term “Lex Mercatoria” or “Merchant Law” is sometimes used to refer to a market practice that is commonly used but is not binding absent the express agreement of the parties. Emily Kadens, *The Myth of the Customary Law Merchant*, 90 TEX. L. REV. 1153, 1163 (2012).

²³ The ICSID Convention has been ratified by 154 contracting states. It entered into effect on October 14, 1966. *ICSID Convention*, INT’L CTR. FOR SETTLEMENT OF INV. DISPUTES, <https://icsid.worldbank.org/en/Pages/icsidocs/ICSID-Convention.aspx> (last visited October 10, 2019) [<https://perma.cc/L4R4-ZBBR>].

²⁴ The PECL is a set of rules compiled for the purpose of harmonizing the contract law of the European Union Member States. The PECL were published by the Commission on European Contract Law or “Lando Commission” (which has no [national obligations] in 1995, renewed in 1999, and supplemented in 2002). Kristina Riedl, *The Work of the Lando-Commission from an Alternative Viewpoint*, PACE LAW SCH. INST. OF INT’L COMMERCIAL LAW (July 8, 2003), <http://www.cisg.law.pace.edu/cisg/text/peclintro.html> [<https://perma.cc/677T-DCAJ>].

interviews²⁵ and detailed cases from the author's practice.²⁶ The second is a systematic quantitative analysis of the most relevant litigated cases accessible thru online databases.²⁷

Part I of this article will first describe the fundamental principles of remedies for breach of contract under the three bodies of law considered. It will show the limits to the traditional understanding of the positive law: It leads to chronic judicial uncertainty, contrary to the legitimate expectations of the parties, and in practice derails the principle of full compensation. In Part II, we will discuss ways to make the measurement of damages a question of law, subject to rules and methods that are capable of review. These two parts will discuss damages for breach of contract, using the methodological instruments mentioned above. They will enable us to present proposals for improving judicial practices by applying current law to full recovery or for amending the normative law of contract damages. We will conclude by discussing prospects for predictive justice, through damages schedules that could give rise to artificial intelligence models.

II. THE PRINCIPLE OF FULL RECOVERY AND ITS PRACTICAL APPLICATION

A. Introduction to Part II

We will show that U.S. and French case law are in fact less far apart from each other than their respective legislation would lead us to believe. However, legal uncertainty (even arbitrariness) as to the quantum of damages is better managed by the common law, the international commercial law and the international arbitration, because the methods used—in particular economic methods—are clearer, and the culture (which prizes efficiency) is often better adapted.

We will start from the principal assumption that society has a clear interest in the performance of contracts, to preserve their central role in commerce, and, additionally, to decrease the burden on the courts. Then we will look at situations in which specific performance is unavailable or inappropriate, and in which the parties have been unable to reach an agreement to end the initial contract, either through a settlement or by entering into a new contract. In that situation, the only available remedy is monetary damages for the loss caused by the breach.

In the best case, expectation damages can be measured and fully recovered; this remedy is the monetary value of, and serves as a proxy for, specific performance itself. Sophisticated methods often delivered by expert witnesses—such as discounted cash flow (DCF)²⁸ and event studies—are justified and possible in cases with highest economic stakes and fullest documentation. However, these cases remain a small minority of the total. Full recovery remains theoretical in the majority of cases, in particular due the absence of simple, objective methods that are accessible to all in the respective statutes. in the respective statutes.

²⁵ See *infra* Appendix 2, Section 2.2 for a list of practitioners interviewed and the interview guide used.

²⁶ See *infra* Appendix 3 for a description of cases used.

²⁷ Key words related to contract damages were used to extract 905 cases from online databases and then analyze fully the 213 most documented ones. The sample selection and properties are described further in Part II. I assigned the research assistants to identify different types of commercial litigations, to extract and code specific data, to perform a range of quantitative analysis, and to validate or amend the hypothesis I previously developed thru qualitative analysis.

²⁸ Jeff D. Makholm, The Discounted Cash Flow Method of Valuing in Arbitration, *in* THE INVESTMENT TREATY ARBITRATION REVIEW 239, 239 (Barton Legum ed., 3rd ed. 2018). The discounted cash flow (DCF) method consists of discounting to their present value the future cash flows a contract would have generated had it been performed. *Discounted Cash Flow (DCF)*, INVESTOPEDIA, (June 19, 2019), <https://www.investopedia.com/terms/d/dcf.asp> [<https://perma.cc/6LVK-X2UN>].

However, this general observation will reveal itself to be more nuanced when we have examined how courts and arbitral tribunals in the three legal systems in question indemnify for these losses.

B. The pro-business evolution of U.S. case law

1. American Statutes

In the United States, the Restatement (Second) of Contracts and the Uniform Commercial Code have, together, partially filled the void of a specific method for calculating damages. According to the Restatement (Second) of Contracts, damages may be awarded to protect one of three interests of a promisee:

- (a) his “expectation interest,” which is his interest in having the benefit of his bargain by being put in as good a position as he would have been in had the contract been performed,
- (b) his “reliance interest,” which is his interest in being reimbursed for loss caused by reliance on the contract by being put in as good a position as he would have been in had the contract not been made, or
- (c) his “restitution interest,” which is his interest in having restored to him any benefit that he has conferred on the other party.²⁹

Most commonly, the default rule bases damages on the injured party’s expectation interest which is measured by:

- (a) the loss in the value to him of the other party's performance caused by its failure or deficiency, plus
- (b) any other loss, including incidental or consequential loss, caused by the breach, less
- (c) any cost or other loss that he has avoided by not having to perform.³⁰

Valuation of these damages assumes that the best approximation of the expected gain from the broken promise would come from substitution on the market. Hence the measure of damages for repudiation is the “difference between the market price . . . and the . . . unpaid contract price together with any incidental damages . . . but less expenses saved in consequence of the buyer’s breach.”³¹ However, substitution and references to “market price” are unhelpful where there is no real market for substitution, or, more generally, where the economic loss exists but is difficult to quantify. These are the cases on which we have focused our research and these cases are the subject of the remainder of this article.³²

²⁹ RESTATEMENT (SECOND) OF CONTRACTS § 344 (AM. LAW. INST. 1981).

³⁰ *Id.* § 347.

³¹ U.C.C. § 2-708 (AM. LAW. INST. & UNIF. LAW. COMM’N 2017–2018).

³² See *infra* Appendix 3 for a more complete analysis of difficult-to-quantify economic losses and the methods that exist for measuring them.

2. *American case law*

Practitioners have noted seemingly contradictory phenomena: very high damages are awarded, but the case law is also pro-business.

Under U.S. contract law, recovery for a loss requires a breach of contract, a reasonably certain and foreseeable loss, and a causal link between the breach and the loss. The next step is to determine the proper method for measuring the amount of the loss. How does one quantify losses incurred and profits lost? What types of evidence should be used? And how should we apply these methods when the loss has been proven to exist but is difficult to quantify?

In order to answer these questions, we conducted a systematic analysis of U.S. case law in this area. In Part II, we will detail the results of our quantitative analysis on a proprietary sample of case law³³. However, the case law we qualitatively analyze in the following sections is all reported in Robert Dunn's authoritative treatise³⁴ and is current through July 1, 2015.³⁵ The treatise reports on 752 cases available online and decided between 1978 and 2015, of which 29 cases were decided during the first half of 2015.³⁶ The following sections describe the principal conclusions of our analysis.

1. For expectation general damages, the requirement of reasonable certainty applies to their existence but not to their amount.

Plaintiffs must show with reasonable certainty that they would have earned a profit if the contract had been properly performed. However, the reasonable certainty rule is not without nuance. Courts that have analyzed the requirement have usually held that it applies only to the existence of the loss, not to its amount. Once the existence of the loss has been established, U.S. courts will allow a lower degree of certainty or greater degree of approximation with respect to the amount of that loss. The quantum can therefore be an approximate or uncertain amount established by the plaintiff, with the burden on the defendant to prove a different amount with a greater degree of certainty. The official comments to UCC Section 1-305(a) state that "[t]he third purpose of subsection (a) is to reject any doctrine that damages must be calculable with mathematical accuracy. Compensatory damages are often at best approximate: they have to be proved with whatever definiteness and accuracy the facts permit, but no more."

A large body of case law agrees and is reported in Robert Dunn's treatise. The case most frequently cited in this area—albeit in Antitrust law—is *Story Parchment*.³⁷ Two more recent federal decisions in contract law cite *Story Parchment* explicitly.³⁸ The *AlphaMed* court also cites Robert Dunn for the proposition that "[i]f plaintiff's proof leaves uncertain whether plaintiff would have made any profits at all, there can be no recovery."³⁹

³³ See *supra* note 124.

³⁴ ROBERT L. DUNN, RECOVERY OF DAMAGES FOR LOST PROFITS (Lawpress Corp. ed., 5th ed. 1998 & Supp. 2003).

³⁵ We also selectively analyzed twenty-six new cases decided during the second half of 2015. For practical reasons, the new cases were not included in the statistical analysis that follows.

³⁶ For practical reasons, these statistics combine contract litigation and tort litigation. However only contract cases are cited in the following sections. We estimate that they represent about half of the overall sample, or approximately twenty-five new cases per year, at the current rate in U.S. courts.

³⁷ *Story Parchment Co. v. Patterson Parchment Paper Co.*, 282 U.S. 555 (1931).

³⁸ See *AlphaMed Pharm. Corp. v. Arriva Pharm. Inc.*, 432 F. Supp. 2d 1319, 1342–44 (S.D. Fla. 2006), *aff'd*, 294 F. App'x 501 (11th Cir. 2008); *T G Plastics Trading Co. v. Toray Plastics (Am.), Inc.*, 775 F.3d 31 (1st Cir. 2014).

³⁹ *AlphaMed Pharm. Corp.* 432 F. Supp. 2d at 1342 (*quoted in* ROBERT L. DUNN, RECOVERY OF DAMAGES FOR LOST PROFITS, (Lawpress eds., 5th ed. 2003 & Supp. 2003)).

Thus, the plaintiff must first show that the defendant's misconduct injured the plaintiff, and then, if possible, transfer the burden of the uncertainty as to the amount of the uncertainty to the defendant.

Other courts have blurred the fundamental distinction between proving the existence of a loss and proving the amount of that loss, sometimes in the opposite manner from the example above. For example, in *TG Plastics*, the First Circuit began its analysis of the facts by noting that under Rhode Island law, which governed the case, the amount of damages must be proven with "reasonable degree of certainty."⁴⁰ It went on to hold that "'absolute certainty in proving . . . quantum [of damages] is not required' and that the jury need only 'be guided by some rational standard.'"⁴¹

Appeals courts in numerous states have held similarly (including California in 2014,⁴² Ohio,⁴³ Illinois,⁴⁴ and Missouri⁴⁵ in 2015). Finally, in late 2015, the Supreme Court of Delaware affirmed a Court of Chancery judgment awarding \$113 million in expectation damages for lost profits on the grounds that "when a contract is breached, expectation damages can be established as long as the plaintiff can prove the fact of damages with reasonable certainty. The amount of damages can be an estimate."⁴⁶

2. For expectation consequential damages, the requirement of reasonable certainty applies to both their existence and their amount.

Unlike expectation general damages, when it comes to expectation consequential damages both the existence and the amount must be established with the same level of reasonable certainty. In the complex *Tractebel v. AEP* case decided under New York law, the U.S. District Court for the Third District of New York had found at trial that the injury established by the plaintiff should be recoverable through consequential expectation damages. On appeal, the Second Circuit re-characterized the injury as recoverable through general expectation damages, which decreased the degree of certainty required in order to demonstrate the amount of the loss.⁴⁷

The law was well established since 1986 when the Court of Appeals of the State of New York ruled in *Kenford* that, while certainty of amount is not an element of general damages, it is an element of consequential damages. In addition to proving that the existence of damage is reasonably certain, and that the damages were foreseeable and within the contemplation of both

⁴⁰ See *T G Plastics*, 775 F.3d at 39.

⁴¹ *Id.* at 40 (quoted in *Smith Dev. Corp. v. Bilow Enters., Inc.*, 308 A.2d 477, 483 (R.I. 1973)).

⁴² *Asahi Kasei Pharma Corp. v. Actelion Ltd.*, 169 Cal. Rptr. 3d 689, 708 (Cal. Ct. App. 2014) (first quoting *Grupe v. Glick*, 160 P.2d 832, 840 (Cal. 1945); then quoting *Sargon Enter., Inc. v. Univ. of S. Cal.*, 288 P.3d 1237, 1254 (Cal. 2012)).

⁴³ *Ginn v. Stonecreek Dental Care*, 30 N.E.3d 1034, 1043 (Ohio Ct. App. 2015) (quoting *UZ Engineered Prod. Co. v. Midwest Motor Supply Co.*, 770 N.E.2d 1068, 1083 (Ohio Ct. App. 2001)). Two recent decisions of the Georgia Court of Appeals use almost exactly the same language. *EZ Green Assocs, LLC v. Ga.-Pacific Corp.*, 770 S.E.2d 273, 277 (Ga. Ct. App. 2015); *Legal Acad. Inc. v. JLK, Inc.*, 765 S.E.2d 472, 475 (Ga. Ct. App. 2014).

⁴⁴ *Westlake Fin. Grp. Inc. v. CDH-Delnor Health Sys.*, 25 N.E.3d 1166, 1179 (Ill. App. Ct. 2015) (quoting *Belleville Toyota, Inc. v. Toyota Motor Sales, U.S.A., Inc.*, 770 N.E.2d 177, 199 (Ill. App. Ct. 2002)).

⁴⁵ *Am. Eagle Waste Indus., LLC v. St. Louis Cty., Missouri*, 463 S.W.3d 11, 19 (Mo. Ct. App. 2015) (quoting *Ameristar Jet Charter, Inc. v. Dodson Int'l Parts, Inc.*, 155 S.W.3d 50, 54 (Mo. 2005)).

⁴⁶ *Siga Techs., Inc. v. Pharmathene, Inc.*, 132 A.3d 1108, 1111 (Del. 2015) (quoting *Beard Research, Inc. v. Kates*, 8 A.3d 573, 613 (Del. Ch. 2010), *aff'd sub nom. ASDI, Inc. v. Beard Research, Inc.*, 11 A.3d 749 (Del. 2010); *Del. Express Shuttle, Inc. v. Older*, 2002 WL 31458243, at *15 (Del.Ch. Oct. 23, 2002).

⁴⁷ *Tractebel Energy Mktg., Inc. v. AEP Power Mktg., Inc.*, 487 F.3d 89, 109–11 (2d Cir. 2007).

parties, a party claiming consequential damages must also prove the amount of damage with reasonable certainty.⁴⁸

Thus, there exists a higher burden for proving the *quantum* for consequential damages than for general damages. This is the burden that the district court erroneously imposed on *AEP*.

In his article on the “New Business” rule, Victor Goldberg analyzed the case, and noted that by framing the problem as one of projecting lost profits, the Court of Appeals implicitly rejected the District Court’s finding that the project was a new business.⁴⁹

The Circuit Court found that because the loss was direct, calculating its amount was the same exercise that the parties had engaged in when they entered into the contract 20 years before.

3. The timing of damages calculations.

In determining liability, U.S. courts look only to the parties’ actions prior to the time of the breach. Damages, on the other hand, are calculated as the date of the decision. This is another difference between common law and civil law. In civil law jurisdictions, courts tend to consider the parties’ conduct after the breach occurs. U.S. legal scholars are generally of the opinion that the actions of the obligee/seller after the breach need not be taken into account by the obligor/buyer, except perhaps when there is no market price at the time of the breach.

The fact that a contract is an inherently risky asset does not mean that one cannot determine its value just prior to the breach. According to Victor Goldberg, “[t]he likelihood of an event at the time of the breach, whether remote or predestined, is one of the determinants of the value of the asset.”⁵⁰ Goldberg criticizes judicial and arbitral decisions that take subsequent events into consideration: “If at the time of the court’s decision, certain events occurring after the breach—and not others—are deemed to have contributed to the loss, then each party will try to use the rule that is most advantageous to her, knowing what she now knows about the subsequent events, and courts will be forced to decide on a case-by-case basis which situations justify the inclusion of subsequent events.”⁵¹ The author concludes that courts and arbitral tribunals need a single rule that eliminates the need for the plaintiff to choose between damages as of the time of the breach (monetary damages) and damages at the time of the decision (monetary specific performance).

U.S. courts generally discount damages for lost profits to the date of the judgment. Sometimes, an explanation is given. For example: “Almost all of Energy Capital’s lost profits would have been earned after the date of the judgment. Accordingly, we hold that the trial court did not err in discounting Energy Capital’s lost profits to the date of judgment instead of the date of the breach.”⁵² Or: “The damages accruing from the date of the [breach] through the date of the judgment . . . is not reduced to present value, but is awarded outright.”⁵³

In summary, we observe contradictory phenomena, generally not awarded full recovery and unhelpful references to “market price” whenever there is no real market for substitution.

⁴⁸ *Kenford Co. v. Cty. Of Erid*, 67 N.Y.2d 257, 261 (N.Y. 1986) (first quoting *Wakeman v. Wheeler & Wilson Mfg. Co.*, 4 N.E. 264 (N.Y. 1886); then quoting *Witherbee v. Meyer*, 50 N.E. 58 (N.Y. 1898)).

⁴⁹ Victor P. Goldberg, *The New Business Rule and Compensation for Lost Profits* 25 (Columbia Law and Econ. Working Paper No. 544, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2817600.

⁵⁰ VICTOR P. GOLDBERG, *RETHINKING CONTRACT LAW AND CONTRACT DESIGN* 27 (2015).

⁵¹ *Id.*

⁵² *Energy Capital Corp. v. United States*, 302 F.3d 1314, 1330 (Fed. Cir. 2002) (internal citation omitted).

⁵³ *Purina Mills, L.L.C. v. Less*, 295 F. Supp. 2d 1017, 1047–48 (N.D. Iowa 2003).

Hence, the current U.S. system keeps unnecessary judicial uncertainty in damages for contract breach. How does this situation compare with the French system?

C. The Slow Evolution of French Case Law

1. French Statutes

The French reform of the law of contract and the general regime and proof of obligations,⁵⁴ which entered into effect on October 1, 2016, made no changes to the rules governing damages. The title of the sub-section on damages make it clear: damages are intended to “compensate for the injury caused by the breach of contract.” New Articles 1231 to 1231-7 repeat the old Articles 1146 to 1153-1 nearly word for word. In particular, they provide that:

- “Damages due to the injured party consist, in general, of the loss they have suffered and the opportunity of which they have been deprived, subject to the exceptions and modifications set forth below,”⁵⁵
- “The breaching party is liable only for damages that were or could have been foreseen at the time the contract was formed, except where the breach is due to negligence (*faute lourde*) or misconduct (*faute dolosive*),”⁵⁶
- “Even where the breach of contract is the result of negligence or misconduct, damages are awarded only for the immediate and direct consequences of the breach,”⁵⁷ and,
- “Where the contract provides for liquidated damages, the non-breaching party may not be awarded a greater or lesser amount.”⁵⁸

These provisions make no reference to the principle of full recovery or, more generally, to the notion of expectation damages (*intérêt positif*).

However, the notions of full recovery, mitigation, and punitive damages will be included in the planned reform of civil liability, which is still under discussion among the Ministry of Justice, the Senate, and the National Assembly at the time of this writing.⁵⁹

⁵⁴ For an exhaustive analysis of the reform, see OLIVIER DESHAYES ET AL., *RÉFORME DU DROIT DES CONTRATS, DU RÉGIME GÉNÉRAL ET DE LA PREUVE DES OBLIGATIONS* [The Reform of the Law of Contract and the General Regime and Proof of Obligations] (2nd ed. 2018); NICOLAS DISSAUX & CHRISTOPHE JAMIN, *REFORME DU DROIT DES CONTRATS, DU RÉGIME GÉNÉRAL ET DE LA PREUVE DES OBLIGATIONS COMMENTAIRE DES ARTICLES 1100 A 1386-1 DU CODE CIVIL* [Reform of the Law of Contract and the General Regime and Proof of Obligations Commentary on Articles 1100 to 1386-1 of the Civil Code] (2016).

⁵⁵ CODE CIVIL [C. CIV.] [CIVIL CODE] art. 1231-2.

⁵⁶ *Id.* art. 1231-3.

⁵⁷ *Id.* art. 1231-4.

⁵⁸ *Id.* art. 1231-5.

⁵⁹ January 2019. In the remainder of this section, we will refer to the Plan for Reform of Civil Liability (*Projet de Réforme de la Responsabilité Civile*) presented on March 13, 2017, by the Minister of Justice, which may be found (in French) on the website of the Ministry of Justice. *Projet de Réforme de la Responsabilité Civile*, FR. MINISTRY OF JUST. (Mar. 13, 2017), http://www.justice.gouv.fr/publication/Projet_de_reforme_de_la_responsabilite_civile_13032017.pdf.

The planned reform calls for codifying the consistent holdings of the Court of Cassation⁶⁰ in order to consecrate the principle of full recovery in Art. 1258: “Compensation is intended to place the injured party, to the extent possible, in the position they would have been in if the injury had not taken place. They should result in neither profit nor loss for the injured party.” In addition, Art. 1259 provides that: “Recovery may take the form of specific performance or damages; the two types of recovery may be combined to ensure full recovery for the loss.”

With respect to the mitigation of damages, Art. 1263 provides that: “Except in the case of bodily injury, damages are reduced when the injured party has not taken obvious and reasonable measures, in particular with regard to their ability to contribute, to avoid aggravating the injury.” This principle is directly inspired by the Anglo-American notion of mitigated damages. It is even specified, in Article 1237, that “[e]xpenses incurred by the plaintiff in order to prevent an imminent injury or to prevent its increased risk, as well as to reduce the consequences thereof, constitute a recoverable loss to the extent that they were reasonably incurred.”

As to punitive damages, the new Article 1266-1 proposes to institute a civil fine in order to deter “lucrative misconduct.” This fine would be paid either to the Treasury or into funds dedicated to redressing injuries of the type suffered. The maximum amount of the fine would be “ten times the amount of the profit made.”⁶¹ Moreover, if the liable party is a legal entity, the fine could be increased to “5% of the highest revenues (excluding taxes) earned in France during a fiscal year ended since the fiscal year preceding that during which the misconduct took place.”⁶² However, we note that this new article does not apply to liability in contract; rather, it is limited to “extracontractual liability and intentional misconduct committed for the purpose of achieving a profit or savings.” Thus, these two provisions seem to be attempting to effectuate a convergence of the future French civil liability rules towards the rules of recovery for economic loss under other legal systems of redress, in particular Anglo-American common law and the international harmonization tools.

For the most part, however, we are left with a definition of recoverable loss that is limited to the certain and direct loss provided for in Art. 1235 (“[a]ny certain loss resulting from a harm and consisting of in injury to a legal, economic or non-economic interest may be recovered”) and Art. 1236 (“future injuries are recoverable where they are the certain and direct extension of a current situation”).

The Reform of Civil Liability is silent as to probable and indirect damages. It proposes no method of valuation, despite the fact that one would be quite helpful in numerous cases in which the injury is certain but difficult to quantify. The contribution of this study will be to help bridge these gaps.

In practice, where is the dividing line between certain injury and probable injury? May a loss that is potential on the date of the judgment occur later? How do we distinguish between direct and indirect damages?

⁶⁰ Cour de cassation [Cass.] [supreme court for judicial matters] 3e civ., May 6, 1998, Bull. civ. III, No. 91 (Fr.) (“The role of civil liability is, to the extent possible, to reestablish the equilibrium destroyed by the injury and to place the injured party in the position they would have been in had the breach not occurred.”).

⁶¹ In a previous version of the plan, the fine was limited to “two million euros or ten times the profit or savings achieved.” *Avant - Projet de Loi Réforme de la Responsabilité Civile*, FR. MINISTRY OF JUST. (Apr. 29, 2016), http://www.textes.justice.gouv.fr/art_pix/avpjl-responsabilite-civile.pdf.

⁶² In a previous version of the plan, “10% of the highest revenues (excluding taxes) earned worldwide.”

2. *French Case law*

The analyses that emerged from our field interviews with practitioners⁶³ cannot be considered absolute truths. They are influenced by the lawyers' geographic locations and the types of cases that they specialize in. Nevertheless, they are sufficient to give us the general impression—which may be as important as the existence of an actual rule—that French courts do not award full recovery of damages and, even more importantly, do not fully explain their conclusions.

When French courts are uncertain as to the existence or amount of damages, they often rely on the notion of lost opportunity. The notion of lost opportunity is also found in the CISG and in the UNIDROIT Principles. Under U.S. law, lost opportunity has not been formally recognized, but it has been relied upon in decisions in some States. The U.S. notion of consequential damages is often considered its equivalent.

The only legal rule in this area is that “recovery for a lost opportunity be measured as the opportunity lost and not the advantage that would have been provided by the opportunity if it had been realized.”⁶⁴ Beyond that, the trial court has full discretion.

The principle of “full recovery of damages” is consistently expressed as follows: “The role of civil liability is, to the extent possible, to reestablish the equilibrium destroyed by the injury and to place the injured party in the position they would have been in had the breach not occurred.”⁶⁵ The objective is clear; the same cannot be said for the method. Although the French Court of Cassation reviews the grounds for decisions with increasing frequency, it still allows trial courts the freedom to determine the types of damages awarded and the valuation method used. It frequently uses the following wording: “[Trial courts] provide sufficient evidence of loss simply by performing a valuation; the record need not include the information that was used to determine the amount.”⁶⁶ It has even been shown that the less the trial court says about it, the more likely its decision is to be safe from criticism.⁶⁷

These comments create questions about the role of the courts and, more largely, the role of recourse to third parties to resolve disputes. At least symbolically, the introduction of a court system enabled humanity to move past “an eye for an eye” and replace it with justice ordered by third parties. The result was that parties were given less severe sanctions. Since the parties' views are necessarily subjective, their idea of justice will be different from that of the court. It is not at all clear that the lawyers representing one or the other of the parties have the necessary distance to determine the fairest decision. We must turn to the primary sources of information: the case law itself.

There is no equivalent of the Dunn⁶⁸ treatise for France, probably because French law is not a *wits law* and precedents are not necessarily binding for the judges to decide. We have based our conclusions on proprietary empirical analysis. Our analysis of French case law⁶⁹ shows that

⁶³ For an analysis and complete transcripts of the interviews with practitioners, see Giaoui, *supra* note 4, Part II and Appendix 1 (2.1 and 2.2).

⁶⁴ Cour de cassation [Cass.] [supreme court for judicial matters] 1e civ., July 16, 1998, Bull., No. 260 (Fr.).

⁶⁵ Cour de cassation [Cass.] [supreme court for judicial matters] 3e civ., May 6, 1998, Bull. civ. III, No. 91 (Fr.)

⁶⁶ *Id.*

⁶⁷ GENEVIÈVE VINEY & PATRICE JOURDAIN, *LES EFFETS DE LA RESPONSABILITÉ* [THE EFFECTS OF LIABILITY] No. 63 et seq. (4th ed. 2017).

⁶⁸ ROBERT L. DUNN, *RECOVERY OF DAMAGES FOR LOST PROFITS* (S.C. Rutberg ed., 5th ed. 1998 & Supp. Sept. 2015 & Supp. Mar. 2016) is the treatise we used to analyze US case law in the previous section.

⁶⁹ For a more complete analysis of the case law, see Giaoui, *supra* note 4, Part II.

trial courts support their decisions more fulsomely when they reject a claim for damages than when they grant it. When courts award damages, they rely on their discretionary powers and hollow phrases in support of those damages. We identified four main reasons for this.

The first is the current state of the positive law. From that point of view, it is understandable that courts would refuse to explain the methods they use to calculate the amount of damages, since the law enables them not to be bound by a particular method and therefore to adapt their reasoning to fit each case.

The second factor is the limited nature of the review by Court of Cassation, which often affirms decisions that contain no explanation of their reasoning while reversing decisions containing reasoning that it deems unsatisfactory. It is therefore understandable, if not praiseworthy, for the appeals courts to opt for saying as little as possible.

The third factor is the organization of the courts. French commercial court judges (who are not career judges, but rather members of the business community) know that their decisions may be reversed by the higher courts and are thus apt to hew closely to the holdings of professional judges. This conformism results in measuring damages using legal theories developed by non-business professionals.

The last factor is legal training. In France, judges and most other legal professionals have little or no training in finance and economics.⁷⁰ Naturally, therefore, they are ill at ease when forced to measure the quantum of damages.

However, this lack of explanation leads to an unacceptable level of judicial uncertainty in a country of laws. Moreover, justice must be not only rendered, but also seen. When courts fail to explain their reasoning, parties are likely to suspect (with some justification) that decisions are arbitrary, and thus to doubt the fairness of the decision rendered. Finally, this situation highlights the contradiction in the French system, in which, pursuant to Article 5 of the Civil Code, rulings based on judge-made law are prohibited, but in which courts in fact rely on previous decisions as precedents. The French legal system has not taken responsibility for this hypocrisy. Because the current system introduces unnecessary judicial uncertainty, it would be preferable to favor a system for the calculation of damages that, while only partially satisfactory, is at least predictable.

Having explained that the damages awarded by American and French courts remain possibly insufficient for full recovery and certainly insufficiently supported, we will now turn to the arguably more sophisticated cases before international arbitral tribunals.

D. The sophistication of the methods used in international arbitration

1. International Statutes and Guidelines

International arbitrators have considerable discretion in assessing damages. In fact, arbitration rules do not give any guidance on the calculation of damages. Thus, many guides and standards have been established to help the arbitrators decide on the award of damages for breach of contract.

For instance, the CPR Protocol on Determination of Damages in Arbitration⁷¹ provides guidelines for arbitrators in the determination of damages. “Arbitrators should, in their award of

⁷⁰ The situation is arguably not terribly different in the United States, except possibly in certain specialized jurisdictions such as the Chancery Court of Delaware.

⁷¹ CPR Int’l Comm. on Arb., *CPR Protocol on Determination of Damages in Arbitration*, INT’L INST. FOR CONFLICT PREVENTION & RESOL. (2010), <https://www.cpradr.org/resource-center/protocols-guidelines/protocol-on->

damages, apply a consistently reasoned approach and procedures that are fair, efficient and not overly costly”⁷².

Very often, arbitral tribunals also refer to the fair market value as a relevant measure in their consideration of damages⁷³. The parties are still at liberty to insert in their arbitration clause some limits over the types of damages they want/do not want or over the amount of damages that may be awarded. But in the absence of such contractual guidance, arbitrators will follow the guides in place and their own standards.

Although arbitrators enjoy great flexibility in assessing damages, they often use arbitral precedents and sets of arbitration rules to award contract damages. They can refer, for instance, to Art. 7.4.2 of the UNIDROIT Principles providing that the aggrieved party is entitled to full compensation; to Art. 7.4.3, which provides for a reasonable degree of certainty of the harm; and to Art. 7.4.4, which refers to the foreseeable harm at the time the contract was made.⁷⁴ The article 74 of the CISG also provides for the compensation of losses suffered from a breach of contract.⁷⁵

The general principle of “full compensation” – comprising “adequate”, “appropriate”, “fair” and “reasonable” compensation⁷⁶ – also applies for the calculation of damages in international investment arbitration⁷⁷. In international investment disputes, dual guidelines have emerged to instruct future tribunals and claimants: “(a) the quantum of damages must be sufficient to eliminate the injurious effect of the state's unlawful actions; and (b) the method of calculating damages should be dictated by the type of investment”.⁷⁸ These guidelines are considered “sufficient to permit both the flexibility essential to the proper functioning of the international arbitral system and the stability needed to ensure its long-term viability.”⁷⁹

Moreover, the World Bank has set up Guidelines in the context of expropriation and unilateral termination of contracts and valuation of damages and establishes that compensation

determination-of-damages-in-arbitration/_res/id=Attachments/index=0/CPR-Protocol-on-Determination-of-Damages-in-Arbitration-fnl.pdf.

⁷² *Id.*

⁷³ Philip Haberman & Liz Perks, *Overview of Methodologies for Assessing Fair Market Value*, THE GUIDE TO DAMAGES IN INT’L ARB. (2016), <https://globalarbitrationreview.com/chapter/1151369/overview-of-methodologies-for-assessing-fair-market-value>.

⁷⁴ Paul-A. Gélinas, *General Characteristics of Recoverable Damages in International Arbitration*, in EVALUATION OF DAMAGES IN INT’L ARB. 31 (Yves Derains & Richard H. Kreindler eds., 2006).

⁷⁵ INGBORG H. SCHWENZER & PETER SCHLECHTRIEM, COMMENTARY ON THE UN CONVENTION ON THE INTERNATIONAL SALE OF GOODS (CISG) Art. 74, para. 18. (Schwenzer ed., 4th ed. 2016).

⁷⁶ *Compañía del Desarrollo de Santa Elena v. Costa Rica*, ICSID Case No. ARB/96/1, Final Award, §69 (Feb. 17, 2000), reprinted in 39 ILM 1319, 1329 (2000).

⁷⁷ International Investment Arbitration is sometimes mentioned in this article as it often uses similar methods to assess damages to International Commercial Arbitration and its case law is public. See, e.g., Henry Weisburg & Christopher Ryan, *Means to be Made Whole: Damages in the Context of International Investment Arbitration*, in EVALUATION OF DAMAGES IN INTERNATIONAL ARBITRATION 165-172 (Yves Derains & Richard H. Kreindler eds., 2006).

⁷⁸ *Id.* See, e.g., *CME Czech Republic B.V. v. The Czech Republic*, Final Award, §501 (Mar. 14 2003), <https://www.italaw.com/sites/default/files/case-documents/ita0180.pdf>: “The requirement of compensation to be ‘just’ and representative of the genuine value of the investment affected evokes the famous Hull formula, which provides for the payment of prompt, adequate, and effective compensation for the taking of foreign owned property”; *ibid.*, §497: “When a State takes foreign property, full compensation must be paid”.

⁷⁹ Henry Weisburg & Christopher Ryan, *Means to be Made Whole: Damages in the Context of International Investment Arbitration*, in EVALUATION OF DAMAGES IN INTERNATIONAL ARBITRATION 183 (Yves Derains & Richard H. Kreindler eds., 2006).

should be “adequate, effective and prompt.”⁸⁰ These Guidelines formulate proposals for the calculation of the fair market value and explain how they can be applied to assess damages (e.g. with the DCF method).⁸¹

Rules are emerging in the field of damage recovery as in many other fields of international arbitration. The development of general guidelines in the substantive law applicable to the contract would undoubtedly help in the assessment of damages. As Paul-A. G  linas pointed out: "Should such steps . . . ultimately bring about sets of readily applicable international rules?"⁸²

Are there any material differences in the treatment of damages by domestic courts versus international arbitration tribunals?

We largely share John Gotanda’s view on this question.⁸³ In substance tribunals handling international disputes are better at resolving complicated damages issues than domestic courts, for several reasons:

- Many arbitrators involved in international disputes have considerable expertise in the area;
- These arbitrators seem to be more flexible in considering theories of economics and finance;
- Expert opinions on damages can be superb. By contrast, many domestic courts have not developed an expertise in handling complicated damages issues;
- Domestic courts are also more likely to view issues surrounding damages from a domestic standpoint, even if the dispute is governed by international or foreign law; and
- Some domestic courts, including some U.S. jurisdictions, do not allow legal experts to testify about damages.

Two recent quantitative studies, one by PricewaterhouseCoopers and the other by Credibility International, will help us substantiate Gotanda’s answer. They will show how international arbitration has significantly sophisticated the methods to assess damages, overtime and compared to domestic law. The analysis of our proprietary sample summarized in Part II of this paper will confirm that finding and add others.

2. *The PricewaterhouseCoopers Study of International Arbitration case law*

a. Methodology and sample description

PwC analyzed 95 international arbitral awards published between 1990 and 2015 in which the arbitral tribunal had performed a valuation of damages. Most of the awards analyzed relate to

⁸⁰ Int’l Bank for Reconstruction and Dev. *Legal Framework for the Treatment of Foreign Investment*: Vol. 2 Guidelines, WORLD BANK GROUP (1992), <http://documents.worldbank.org/curated/en/955221468766167766/pdf/multi-page.pdf>.

⁸¹ IRMGARD MARBOE, *CALCULATION OF COMPENSATION AND DAMAGES IN INTERNATIONAL INVESTMENT LAW* (2d ed. 2017).

⁸² Paul-A. G  linas, *General Characteristics of Recoverable Damages in International Arbitration*, in *EVALUATION OF DAMAGES IN INTERNATIONAL ARBITRATION*, 32–33 (Yves Derains & Richard H. Kreindler eds., 2006).

⁸³ Interview by King & Spalding’s Int’l Arbitration Grp. with John Y. Gotanda, Professor, in *Quantum Quarterly*, The Damages Newsletter, Issue 04 (3Q 2012).

treaty-based foreign investment arbitrations. The main sources of awards were ICSID (74%) and Institute for Transnational Arbitration (“ITA”) cases. This reflects the fact that most of contract-based commercial arbitration awards are not publicly available. PwC notes in the summary paper that “[w]hilst investment treaty cases present some unique issues, the majority of our findings will be relevant to international commercial arbitration also.”⁸⁴

The average value of damages claimed and awarded in commercial arbitrations is likely to be lower than those in investment arbitrations. As our study concerns only breach of contract disputes, we will refrain from drawing any conclusions from PwC report in terms of the absolute value of damages. However, we believe it is appropriate to rely on its conclusions with respect to such criteria as proportion, frequency, trends, and methodologies.

The PwC sample covered all continents and regions, with the greatest share from South America (42%) and Eastern Europe (21%) and the smallest share in North America (2%) and Western Europe (3%):

A. South America	40
B. Eastern Europe	20
C. Asia	12
D. Africa	12
E. Middle East	6
F. North America	3
G. Western Europe	2
H. TOTAL	95 cases

The sample also covered all industrial sectors, with the highest percentage in energy and natural resources (31%) and the smallest in financial services (5%).

The awards ranged from zero to \$50 billion. Excluding the \$50 billion award, the average value of awards was close to \$115 million (as adjusted for inflation) with larger awards in financial services and in energy-natural resources (with averages at close to or above \$200 million) and smaller awards in transport and in manufacturing (with averages under \$50 million).

	Number of awards	Average value of award (\$ millions)
Financial services	5	251
Energy, natural resources	31	196
Hospitality	8	133
Telecom, media, technology	6	90
Capital projects, infrastructure	11	65
Manufacturing	9	49
Transport	8	30
Others	16	23
TOTAL	94	114

⁸⁴ PricewaterhouseCoopers LLP, 2015 – *International Arbitration Damages Research Closing the Gap Between Claimants and Respondents*, (2015) [hereinafter PwC Research].

b. Study Results

The study's results contradict the conventional wisdom in certain areas, while confirming it in others.

- *Are award sizes increasing?*

PwC's research shows that "[w]hilst the number of large awards has increased over the past 15 years, the overwhelming majority of awards continue to be for amounts below \$100 million. Despite the headlines, only three of the awards reviewed in the past five years were for amounts in excess of \$1 billion"⁸⁵

Value of awards (\$ million)	1990-2000	2001-2005	2006-2010	2011-2015
Less than 100	100%	73%	81%	78%
100-1000	0%	20%	19%	14%
Greater than 1000	0%	7%	0%	8%
TOTAL	12	15	32	36

- *In determining the amount to be awarded, do tribunals go for the middle ground?*

PwC found that, in reality, "[t]he amount awarded by Tribunals was, on average, 37% of the amount claimed."⁸⁶ Tribunals awarded an amount close to the middle ground between the parties in only 18% of cases.

Award as % of claim	0%	1-20%	21-40%	41-60%	61-80%	81-99%	100%
% of awards reviewed	4%	27%	21%	18%	9%	7%	4%

- *Do party-appointed experts lack objectivity in the assessment of damages?*

On the primary claim in each case, the amount quantified by respondents' experts was an average of 13% of the amount quantified by claimants' experts.

The existence of such wide gaps leaves arbitrators in a very difficult position when it comes to the assessment of damages: while they are often legal experts, they are not financial experts, and yet they have to arrive at a fair award. In PwC's view, "the wide gap between the parties' positions on damages needs to be narrowed in order to assist tribunals in rendering fairer awards." In order to do so, they suggest various measures, including:

⁸⁵ PwC Research, *supra* note 85, at 9.

⁸⁶ *Id.* at 6.

- [E]nsuring that the experts are given the same set of instructions and questions;
- Where there are differences in opinion on the legal and factual issues, tribunals can request experts to provide alternative calculations based under a number of different assumptions; and
- Using joint statements to ensure there is clarity as to the genuine differences in opinion between the experts.⁸⁷

The PwC report notes that “[a]s respondents’ positions move closer to the claim value, the tribunal’s award does the same.”⁸⁸ This raises questions about whether the parties “anchor” the tribunal’s thinking on the numbers and may indicate that arbitrators handle the issue of damages as depending both on damages actually suffered and on party autonomy.

1- Are tribunals becoming more sophisticated in their assessment of damages?

In this case, PwC’s research supports the conventional wisdom. Arbitral awards explain the basis for their quantification of damages at much greater length than they used to (an average of eight pages before 2000, versus 34 pages in 2011-2015). However, the damages section is still only 15% of total length of the award.

PwC found that Tribunals “[explain] their approach to damages in more depth, and [address] more complex valuation issues, than was historically the case.”⁸⁹

A wider range of valuation methodologies are applied by Tribunals as their primary approach, including discounted cash flow (DCF) and future income in 37% of cases, historical cost, investment and cash flows in 33%, and market and comparable transactions in 10%.⁹⁰

Valuation methodology applied	# cases (%)	Type of approach
DCF, future income	37 (39%)	Forward looking
Historical cost, investment or cash flows	33 (35%)	Backward looking
Market, comparable transactions	10 (10%)	Forward looking
Current net book value of assets	2 (2%)	Backward looking
Others	13 (14%)	NA
TOTAL	95 (100%)	NA

As John Y. Gotanda explains, “the decisions concerning damages are better reasoned (or at least contain a detailed statement as to why the tribunal reached a particular decision with respect to damages).”⁹¹ He adds, however, that: “there remains today a lack of uniformity in approaches to the calculation of damages, which . . . results in similarly situated parties receiving vastly different awards, and this ultimately hinders parties from being able to settle their disputes.”⁹²

⁸⁷ *Id.* at 5.

⁸⁸ *Id.*

⁸⁹ *Id.* at 7.

⁹⁰ *Id.* at 8.

⁹¹ Interview with John Y. Gotanda, *supra* note 84.

⁹² *Id.*

Finally, arbitral tribunals are increasingly willing to accept loss assessment methodologies that reflect expected future returns on investments.

Tribunals used forward-looking approaches (primarily DCF and market methodologies) in 20% of awards before 2000 and 70% in 2011-2015. This points to a greater congruence between arbitral awards and real transactions, such as mergers. “The increased use of forward-looking approaches may be a reflection of tribunals becoming more conversant with these approaches, and therefore more willing to accept [them] despite their inherent uncertainties”⁹³

However, tribunals continue to prefer historical cost or investment cost methodologies, and to reject DCF methodology for evidential reasons where the company or asset in question is a new venture in a new market or does not have a sufficient track record of profitable operations to be considered an established business. In such cases, future cash flows or profits are considered to be too uncertain to presume that the gains are greater than the opportunity cost of capital of equivalent risk.⁹⁴ As a matter of fact, the discount rate is supposed to reflect the business’s level of risk; therefore, adjusting the discount rate would answer the concern more appropriately than simply rejecting DCF methodology.

According to PwC, “[e]ven when both experts agree on the valuation methodology, the amount awarded by Tribunals is still, on average, only 44% of the amount claimed.”⁹⁵ This is slightly more than the overall average of 37%, due to the disagreement between experts on the discount rate to be used. Such disagreement is seen in half of the cases where DCF approach was adopted and has a significant impact on the award value.⁹⁶

2- Compound interest is now applied in the vast majority of cases.

According to John Y. Gotanda, “until recently, it had been a widely accepted practice in international disputes that simple interest was the norm. However, tribunals . . . began awarding compound interest, and today the practice has become so widespread that it is now considered the new norm.”⁹⁷

PwC’s research confirms that assertion.⁹⁸

Type of interest applied by tribunal	Pre-2000	2001-2005	2006-2010	2011-2015
Simple	60%	54%	15%	14%
Compound	40%	46%	85%	86%

⁹³ PwC Research, *supra* note 85, at 7.

⁹⁴ It is our view that this reasoning is (1) arguable as a matter of financial theory, and (2) not valid in most cases that go to international arbitration. (1) In contracting, both parties have considered that the transaction features a better return/risk profile (or lower cost of capital) than any alternative opportunity available to them at the time of signing (2) This reasoning would be valid for some claims regarding new business that is dispositive. We assume that most cases going to international arbitration are not in this situation.

⁹⁵ PwC Research, *supra* note 85, at 8.

⁹⁶ Arbitration cases often include very long-term agreements where the discount rates matter a lot.

⁹⁷ Interview with John Y. Gotanda, *supra* note 84.

⁹⁸ PwC Research, *supra* note 85, at 9.

Tribunals award interest on a variety of different bases, frequently as a fixed rate (21% of cases) or, when as a floating rate, by reference to an inter-bank rate (28% of cases).⁹⁹

Basis for pre award interest	Frequency of cases
Floating rate	77%
Inter-bank rate	28%
Risk free rate	15%
Cost of debt	19%
Bank deposit rate	7%
Cost of capital	2%
Other	6%
Fixed rate	21%
Unclear	2%

Tribunals distinguish between the rate of interest in the pre- and post-award periods in only 15% of cases. More generally, PwC notes that “interest generally appears to receive much less attention than discount rates The reality is that, depending on the timing of cash flows, the rate of interest awarded can be of similar impact on the assessment of damages as the discount rate.”¹⁰⁰

3. *The Credibility International Study of International Arbitration case law*

Credibility International conducted a similar and more detailed analysis of 99 ICSID cases in which damages were awarded between 1981 and 2011 that were publicly available as of June 30, 2013.¹⁰¹ A more detailed analysis was performed with respect to 57 cases in which liability was found and, of those, with respect to 34 cases in which the bases of the claims were identified. Unsurprisingly, the study’s conclusions are generally consistent with those of PwC. However, the analysis performed resulted in five additional findings which are directly relevant to our argument.

First, smaller sized claims generally resulted in a higher recovery percentage. For the sample as a whole, the size of the average award was 49% of the value of the claim. However, this number was close to 60% for smaller claims and below 30% for larger ones. This suggests tribunals are generally skeptical of larger claims, which presumably rely less upon actual investment or proven value than upon future/uncertain cash flows. We will confirm this finding in our empirical analysis, summarized in the second part of this article.

Second, DCF methodology was the basis most frequently relied on to calculate the *claim presented* (used by 24% of claimants), whereas it was only the second most frequently used, after the investment cost methodology, in *calculating damages*. There are two likely reasons for this difference: claimants tend to use methodologies that result in higher claim amounts, such as DCF, and tribunals tend to rely on methodology resulting in straightforward calculations and reasonable certainty, such as the investment cost method.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Study of Damages In International Center for the Settlement of Investment Dispute Cases* 1, 33–39 (Credibility International, 1st ed. 2014).

Third, larger claims and awards are more likely to be based on DCF methodology. This may be due to the fact that parties and tribunals see it is worthwhile to invest in more sophisticated methodology where the economic stakes are higher.

Fourth, it was already clear from the PwC study that where damages and interest were awarded, interest was based on a floating rate in the majority of cases. The Credibility International study shows that the percentage of interest awards based on floating rates has increased still further in recent cases. It appears that tribunals have adopted floating rates as the preferred interest rate basis, and the floating rates generally use LIBOR¹⁰² or U.S. Treasury bonds as their benchmarks.

Fifth, in all cases where *claimants won*, the claimant spent more than the respondent (on average twice as much). This finding is not particularly surprising, given that the burden is on claimants to prove their case. More interestingly, in two-thirds of cases in which the *respondents won*, the respondent outspent the claimant, in many cases by a significant margin. This suggests that the money spent by the parties—presumably on higher-quality counsel and more sophisticated methodologies—has a strong correlation with case outcome. If this finding is confirmed, it likely means that arbitrators tend to be more convinced by the party using more objective and quantitative methodologies to assess damages. Such a finding contradicts the idea that damages are simply a question of facts, each case calling for a *sui generis* solution. That would naturally lead us to prescriptive conclusions for the parties and possibly normative conclusions for the law of damages. We will confirm these conclusions in our empirical analysis, summarized in the second part of this article.

E. Conclusion to Part I: Full recovery, while always the theoretical objective, is rarely achieved in practice

The previous discussion shows that both American and French courts do not award full recovery of damages for a series of reasons including the multiple statutory limitations of damages. Most of those limitations are also present in International commercial law in an attempt to harmonize Common law and Civil law systems. More importantly, domestic courts do not fully explain or support their conclusions. In that regards, international arbitration demonstrates the use of more and more sophisticated methods such as the DCF. This discrepancy is partly due to a better training in economics and finance and significantly higher financial means invested in arbitration. It is also the result of a collective choice: damages are supposed to be a matter of facts and not a matter of law, and the law does not suggest any serious guideline or methodology to calculate damages; hence, judges can perfectly exercise their sovereign power and choose any method or no method at all for that matter. In the best cases they simply adopt the methodology decided by the experts.

There are various approaches to financial analysis, each with its own theoretical advantages (and limits). Access to historical data, ease of explanation, and good business sense often dictate the choices of the expert charged with assisting the court or the parties.

The principle of full recovery has numerous exceptions in the U.S. and in France. Certain exceptions are expressly provided for in the statutes, the Restatement of Contracts, the UCC, and the French Civil Code. Others are contractual in nature, including liquidated damages clauses (known as contractual penalty clauses in civil law jurisdictions) and clauses limiting or eliminating

¹⁰² LIBOR is the London Interbank Offered Rate, an index published by the ICE Benchmark Administration, which defines the interest rates that banks charge each other in a given currency. *See generally* LIBOR, ICE Benchmark Administration, INTERCONTINENTAL EXCHANGE INC., (Oct. 13, 2019), <https://www.theice.com/iba/libor#calculation>.

liability. Many exceptions are only implicit in the codes or foreseeable under the influence of the case law or foreign law. That may lead to increased damage awards. For instance, we saw that U.S. common law includes indirect losses in consequential damages. French Civil law compensates—although in a rather conservative way—the “*perte de chance*”. Similarly, CISG and the PICC permit damages for a loss that has been proven to exist but the amount of which remains uncertain. That may also lead to decreased damage awards, as in the case of mitigated damages in the United States, in the CISG, and in the PICC.

However, practitioners agree that when it comes to damages:

- French courts are traditionally less generous than American courts, which in turn are less generous than international commercial arbitral tribunals, which, finally, are less generous than American juries. Many explanations have been proposed for this, foremost among which are cultural differences in attitudes towards money and the expertise of the different jurisdictions regarding complex economic losses; and
- The quantum of damages awarded continues to increase.

While the empirical study summarized in Part II here after will confirm the first point (at least until recently), it will not confirm the second point with respect to American litigation.

Currently, courts have significant leeway in deciding what valuation methods to use in measuring recoverable losses. The Court of Cassation refuses to review these methods in principle, noting that, there is no rule prohibiting courts from using any particular method to measure the amount of the alleged loss. However, it rejects valuations based on insufficient, contradictory, or erroneous reasoning. This situation raises two questions. The first question is French specific and goes beyond the scope of our study: should the Court of Cassation continue to review only the law and not the facts? A recent reform granted the Court of Cassation the power to judge facts where the interests of justice so require. The second question, however, is of general relevance for all laws and jurisdictions: Would the suggestion of any guideline or valuation method serve the interests of justice?

The rest of this paper attempts to demonstrate empirically that the answer to the second question is generally, “yes.” While the loss and the *quantum* itself should obviously remain a matter of facts, we argue that the methodology to calculate the *quantum* should become a matter of law. Reducing the judicial uncertainty of damage awards requires defining a common framework for measurement, whether legal, counter-factual, or financial. Experts may assist the court in choosing a framework, but they cannot replace the court.

III. APPLICATION TO LOST PROFITS

A. Introduction to Part II: Other Fields of Law Have Used Damages Schedules

1. Personal injury and other fields of American law

In some situations, specific performance is inappropriate, and the parties have not agreed on indemnification for the loss. In the end, therefore, the court or arbitral tribunal must assess the loss and determine how much to award in damages. Sophisticated techniques are often time consuming and costly given the economic stakes, and therefore inappropriate or unavailable. Nevertheless, the parties rely on the court or tribunal to determine an objective *quantum*. Commercial actors may have different aversion to risk in general. However, they would be more

able and willing to assess a risk, which is endogenous to their business and integrate the corresponding costs. On the other hand, they would consider out of their business to take an exogenous risk such as judicial uncertainty. Insurance exist to cover those risks but if they had the choice, commercial parties would prefer to reduce judicial uncertainty and make the process less arbitrary.

We argue that relatively simple damages guidelines and schedules are good enough a valuation method, in most contract breach cases where expectation damages¹⁰³ are difficult to quantify and of moderate *quantum*. Hence investing in the development of such schedules would be beneficial to contract law and commercial activities in general. The technique of damages schedules may prove useful in those cases, provided that such schedules exist, are shared and generally accepted. Today, schedules are commonly used to calculate economic loss in areas other than general contract law. At this stage, it is useful to make a brief historical account of how schedules developed to measure damages for personal injury.

The first complete treatise we have found entirely devoted on the measure of damages for personal injury was published in 1903 by George P. Voorheis.¹⁰⁴ I would highlight only two features of this treatise which are of particular interest for the rest of this article.

Firstly, one of its great value is to consider in detail certain causes of actions that would not—or barely—give rights to damages at the time. For instance, the cases of nervous shock and anxiety caused by delayed telegrams would typically be difficult to quantify in terms of damages and hence often denied as too speculative. In a similar way, I have chosen to focus on those cases of contract breach where expectation damages for lost profits are difficult to quantify.

Secondly, the treatise is arguably the first attempt to empirically build schedules for that matter. For example, in support of the proposition that diminished earning capacity is a recognized element of damage, the treatise cites two hundred cases where the “jury awards have been sustained as reasonable in amount” before the appellate courts.¹⁰⁵ Similarly, I have systematically cited the cases of moral damages for legal entity, for instance, when the appellate courts consider reasonable the claim for consequential damages following a harm to goodwill, reputation or brand image.

The comparison stops here though: modern empirical analysis techniques have little in common to what they used to be one century ago. No doubt, the damage guidelines and referenced schedules we are aiming at today will be supported by powerful natural language processing and machine learning capabilities.

All along the Twentieth century new empirical research on personal injury were done by doctors, actuaries and economists for the use of legal scholars, practitioners and insurance companies. By the late twentieth century, personal injury claims for damages became an important class of litigation due to processes automation and mass advertising.

An American Bar Association study released in 1977 concluded that “the average middle-class American sees an attorney only two or three times during his or her lifetime . . . addressing

¹⁰³ We focus our research on expectation damages because they are typically more difficult to quantify and of larger stake than reliance damages or restitution damages. However, the empirical analysis covers both expectation general damages and consequential damages.

¹⁰⁴ GEORGE P. VOORHEIS, A TREATISE ON THE LAW OF THE MEASURE OF DAMAGES FOR PERSONAL INJURIES, INCLUDING SUGGESTIONS ON PLEADING, EVIDENCE, AND PROVINCE OF COURT AND JURY, APPLICABLE TO THE TRIAL OF THIS CLASS OF CASES 577 (The Laning Co. Publishers, 1903).

¹⁰⁵ *Reviewed Work(s): A Treatise on the Law of the Measure of Damages for Personal Injuries, Including Suggestions on Pleading, Evidence, and Province of Court and Jury, Applicable to the Trial of This Class of Cases by George P. Voorheis*, 16 HARV. L. REV. 537–38 (1903).

less than a third of all the problems they have that might require legal assistance.”¹⁰⁶ Business minded lawyers identified a huge untapped market targeting the middle class who could not afford the services of large law firms and were not poor enough to benefit legal assistance.

Personal injury firm Jacoby & Meyers wanted to “emulate the professional services seen in dentists’ and orthodontists’ offices: professional and accessible services Americans of all walks of life could use.”¹⁰⁷ In addition to personal injury, they “automated processes allowing it to charge less for basic consultations and services such as divorce,”¹⁰⁸ adoption, wills and bankruptcy. Process automation allowed to considerably reduce the fees while maintaining a good standard of quality.

However, profitability with lower fees required higher volume. To reach a wider market Jacoby & Meyers started to advertise more aggressively. The State Bar of California contacted them, alleging they had violated a ban on advertising; a long lawsuit followed.¹⁰⁹ Upon another lawsuit examining the same issue in Arizona and a positive decision of the court affirmed by the U.S. Supreme Court,¹¹⁰ attorneys were free to advertise their services. “In 1979, Jacoby & Meyers became the first law firm with a television advertisement spot.”¹¹¹

The quantum leap in number of personal injury claims¹¹² for damages both fueled reliable referenced damage schedules and rendered them necessary to settle or expedite the litigation process.

Guidelines have been set up by the United States Court of Federal Claims for the award of damages in personal injury claims.¹¹³ Courts usually consult such guidelines and schedules, although they remain a non-binding tool, and the court must ultimately determine the appropriate level recovery for each individual case. A recent Oklahoma Supreme Court decision¹¹⁴ invalidated damages cap in personal injury lawsuits in order to allow for full compensation. The state’s highest court ruled a civil justice statute limiting non-economic damages in personal injury lawsuits to \$350,000 is an unconstitutional special law that treats people who survive injuries differently than those who don’t. The Court has hence considered that the quantum was also a matter of law, and not only of fact.

Many other situations can be mentioned where schedules have been used to benchmark, harmonize and eventually legitimize settlements or rulings.

In employment law, the courts use scheduled loss of use (SLU) awards for people who have permanent, work-related injuries to their extremities (arms, hands, feet, legs).¹¹⁵ The

¹⁰⁶ CRAIG R. WATERS, *THE SELLING OF THE LAW: LEN JACOBY AND STEVE MEYERS SET OFF A SMALL REVOLUTION IN LEGAL CIRCLES BY USING MASS MARKETING TECHNIQUES TO SELL THEIR SERVICES TO THE MAN IN THE STREET*, BEST PLACE TO WORK, MARCH 1, 1982.

¹⁰⁷ Katherman, Briggs & Greenberg, *A History of Personal Injury Law*, RESULTS YOU DESERVE: BLOG (May 18, 2016), <https://resultsyoudeserve.com/blog/a-history-of-personal-injury-law/>.

¹⁰⁸ *Id.*

¹⁰⁹ *Jacoby v. State Bar of California*, 562 P.2d 1326, 1331 (Cal. 1977).

¹¹⁰ *Bates v. State Bar of Arizona*, 433 U.S. 350, 384 (1977).

¹¹¹ Katherman, Briggs & Greenberg, *see supra* note 108.

¹¹² DON DEWEES, DAVID DUFF, & MICHAEL TREBILCOCK, *EXPLORING THE DOMAIN OF ACCIDENT LAW - TAKING THE FACTS SERIOUSLY* 412–413 (Oxford University Press, 1996).

¹¹³ The Office of Special Masters, United States Court of Federal Claims, *Guidelines for Practice under the National Vaccine Injury Compensation Program* (Revised November 2004), available at <https://www.uscfc.uscourts.gov/sites/default/files/OSM.Guidelines.pdf>.

¹¹⁴ *Beason v. I. E. Miller Servs. Inc.*, 441 P.3d 1107, 1109 (Okla. 2019).

¹¹⁵ Segar & Sciortino PLLC, *What is a Scheduled Loss of Use Award?*, SEGAR LAW: BLOG, <https://segarlaw.com/blog/what-is-a-scheduled-loss-of-use-award/> (last visited May 13, 2019).

calculation of the SLU is based on a percentage that reflects how much function was lost as a result of the injury. Tables and schedules such as the 1996 Medical Guidelines were set to determine the benefits the worker is allowed to get. The court may consider these schedules in order to understand the gravity of the injury and to award damages in cases of worker's compensation.¹¹⁶

In family law, guidelines and schedules exist to calculate the amounts of maintenance and child support in family law cases. Courts are using those guidelines when assessing the award of damages.¹¹⁷

Courts also apply schedules set up by auto insurance in order to determine the award of damages for injuries compensation.¹¹⁸

Finally, in criminal law, guidelines were developed in 1987 by the U.S. Sentencing Commission. Having observed an unfair disparity in sentencing nationwide the USSC was given a Policy Statement describing the three objectives that the Congress, in enacting the new sentencing law, sought to achieve: honesty, uniformity, proportionality, and, therefore, effectivity in sentencing. It describes also very clearly the two different philosophical approaches: desert or crime control. Without definitely choosing between those two approaches, the USSC took an empirical methodology that uses 10,000 data estimating the existing sentencing system as a starting point. The guidelines did not please those who wished the Commission to adopt a single philosophical theory, but it proved acceptable to those who sought more modest, incremental improvements and who recognized those initial guidelines as a practical effort toward the achievement of the above described effective sentencing system.¹¹⁹

As seen above, the U.S. courts, and very often State Supreme Courts, are using tests, guidelines and schedules to measure other types of damages. How does that compare with French law?

2. *Use of damages schedules in French law*

In France, the schedules vary considerably in nature: medical schedules,¹²⁰ specific schedules for certain medical accidents,¹²¹ social welfare agency schedules,¹²² case law tables published in journals, etc. "Due to the wide range of schedules used, the damages awarded in different jurisdictions may still diverge significantly for similar injuries depending on the schedule

¹¹⁶ See, e.g., *Maunder v. B & B Lumber Company*, 166 A.D.3d 1261 (N.Y. App. Div. 2018).

¹¹⁷ See, e.g., *Divorce: Maintenance & Child Support Tools*, NYCOURTS.GOV, <http://ww2.nycourts.gov/divorce/MaintenanceChildSupportTools.shtml> (the guidelines, worksheets, and calculators used by the New York Courts); See, e.g., *Vaughn v. Vaughn*, 798 So.2d 431, 434 (Miss. 2001) (using the child support guidelines).

¹¹⁸ See, e.g., *Auto-Owners Ins. Co. v. Stevens & Ricci, Inc.*, 835 F.Supp.3d 388, 409 (2016) (following the Auto-Owners Policy); See also John Witt and Sam Issacharoff, *The Inevitability of Aggregate Settlement: An Institutional Account of American Tort Law*, 57 VAND. L. REV. 1571, 1606 (2004).

¹¹⁹ U.S. SENTENCING COMMISSION, 1987 FEDERAL SENTENCING GUIDELINES MANUAL: CHAPTER ONE – INTRODUCTION AND GENERAL APPLICATION PRINCIPLES, SECTION 3: POLICY STATEMENT, 1.2–1.4 (1987).

¹²⁰ FRANK GIAOUI, *TURNING FACTS INTO LEGAL GUIDELINES AND REDUCING JUDICIAL UNCERTAINTY THRU METHODOLOGICAL INNOVATION: APPLICATION TO CONTRACT DAMAGES* (2019) (including the "barème du concours medical," a schedule used in France to determine the degree of disability caused by a given injury, and the schedule published by the French Société de Médecine Légale et de Criminologie (French Society for Forensic Medicine and Criminology) n.at 93 (2019).

¹²¹ *Id.* (using the example schedule published by the Fonds d'Indemnisation des Transfusés et Hémophiles, a French fund to indemnify hemophiliacs and others who have undergone transfusions resulting in HIV) n.at 94 (2019).

¹²² *Id.* (including Social Security schedules and civil and military pension schedules) n.at 95 (2019).

that each jurisdiction is accustomed to using.”¹²³ This situation is decried by victims’ groups, insurance companies, and some legal scholars.

In order to address this problem, the report of the working group created by the National Council on Victim Compensation (Conseil National de l’Aide aux Victimes, or “CNAV”) on indemnification for bodily injury proposed the creation of a National, Statistical, and Evolving Benchmark [Référentiel Indicatif National, Statistique et Evolutif, or “RINSE”) using accepted personal injury nomenclature and covering all types of accidents.¹²⁴ This benchmark would give the Courts of Appeal a range and an average to use in reviewing decisions. It would be published on an annual basis and distributed to all French Courts of Appeal. In so doing, “[t]he working group hoped to encourage the use of benchmarked assessments, allowing for individualized determinations of damages based on a “schedulized” assessment assigning a monetary value . . . to medically determined benchmarks for injuries.”¹²⁵

The draft bill to reform the French law of obligations and statutes of limitations (the “Avant-Projet Catala”) included the creation of a disability schedule. However, the most serious criticism of the draft reform focused on the use of a schedule. When the bill was unveiled, Gaëlle Patetta, general counsel to the French Federal Consumers’ Union - What to Choose (Union Fédérale des Consommateurs - Que Choisir) expressed concern about what she saw as the “officialization of a lump-sum indemnification technique that would violate the principle of full recovery of losses.”¹²⁶ The bill’s rapporteurs disagreed:

The schedule is intended only to serve as a reference tool to help courts assess the alleged injury, in order to promote a statistical convergence of assessments. It will not eliminate the court’s discretionary powers, but merely provide useful information. Above all, it will provide improved equality of treatment for all litigants.¹²⁷

For that reason, the rapporteurs supported this proposal in the draft reform. In addition, they noted that, “given the role assigned to the national disability schedule, its usefulness will depend on keeping it updated.”¹²⁸ Therefore, Recommendation No. 26 of the report concluded: “Provide for the adoption, by decree, of a national disability schedule, to be revised regularly, to serve as a reference tool for courts in their assessments of damages.”¹²⁹

Finally, in July 2005, the Dintilhac report proposed such a schedule in the form of standardized, non-binding nomenclature. However, the French Minister of Justice, by circular, asked legal professionals to use it and it is in fact increasingly used by insurers and expert witness physicians to assess personal injury and by the courts for awarding damages.¹³⁰

¹²³ Alain Anziani and Laurent Bêteille, *Rapport d’information* [Informational Report] No. 558 (2008-2009) (Commission des lois du Sénat [Senate Law Commission], 2009).

¹²⁴ Conseil National de l’Aide aux Victimes [National Council on Victim Compensation], *Rapport sur l’Indemnisation du Dommage Corporel* [Report on Indemnification for Personal Injury], June 2003.

¹²⁵ Anziani & Bêteille, *supra* note 124.

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ Ministry of Justice, Bulletin Officiel du Ministère de la Justice [Official Gazette of the Ministry of Justice], Circulaire de la DACS n°2007-05 du 22 février 2007 relative à l’amélioration des conditions d’exercice du recours subrogatoire des tiers payeurs en cas d’indemnisation du préjudice corporel [DACS Circular No. 2007-05 of February 22, 2007 on the improvement of the subrogation process for third-party payers in personal injury cases].

3. *Use of damages schedules in International arbitration*

In this matter, we did not find actual schedules such as the one mentioned for the U.S. and France. However, as we already saw, International arbitral tribunals would welcome quantitative modelling and statistics for the assessment and award of damages. They would often rely on the parties' means and experts to prepare models (e.g. in the but-for and the DCF methods) in order to calculate damages. Such is the case for instance in *Occidental Petroleum Corporation, Occidental Exploration and Production Company v. The Republic of Ecuador*.¹³¹ Furthermore, samples and statistics can be useful tools for damages quantification. All of these methods will improve the reliability of damages calculations, and therefore, the certainty of the awards.¹³²

The arbitral tribunals are also willing to use guidelines in order to assess damages. For instance, in *Stati v. Republic of Kazakhstan*, the tribunal pointed out that the Energy Charter Treaty (ECT) applicable to the case provides some guidance regarding the calculation of damages (Article 13).¹³³ In this decision, the tribunal used the guidance regarding the award of damages, and noted that "the damages . . . shall not be lower than what the ECT prescribes for a lawful expropriation."¹³⁴ In this case, the tribunal follows the guidance given by the Treaty.

In *Joseph Charles Lemire & others v. Ukraine*, the arbitral tribunal stated that "the actual calculation of damages requires the definition of a financial methodology for the determination of a sum of money which, delivered to the investor, produces the equivalent economic value which, in all probability, the investor would enjoy, 'but for' the . . . breach."¹³⁵

Thus, benchmarking or even "scheduling" the various types of personal injury may have seemed surprising at first – not to mention the sentencing, but it is fully accepted today. It has proven to be very useful to harmonize and eventually legitimize settlements or rulings in mostly recurring sorts of damages disputes in large numbers. Could this method be adapted to develop schedules or benchmarks for certain types of contract damages? I argue the question is particularly relevant whenever the economic loss exists but is difficult to quantify. However, the answer is challenging because contract damages do not seem so recurring or in such large numbers. I also argue using modern techniques of big data collection and analysis can help overcome the challenge.

B. The Challenges of Empirical Studies

We begin by noting that the practitioners we spoke to found it hard to believe that simple, uniform rules could be used to calculate compensation for damages as complex and specific as those resulting from the breach of commercial contracts.¹³⁶

¹³¹ *Occidental Petroleum Corporation, Occidental Exploration and Production Company v. The Republic of Ecuador*, ICSID Case No. ARB/06/11, Award, at 78, 5 October 2012.

¹³² Gervase MacGregor, Andrew MacLay & David Mitchell, *Overview of Damages and Accounting Basis*, in John A. Trenor, *The Guide to Damages in International Arbitration*, (Global Arbitration Review, 2016).

¹³³ The Energy Charter Treaty, art 13, ¶ 1, December 17, 1994. (explaining that such compensation shall amount to the fair market value of the Investment expropriated at the time immediately before the Expropriation or impending Expropriation became known in such a way as to affect the value of the Investment).

¹³⁴ *Stati v. Republic of Kazakhstan*, SCC Case No. V ¶ 1461 (19 December 2013).

¹³⁵ *Joseph Charles Lemire v. Ukraine*, ICSID Case No. ARB/06/18, Compensation, ¶ 152 (28 March 2011) (calculation of damages was based on represent hypothetical situations: they show the value which the non-breaching party would have reached, under certain assumptions, if Respondent had not breached the Fair and Equitable Treatment standard).

¹³⁶ See *infra* Appendix 1, Section 8, pp. 77 *et seq.*

Following completion of our comparative study of statutory norms, case law, and legal theory, we must carefully choose the types of situation to use in testing damages schedules or, more generally, simple quantitative methods based on observation of empirical references. We chose three types of situations in which lost profits are difficult to quantify. These are (i) breaches of agreements to negotiate or to agree (“Situation 1”); (ii) damage to goodwill, business reputation, or image (“Situation 2”); and (iii) lost profits and lost opportunities for new businesses (“Situation 3”). These three situations are particularly well suited to the application of simple quantitative methods, because they are relatively frequent and their (expectation) damages are difficult to estimate.

First, we will describe the overall methodology of our empirical research, noting the principal challenges. Then, in Sections C and D, we will summarize the key findings and their interpretation. Finally, we will conclude in Section E with recommendations taken away from the empirical research.

1. The methodological requirements of comparative law and those of empirical research

As is the case with empirical research in the social sciences, our methodology uses inductive reasoning, extracting relevant data in order to test working hypotheses based on legal thought or developed in advance. A deductive approach, consisting of gathering all kinds of data without any initial working hypotheses, would run the risk of being too vast. Certain analyses are common to all situations and all jurisdictions, while others are specific to particular ones.

With a view to comparative law, the research covers decisions of the highest French courts (the Court of Cassation and the Courts of Appeal) and U.S. courts (the Supreme Courts and the Courts of Appeal), as well as international commercial arbitration awards based on national or international commercial law (CISG or the UNIDROIT Principles). The decision not to include trial court judgments enabled us to use only the most significant decisions. The particularities of U.S. civil procedure often result, on appeal, in a modification of the jury verdict.

For the United States, we concentrated primarily on three states: New York, California, and Delaware.¹³⁷ For France, most of the cases were decided in Paris or in Versailles. These choices are consistent with the geographic concentration of U.S. and French disputes. That concentration is even more pronounced because the cases that interest us must be well documented in order to prove the damages, which requires companies with sufficient financial resources to pay for expert opinions. However, we also found some decisions from other French cities and other U.S. states. These cases often relate to medium-sized companies and have lower economic stakes.

For each situation and jurisdiction, we used key words¹³⁸ to identify relevant cases and to extract them from the principal online databases: Westlaw and Lexis Nexis in the United States, Dalloz and Lamyline in France, and Pace and Unilex for international commercial law.

¹³⁷ These three states comprise the majority of large commercial cases. See JEFFREY W. BULLOCK, Del. Div of Corps., Annual Report 1 (2012), <http://corp.delaware.gov/pdfs/2012CorpAR.pdf> (noting that 64% of Fortune 500 companies are incorporated in Delaware).

¹³⁸ For instance, on Westlaw advanced, the exact search query took the form « (contract! breach! agreement! negotiation!) & (dollars! million! billion! thousand! hundred!) & (claim! & grant! & damages) ». The « ! » marks here serve as root expanders to pick up any stems or punctuation marks around the relevant word.

The relevant decisions were then systematically mapped into databases. More specifically, we analyzed the quantitative and coded qualitative data likely to explain the decision of a court or an arbitral tribunal as to the quantum of damages. The purpose of this analysis was to:

- Track the evolution over time of the average probability of recovery (the “grant/no grant” ratio) and the average ratio of recovery to the plaintiff’s claim (the “grant/claim” ratio);
- Identify the variables that explain the deviation of the actual ratios from the average and measure the relative weight of those variables;
- Compare these measurements between the various jurisdictions;
- Where a theory emerges, develop the associated model; and finally,
- Suggest a guide to the precedents, or, where possible, a damages schedule.

2. *A critical mass of sufficiently documented cases*

In all, we identified 905 cases decided between 1989 and 2016, of which 221 were manually extracted, indexed in our proprietary database and coded with a particular focus on half a dozen key parameters.¹³⁹

This sample size is relatively modest. However, to our knowledge, it represents the first attempt by comparative law specialists to systematically measure contractual damages. We will continue our work to increase the order of magnitude of the sample size using modern machine learning techniques that are less nuanced but much faster.¹⁴⁰

The biggest challenge was probably to find enough relevant cases documenting both the quantum of the claim and the quantum of the award. This may indicate that the legal community is relatively uninterested in quantitative analysis, a difficulty that is found equally in France, the United States and in international commercial law. The challenge is clearly a real one, but it can be overcome by increasing sample size.

The development of analytical technologies with ever-increasing capacities combined with the increased availability of information on public or private legal databases could change—even revolutionize—the various judicial systems’ approaches to the quantum of compensatory damages. The revolution has actually already started several years ago.¹⁴¹

3. *A note on possible selection bias*

After sample size, one of the main methodological problems we encountered was selection bias, as is the case in most empirical studies. We will respond to this problem both from a general theoretical viewpoint and in light of the practical objective pursued by our specific project.

¹³⁹ See discussion *supra* Part III, see *infra* Appendix 3.

¹⁴⁰ For example, the proprietary database on which we are currently working counts 8000 cases for the U.S. only.

¹⁴¹ In that regard, LexisNexis executive Ian Koenig stated: “We store every single case in the U.S. and in many countries as well, and we have the tools and analytics to look across the data in a way that helps attorneys glean insights into potential case outcomes. There are things law firms don’t know today simply because they’ve never stored and correlated all this data.” Joe Dysart, *How Lawyers are Mining the Information Mother Lode for Pricing, Practice Tips and Prediction*, ABA J. (May 10, 2013, 11:26 PM), http://www.abajournal.com/magazine/article/the_dawn_of_big_data/%20How%20lawyers%20are%20mining%20the%20information%20mother%20lode%20for%20pricing,%20practice%20tips%20and%20predictions.

Ever since Priest and Klein published their seminal paper in 1984, we have known that, due to the selection effect, the cases ending up in court do not constitute a random sample of all disputes.¹⁴² For three decades, many researchers have concluded that one should not infer the character of law by observing litigated cases only. The conclusion makes sense if we consider for example all the cases where two parties would continue their commercial relationship and settle their dispute rather than go on litigation. All those cases are, by nature, excluded from any litigation sample.

However, research published more recently by other scholars have nuanced the conclusion. Klerman and Lee argued in 2014 and 2015 that, taking selection effects into account, one may be able to make valid inferences from the percentage of plaintiff victories, because selection effects are partial.¹⁴³ Therefore, as Schweizer concluded in 2016, “empirical analysis confined to data from litigated cases seems possible and fruitful in spite of the selection effect.”¹⁴⁴ This constitutes a general and theoretical response to the selection bias issue.

In the specific context of our research though, we actually embrace that selection bias. Because they are litigated, the selected disputes are probably the most uncertain and/or those in which the parties have very different expectations in terms of outcome. Those cases are precisely those we want to focus on as our analysis primarily aims at finding ways to reduce judicial uncertainty. The combination of the theoretical and practical responses to the selection-effect problem gives us sufficient confidence in the validity of inferences from our empirical research.

A second selection bias is specific to comparative analysis. It is commonly considered that a majority of commercial disputes in the United States are settled out of court; the proportion is significant but probably lower in France.¹⁴⁵ American and French proceedings are also quite different; international commercial law adds another layer of complication. For example, the inclusion of a liquidated in a contract reduces, albeit in an unequal fashion between the U.S. and France, the number of cases that continue through the verdict stage.

However, that should not change the validity of the conclusions drawn from these samples. As described above for one jurisdiction, litigated cases are those we want to focus on as they are the most uncertain. The potentially different proportions of litigated cases between the three laws do not affect our interest focused on litigated cases. Once again, we are more interested into the outcomes (win rate and recovery rate) of litigations in the three jurisdictions.

An obvious third selection bias relies in the fact that not all litigated cases are necessarily published online. This bias seems to have reduced overtime, since the major databases constantly improve their collection and publication of cases. However, the only definitive way to address the issue would be to access manually to all the dockets of the relevant jurisdictions, which is unfortunately out of our current scope and means.

We summarize below the most striking findings of our empirical analysis, beginning with the quantitative analysis of the case law.

¹⁴² George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 2 (1984).

¹⁴³ Daniel M. Klerman & Yoon-Ho Alex Lee, *The Priest-Klein Hypotheses: Proofs and Generality*, 47 INT’L. REV. L. & ECON. 59, 70 (2016).

¹⁴⁴ Urs Schweizer, *Litigated Cases: The Selection Effect Revisited*, 172 J. INSTITUTIONAL & THEORETICAL ECON., no. 3, 2008, at 409.

¹⁴⁵ We did not find any scholarly research quantifying the proportion of settlements compared to litigations in the two countries. However, this seem a reasonable assumption in commercial disputes considering 1) potentially higher value for parties to continue their relationship and, 2) actually higher litigation costs in the U.S. jurisdictions (and in International arbitration) than in France.

C. Findings from Quantitative Analysis of Case Law

Over the last three decades, we observe, both in Situation 1 and Situation 2, a convergence of the basic metrics' averages: likelihood of grant and, among those cases granting something, the grant-to-claim ratio or recovery rate. Since the late 1980's, the trends in grant-to-claim ratio average are upward in French law –from 19%– and downward in American law –from 66%– converging towards similar percentages –to a 40-50% range– in recent years. International law gives slightly higher percentages, and Situation 3 gives significantly lower percentages. In Section D, hereafter, we analyze the globalization trend among law firms, corporations, and the economy in general. This globalization trend, we argue, is one of the main drivers behind the convergence of those basic metrics. This is particularly true for all international cases and for most domestic cases of Situation 1: those cases concern global corporations and/or are handled by global law firms.

However, we also observe wide deviations from those averages, as only a small percentage of all cases actually fall close to the average metrics. Why do cases deviate from the average? Explaining these deviations is extremely instructive as it highlights implicit rules, and sometimes even explicit methods, which clearly contradict the *sui generis* assumption.

To answer the above question, the results of our analysis can be summarized in several main findings:

1. First, there is a **negative correlation between the absolute value of the plaintiff's claim and the percentage of that claim actually granted** (G/C ratio or recovery rate). This is true for Situations 1 and 2 under all three legal systems (French, U.S. and even more surprisingly, international) and also for Situation 3 under U.S. law. The gap between claim and defense widens as the value of the claim increases, so court decisions logically reflect this wider gap. It may also indicate that there is a ceiling for the compensatory damages courts are willing to grant. Asking for too much may look repugnant to the court and hinder the plaintiff's chances of recovering damages. A "moral valuation" cannot be excluded, particularly when extremely high damages are actually awarded to plaintiffs. In such outlier cases, courts often mention the defendant's opportunism¹⁴⁶ or bad faith, as if to justify their departure from the full compensation principle in order to grant "hidden punitive damages."

In any event, understanding why courts still hesitate to grant very large compensatory damages could be an interesting avenue for further research.

2. Second, **there is a clear positive correlation between the sophistication of the methodology used by the claimant and the successful outcome of that claimant's case.** Unsurprisingly, claimants who use more sophisticated methodologies have a higher likelihood of being awarded damages. This is true for all three situations both in the United States and France.¹⁴⁷

However, the positive effect of using sophisticated methodology is weaker than the negative effect of large claim size: very sophisticated claims for large amounts have similar or even lower G/C

¹⁴⁶ See Robert E. Scott, *Contract Design and the Shading Problem*, MARQ. L. REV., Fall 2015 at 1, 1 (explaining that opportunism is a primary explanation for why commercial parties deliberately breach their contracts).

¹⁴⁷ Our analysis of cases decided under international law did not enable us to reach a conclusion on this point.

ratios as compared with moderately sophisticated ones for smaller quantum. This is particularly true in France, confirming a historical hypothesis that courts are reluctant to grant claims that are seen as “too large”.

3. Third, **discounted cash flow methodology**, which is supposed to be the gold standard for measuring lost profits, **was very rarely used in the cases of our samples**. This may be due to the significant human, financial, and technical resources required to perform DCF calculations.¹⁴⁸ Nevertheless, in light of its precision, it should be more widely used, at least in cases where the economic stakes are high enough to justify the use of resources.
4. Fourth, because Situation 2 concerns loss of reputation, goodwill and image, which are intangible assets, we **would have expected some evidence based on qualitative indicators** such as client satisfaction, employee satisfaction, recruiting image (the so-called “great place to work” index), and, more generally, environmental, social, and governance (“ESG”) indicators. **However, we did not find such indicators in the arguments advanced by the parties or the courts**, probably because these indicators are still too new to be widely used. This is a promising path towards improved judicial expertise in the future.
5. Our fifth finding is somewhat counterintuitive: **Claimants operating in mature and stable industries** (such as distribution and services) **are much more likely to be awarded damages than those operating in more risky industries**, such as high tech or manufacturing. This observation is very consistent across the three jurisdictions, despite seemingly contradicting the economic theory that claimants operating in thin markets should be compensated with higher damages than claimants operating in wider markets.¹⁴⁹ One possible explanation is that those claimants in high tech industries may be smaller and younger than those in distribution industries and, as such, they command much less ability to evidence their lost profits (see Situation 3).
6. Our sixth and last finding specifically relates to international commercial dispute resolution: **Although larger cases are still brought before arbitral tribunals**, in our sample, **national courts seem more generous in granting damages than arbitral tribunals**. This result seems to contradict the common belief that arbitral tribunals are less reluctant to grant large awards that national courts would see as “too large.”

D. Striking Convergence in Outcomes between Jurisdictions

Our empirical study highlighted certain converging trends between outcomes under U.S., French, and international commercial law. Future studies with larger sample sizes will increase the robustness of these findings. Nevertheless, some results are already consistent enough across the board to be worth mentioning and to suggest interpretations or further research.

¹⁴⁸ Using the DCF method requires agreement on the operational assumptions used to calculate the future earnings that would have been achieved if the contract had been properly performed (or the agreement had been consummated), as well as on a discount rate to apply to those earnings. However, there are technical solutions available to overcome these difficulties.

¹⁴⁹ See, e.g., Philippe Aghion & Patrick Bolton, *Contracts as a Barrier to Entry*, AM. ECON. REV., June 1987, at 388; Patrick Bolton, Bernard Salanié, Pierre-André Chiappori, & Patrick Rey, *On the Value of Commitment in Contracting with Asymmetric Information*, ECONOMETRICA, Nov. 1996, at 1395; Pierre André Chiappori & Bernard Salanié, *Testing Contract Theory: A Survey of Some Recent Work* (CESifo Working Paper No. 738, 2002).

The observation of clear converging trends with respect to the probability of grant and even more with respect to grant-to-claim ratios between the United States and France and, to a certain extent, with international commercial law¹⁵⁰ has led us to the hypothesis that globalization is at work. In order to validate the hypothesis, we documented the globalization among corporations, among law firms and also among lawyers. The result of the analysis clearly confirms our initial hypothesis.

It is no surprise that with the advance of logistics, transportation, telecommunications and other digital technologies, the world is becoming smaller and the borders of international business transactions are becoming more and more invisible. It is also a fact that companies and big conglomerates have enhanced their global presence. This forces professional services providers to become global as well in order to continue to be competitive and to serve their clients as they chase business opportunities abroad. As a result, in recent decades law firms, investment banks and accountancy firms, among other services providers, have had to adapt themselves to this new reality. This powerful globalization trend, which started in the 1990's and is still ongoing, shows no signs of weakening despite recent political postures.

Looking at the Global Fortune 500 list of the world's highest-revenue companies as of November 2017,¹⁵¹ we note that of the top fifty companies, twenty-one are incorporated in the United States. Chinese companies have a strong presence in the top-ten ranking (second, third and fourth places) and throughout the list. The rest of the list is somewhat mixed between U.S., Chinese, Japanese, and European companies, showing a certain degree of globalization. A majority of the most profitable companies are in the technology, banking, telecommunications, or automobile sectors. There are no African, Middle Eastern, or Latin American companies in the top fifty list yet. However, this is just a question of time, as many are now present and constantly rising in the rankings in the overall Global Fortune 500 list.

A look at the Global Fortune 500 lists from 10 and 20 years ago reveals how fast companies doing business globally have grown either organically or through mergers and acquisitions. Most importantly, it shows the most striking growth derived from business in emerging economies. For example, Walmart, currently the number one company worldwide in terms of revenues, was already in the number one position ten years ago. Twenty years ago, however, it was not even making the top ten. In twenty years, Walmart achieved most of its growth from new business in emerging countries particularly in Latin America. The data provided shows only three companies stayed in the top ten in 1997, 2007, and 2017: Royal Dutch Shell, Exxon Mobil, and Toyota. Despite originating on three different continents, they are arguably today the most globalized industrial companies. In 1997, the top two positions went to U.S. automobile manufacturers; they lost their ranks in 2007 and of course in 2017 as a consequence of their losing markets abroad.

We observe the same trend towards globalization in the legal services industry. Among the top ten law firms with the highest revenues, six are U.S.-based (Latham & Watkins, Baker McKenzie, Kirkland & Ellis, Skadden Arps, DLA Piper and Jones Day),¹⁵² and four are U.K.-

¹⁵⁰ International law also shows converging trends with the United States and France. However, the decreasing ratios of international law are still slightly higher than those of the two domestic laws.

¹⁵¹ *Fortune Global 500*, FORTUNE, <http://fortune.com/global500/list/> (last visited Nov. 1, 2019).

¹⁵² They are often referred to as the "U.S. Charmed Circle". *International Firms: Trying to Get the Right Balance*, THE ECONOMIST (Feb. 26, 2004), <https://www.economist.com/special-report/2004/02/26/trying-to-get-the-right-balance>.

based (Dentons, Clifford Chance, Allen & Overy, and Linklaters).^{153, 154} However, all of these firms have offices worldwide, which is essential for them to increase their revenues and attract more clients. Some firms expand by opening new offices, while others merge with local law firms. Nonetheless, according to an article published in *The Economist* in 2004, the strategies of these law firms tend to differ: U.S.-based law firms often seek to become more profitable, whereas U.K.-based law firms by and large prioritize growth in revenues and offices.¹⁵⁵

According to the American Lawyer rankings for 2017, the top two U.S.-based law firms (Latham & Watkins and Kirkland & Ellis) successfully focused their strategy on profitability.¹⁵⁶ However, the same publication indicates that, among the top-ten U.S.-based law firms, four of them are already global (namely, Baker McKenzie in third place, DLA Piper in fifth place, Hogan Lovells in eighth place, and Norton Rose in tenth place). In any event, both strategies (profitability and growth) lead to increased globalization of the law firms.

Table 1: Top-ten U.S.-based law firms by revenue

Year Position	1998 ¹⁵⁷	2007 ¹⁵⁸	2017
1	Wachtel	Skadden	Latham & Watkins
2	Cravath	Latham & Watkins	Kirkland & Ellis
3	Sullivan & Cromwell	Baker McKenzie	Baker McKenzie
4	Cahill Gordon	Jones Day	Skadden
5	Davis Polk	Sidley Austin	DLA Piper
6	Skadden	White & Case	Jones Day
7	Simpson Thatcher	Kirkland & Ellis	Sidley Austin
8	Debevoise & Plimpton	Mayer Brown	Hogan Lovells
9	Cleary Gottlieb	Weil, Gotshall	Morgan Lewis
10	Robbins, Kaplan	Greenberg Traurig	Norton Rose

Multinational corporations such as those on the Global Fortune 500 list are the target clients for global law firms, not only because of the magnitude of their projects but also because such firms are better equipped with the necessary tools to provide these clients with services in a number of different jurisdictions.¹⁵⁹

¹⁵³ They are often referred to as the “U.K. Magic Circle.” *Id.*

¹⁵⁴ Staci Zaretsky, *The Global 100: Fractured Futures At The Richest Law Firms In The World (2017)*, ABOVE THE LAW (Sep. 25, 2017, 1:35 PM), <https://abovethelaw.com/2017/09/the-global-100-fractured-futures-at-the-richest-law-firms-in-the-world-2017/>.

¹⁵⁵ *International Firms: Trying to Get the Right Balance*, *supra* note 153.

¹⁵⁶ *The 2017 Am Law 100*, THE AM. LAWYER (April 26, 2017, 10:53 AM), <https://www.law.com/americanlawyer/almID/1202784597030/>.

¹⁵⁷ *RPL Ranks 1998-2007*, THE AM. LAWYER, <https://www.law.com/americanlawyer/almID/900005634203/?&id=900005634203>.

¹⁵⁸ *The Am Law 100 2007: Gross Revenues*, THE AM. LAWYER (May 2007), <https://www.law.com/americanlawyer/almID/900005479938/THE-AM-LAW-100-2007-Gross-Revenues/>.

¹⁵⁹ D. Daniel Sokol, *Globalization of Law Firms: A Survey of the Literature and a Research Agenda for Further Study*,

Furthermore, the global law firms generally have high standards and good reputations, which is the kind of “insurance” that these clients require.¹⁶⁰ The same is true for investment banks. The management of a large corporation is more likely to follow the advice of a successful and well-regarded investment bank or global law firm than it is to follow the advice of smaller and/or less prestigious services providers. If a deal or a litigation goes wrong, management can argue that it worked to create the best possible support team. Furthermore, professionals at these firms are more likely to be able to find alternative and creative solutions to any problems that may arise.

Another advantage of the global law firms over smaller local law firms is their wide range of expertise. This allows them to argue that their attorneys will spend less billable time on a given matter due to their expertise and experience. The fact that most multinational corporations tend to rely on the advice of global law firms may partially explain the convergence of outcomes, settlements, judicial decisions, and arbitration awards. The strategies adopted by these firms are not unlimited and tend to recur, especially in the event of a specific favorable outcome.

In addition, an increasing number of foreign-educated lawyers seek degrees from U.S. law schools, and the number of foreign applicants seeking to sit for the New York bar exam is growing.¹⁶¹ This follows from the globalization of legal services, as lawyers are no longer willing to be limited to practice in their home countries. Instead, the statistics show that the number of lawyers looking for a more international career with exposure to other jurisdictions keeps increasing, and the fact that New York is often selected as the governing law in international contracts makes admission to the New York Bar an important asset for lawyers with global aspirations.¹⁶²

In light of the foregoing, we can now assert with good confidence that law firms—similarly to other professional services providers such as investment banks and accounting firms—are becoming more global and tend to provide somewhat standardized services. Hence, it is also reasonable to infer that judicial decisions and arbitration awards are also likely to adopt similar patterns. In common law countries, of course, courts are required to follow precedent or to distinguish the cases before them from precedent. In civil law countries, although precedents are not binding, they serve as a good indication of the direction the court should take. As such, if the types of claims and their defenses become standardized, we might infer that their outcomes would follow the same path. Is it possible that judicial decisions and arbitration awards will become more automatized and simplified when each case can be assigned to a particular category among other

14 IND. J. GLOBAL LEGAL STUD. 5, 15 (2007) (“The first expansion model is that of the “charmed circle” of New York-based law firms. These firms represent large, sophisticated investment banks and Fortune 500 clients in high-end corporate and litigation work, particularly in the United States but increasingly in other markets.”).

¹⁶⁰ *Id.* at 27 (“Such firms can offer a type of informal insurance to a potential client. If an important and complex transaction or litigation does not go well, directors, the CEO, and other in a corporation will be less likely to second guess the decision of the general counsel to retain a charmed circle firm. Empirical work in the banking literature suggests that the investment banking equivalent of charmed circle firms serve a similar insurance purpose.”).

¹⁶¹ Diane F. Bosse, *Testing Foreign-Trained Applicants in a New York State of Mind*, THE BAR EXAMINER, Dec. 2014, at 31, 31 (“The United States recognizes 195 independent states in the world. In 2013, candidates from 111 of them came to New York to take our bar exam. From . . . Azerbaijan to Zimbabwe, and from Eritrea to Ecuador, they came, 4,602 in number. . . . In 2013, the 4,602 foreign-educated candidates we tested comprised 29% of our candidate pool of 15,846. Between 1997 and 2013, the number of graduates of ABA-approved law schools we tested increased by 18%; the number of our foreign-educated candidates grew in that period by 170%.”).

¹⁶² *Id.* at 32 (“New York is the jurisdiction selected in the choice of law provision in many international contracts, thereby making New York law the one agreed to by all parties in interpreting the agreement. Thus, admission to the New York Bar, and presumed competence in New York law, is an asset to a lawyer seeking employment in an international law firm, in New York or elsewhere around the world.”).

pre-established categories? If so, decision-making would become a more efficient “check-in-the-box” process, rather than a lengthy, costly, and often complex one.

Having summarized the findings from quantitative analysis of case law and explained the most striking convergence between jurisdictions, it is time to move on to the recommendations.

E. Recommendations from Findings on Case Law

The findings summarized in Section C lead us to make **four practical recommendations** to parties who wish to improve their likelihood of success and the quantum recovered in damages for lost profits:

- Contracts should be drafted so as to make it clear to the parties (and the courts) that there will be foreseeable lost profits in case of breach. **The safest way is probably to include liquidated damages clauses in contracts**¹⁶³. In this way, the parties also express in the contract their wish to reduce the risk inherent in their business.
- Before litigating (or in parallel to litigation), claimants should **try to settle on expectation damages, even at a discounted value**. This is generally true for most disputes, but it is all the more relevant when damages likely to be awarded are—on average—as low as 15% of the claim amount.¹⁶⁴
- If parties still wish to go to trial, they should be prepared to meet **higher standards of evidence and calculation methodology** to prove both their expectation damages and their consequential damages than they would need to prove their reliance damages. Expectation damages may be the default rule in the U.S., but they are more difficult to prove—and thus less generously compensated—than reliance damages. The Daubert standard clearly sets a higher evidentiary standard for new businesses than for established business. It requires that the expert use a reliable methodology that is based on objective market forces.¹⁶⁵

¹⁶³ In an agreement to agree, this could take the form of a break up fee.

¹⁶⁴ This percentage is the result of multiplying the two ratios that emerged from our empirical analysis: a one-third change of obtaining damages (grant/no-grant ratio) times the 45% grant-to-claim ratio.

¹⁶⁵ In *Daubert v. Merrell Dow Pharmaceutical Inc.*, 509 U.S. 579 (1993), the U.S. Supreme Court set down the following guidelines for admitting scientific expert testimony under the Federal Rules of Evidence:

- The judge is a gatekeeper: Under FED. R. EVID. 702, the task of "gatekeeping", or assuring that scientific expert testimony truly proceeds from "scientific knowledge", rests on the trial judge.
- Relevance and reliability: The trial judge must ensure that expert testimony is "relevant to the task at hand" and that it rests "on a reliable foundation". Concerns about expert testimony cannot be simply referred to the jury to be weighed.
- Scientific knowledge and scientific method/methodology: A conclusion will qualify as *scientific knowledge* if the proponent can demonstrate that it is the product of sound *scientific methodology* based on the scientific method.

In 2011, Rule 702 was amended to make these standards clearer. The rule now reads as follows:

RULE 702. TESTIMONY BY EXPERT WITNESSES

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) The expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) The testimony is based on sufficient facts or data;
- (c) The testimony is the product of reliable principles and methods; and
- (d) The expert has reliably applied the principles and methods to the facts of the case.

While some federal courts still rely on pre-2000 opinions in determining the scope of *Daubert*, as a technical legal matter any earlier judicial rulings that conflict with the language of amended Rule 702 are no longer good law.

- When courts calculate damages, they rarely (or at least only superficially) rely on objective methods and quantitative techniques. **Contract theory is beginning to look at techniques that have long been used in disciplines outside the law**, including economics (game theory where information is asymmetrical), econometrics (probabilities and tests of contract theory), finance (market multiples); marketing (price positioning of a brand); organizational environment (ISR and ESG indices), behavioral techniques from sociology and psychology. A reasoned use of certain of these techniques would result in considerable progress towards making judicial decisions less arbitrary and more predictable. This study has attempted to contribute to that goal.

Damages guidelines and schedules for the recovery of economic losses may be built based on prior awards of damages for breach of contract. The introduction of such schedules could benefit academic researchers, parties redacting contracts, and attorneys in their pre-litigation discussions or arguments before the court (or arbitral tribunal). Additional empirical analysis should be performed in more depth to achieve statistically representative samples and more width in order to explain the judicial behaviors observed.

Eventually, the use of damages schedules combined with artificial intelligence technology (such as natural language processing, machine learning, and deep learning) would give rise to predictive systems. Such systems would make it possible to assess—in advance, instantaneously, and with a high degree of accuracy—both the probability of obtaining (or being ordered to pay) damages and the quantum of those damages.

The development of predictive technologies could prove useful for all participants in and users of judicial systems. Furthermore, if they were broadly adopted, these AI technologies based on schedules would trigger a virtuous cycle: assisting judges in making their discretionary decisions, providing data to improve the models, giving more incentive for judges (and all stakeholders) to use them and so on. In that, their use would drastically increase judicial legitimacy and reduce uncertainty. It will make predictions more reliable, streamline unnecessary litigations, and eventually generate value for the Society far beyond what can be imagined today.

We now go on the findings of the field interviews with practitioners and we conclude with the recommendations from those findings.

F. Findings and Recommendations from Qualitative Field Interviews with Practitioners

Our detailed analysis of major cases¹⁶⁶ and our field interviews with practitioners in the U.S. and in France¹⁶⁷ suggest three paths for breaking free of the identified limits in order to improve compensation for breach of contract, and, more importantly, to reduce uncertainty. These three paths would consist of (1) expanding our work on valuation methods, (2) reconsidering the general principle of full recovery, and (3) reforming the structure of the judicial systems.

1. Expanding our work on valuation methods

Two examples will help illustrate the work to be done in order to give raise to simple yet objective valuation methods.

¹⁶⁶ For a more complete analysis of the major cases, *see infra* Part II and Appendix 3 (I-IV).

¹⁶⁷ *See infra* Part II and Appendix 2 (2.1–2), Section 10, and p. 78.

The first example is on class actions. By definition, they must include a certain number of identical cases. Trying to quantify precisely each individual's loss may be a very costly and not necessarily fruitful process. Therefore, the method proposed would consist of identifying a typical victim and that victim's theoretical loss, then giving rise to a lump-sum amount of compensation.

The second example is losses due to violations of competition law. Agreements in restraint of trade between participants on a market cause harm to all other market participants. When the violation has been identified, the other participants may commence follow-on proceedings before quantifying their own individual harm.

In these two examples and many others, practitioners observe a movement toward challenging the traditional notion of full recovery. Given the existence of these new types of mass damages (to consumers, competitors, individual investors, etc.), the law can no longer maintain the fiction that full recovery is the rule.

However, the modifications proposed will only be fully effective when compensation for loss is no longer solely a question of fact, but also a question of law. Indeed, there are good reasons to legally categorize each type of injury—loss incurred, lost profits, lost opportunities, and even moral damages—and thus to codify the scope of the recoverable loss and its method of calculation.

With respect to fault, there are many factual elements (for example: “He refused to sign”). But once we have the facts, we enter into the domain of the law (“was that misconduct?”).

Why shouldn't the same be true with respect to damages? Legal classifications could be included by expanding the new Article 1231 Section 2 of the French Civil Code, which provides that “the damages due to the promisee are the loss he has suffered and the profit of which he has been deprived,”¹⁶⁸ and the Article 344 of Restatement (Second) of Contracts providing that the aggrieved party should recover the full “benefit of his bargain by being put in as good a position as he would have been in had the contract been performed.”¹⁶⁹ Why not go farther, adding, for example, “With respect to the acquisition of a company, the loss suffered by the acquirer (target) shall consist of the negotiation and due diligence costs and the profit of which the acquirer (target) has been deprived shall consist of their share of the contemplated value once both entities are combined” thereby specifying the characterizations in the text of the law.¹⁷⁰

The same reasoning would be applied to the notion of loss of opportunity in French law, which could be characterized legally, clearing away the numerous uncertainties surrounding it.

We must begin again with the new Article 1231 Section 2: damages consist of the loss suffered (which would be found by the court) and the profit lost (which would be calculated by the court). The second is by definition calculated in advance, but it requires that the profit be certain. . . .

If the contract has not yet been entered into, we will reason in terms of lost opportunity is no certainty that she would have bought, but there is certainty that she could have bought.” Thus, we would apply a discount representing the probability of the transaction occurring.¹⁷¹

As a result, the methodologies used to measure the quantum of damages could become a question of law. The higher courts would review the codified method of calculation and would require a minimum amount of substantive support from the trial court, to which it would give the benefit of the doubt.

We could propose a methodology similar to the following:

¹⁶⁸ CODE CIVIL [C. CIV.] [CIVIL CODE] art. 1231-2 (Fr.).

¹⁶⁹ RESTATEMENT (SECOND) OF CONTRACTS § 344(a) (AM. LAW INST. 1981).

¹⁷⁰ Example is illustrative. See Blackstone, *supra* note 3, at Appendix 2.2, Section 12, and p. 82.

¹⁷¹ *Id.*

- First, place yourself in a favorable situation. What would the promisee's profits have been if the contract had been performed?
- Next, capitalize these profits over a future period of time during which we think the contract would have had effects;
- Finally, what profit or loss did the promisee actually incur?

The judge would be required to follow this method but will retain full discretion as to the actual numbers.¹⁷²

2. *Reconsidering the principle of full recovery in consistency with Due Process*

It follows from Part I of the paper, a legitimate demand for compensation by victims of breach of contract, which would be at once more complete and less unpredictable. Reconciling this demand with the fundamental principles of the law of contractual obligations would require some expansion to the definition and scope of full recovery.

We would expand the definition and application of the general principle. For example, full recovery would include: (i) the promisee's indirect losses and lost profits (and not just direct losses and lost profits); (ii) probable losses and lost profits (and not just those that are certain and foreseeable by the promisor); (iii) lost opportunity, which would require estimating first the probability of signing the contract and then the profit that would have been generated by the contract; and (iv) (moral) damages to intangible assets such as brand, reputation, and image.

Furthermore, we might go beyond strictly compensatory damages and introduce the use of preventive, or even punitive, damages. These could constitute a new, separate type of recovery that could be used to compensate for the injury caused to the community. In that manner, the law would become a more effective tool through the confiscation of unjust enrichment resulting from deliberately committed lucrative misconduct.

In regard to due process, the laws and legal proceedings must be fair for the award of damages in case of contract breach. The principle of full recovery should apply in order to be consistent with the Due Process Clause of the Fifth and Fourteenth Amendments. However, as we have demonstrated, this principle is not always implemented in practice for lack of information. In such circumstances, the use of objective guidelines and schedules would actually help to remain consistent with due process when compensating the non-breaching party. It would help the courts to determine the amount of contract damages in similar situations, in a similar manner, which would therefore characterize fairness with regards to the non-breaching party. It would also allow for more judicial certainty and predictability in damage awards. Thus, the principle of full recovery could be reinforced thanks to the use of schedules and guidelines set up for contractual breach.

3. *Reforming the structure of the Judicial systems*

The practitioners we interviewed also emphasized the need for profound changes in the structure of the judicial systems, the training of judges, the length of proceedings, and the rationalization of compensation:¹⁷³

¹⁷² *Id.* at Section 8 and p. 77.

¹⁷³ *Id.* at Section 13 and p. 84.

- Judges would be educated, informed, and specifically trained in economic and financial losses; the training would include valuation methods, an intensive internship at a company, and a comparative and international perspective;
- Access to the judicial profession would be opened to non-lawyers, or at least to lawyers who are not judges and who could become judges for a set period of time;
- In most matters with moderate economic stakes, commercial court proceedings could be limited to a strict timetable and the right to appeal to the civil courts could be limited or even eliminated, as is the case in arbitration. In order to facilitate the court's decision, the parties would be responsible for formalizing their claims, and damages schedules would be used as tools to aid in measuring the quantum of damages, as is already the case with respect to personal injury, product defects, family law, and employment law;
- For more complex, larger economic stakes, and rather unusual matters, several improvements are possible: for example, courts should systematically appoint experts to assess damages; courts should also make more frequent use of the investigatory procedures provided for in the Civil Code in France; and finally, a third, specialized court could be created that would be both faster than traditional court procedures and more open than the rapid interim procedures (*procédure en référé*).¹⁷⁴ This court would be similar to the Delaware Court of Chancery and would be useful in major U.S. States jurisdictions and in France.

In summary, our field interviews with practitioners from both sides of the Atlantic bring a whole range of suggestions from the more general usage of best demonstrated valuation techniques to organizational reforms of the judicial systems within the existing laws to more fundamental normative changes in the laws for contract damages. It is beyond the purpose of this paper to conclude on the details of each suggestion. However, they all tend to validate a pressing need—breaking free of the limits in the traditional approach of damages measurement—and a common aim—to reduce uncertainty of compensation for breach of contract.

IV. GENERAL CONCLUSION AND ADDITIONAL RESEARCH: WORKING TOWARDS MORE SUBSTANTIVE REVIEW AND PREDICTABILITY IN DAMAGE AWARDS

In the introduction to this article, we noted that the laws relevant to our study lack a precise definition of the “full recovery” principle and thus, necessarily, lack rules for measuring compensatory damages. Legal scholars have tried to fill this void by describing the different types of damages, in particular in the United States. However, there is a real problem where the injury clearly exists but its valuation is difficult or uncertain. The courts, with the assistance of experts, will have the ultimate responsibility for solving this problem.

The comparative study in Part I found that neither the case law nor the scholarly literature has supplied the rules for calculating damages that are missing from the relevant statutes. However,

¹⁷⁴ French law provides, under certain circumstances, for rapid proceedings before a single judge. This judge grants only provisional remedies, and usually, though not always, urgency is required. The process can be likened to obtaining interim relief such as a preliminary injunction in the United States, though it differs in some important ways. See, e.g., Wallace R. Baker, *French Judgements Subject to Immediate Appeal*, LAW AND CONTEMP. PROBS., June–Aug. 1984, at 17, 27–28.

the study did describe the practical differences and similarities between the judicial systems studied.

The positive law holds that compensation for economic loss, and the method of calculating damages, are largely questions of fact. The three legal and judicial systems all give trial courts and arbitral tribunals the power to analyze the facts, which leads to significant uncertainty for parties. Reducing that uncertainty of damage awards will require selecting and defining a common framework. We have suggested that common framework should consist of an expanded definition of the principle of full recovery associated with legal methodological guidelines to calculate damages. Moreover, it is a solution that would comply with the fundamental principles of contract law. An incidental consequence would be a better prevention of breach of contract.

Our review of the French case law shows that trial courts support their decisions more fulsomely when they deny a claim for damages than when they grant it. We have identified the principal reasons for this, which relate to court organization and judicial training.

Under U.S. case law, the existence of a loss must be proven with reasonable certainty; on the other hand, the amount of damages should simply be estimated as much as facts authorize.

The case law in international arbitration contradicts the conventional wisdom in several ways. Enormous awards and awards that “split the baby” are the exception rather than the rule. Arbitrators are helpless in the face of expert testimony that diverges widely. However, their technical skills have undoubtedly improved.

The comparison with certain specialized U.S. jurisdictions and our field interviews with practitioners on both sides of the Atlantic may inspire certain improvements in the judicial practice with regard to the application of current laws to full recovery.

The empirical study in Part II summarizes the results of our analysis of several hundred cases in three types of situations in which economic loss is difficult to quantify. It highlights the significant converging trends in damages awards that belie the traditional legal notion that each dispute is a separate case and requires a *sui generis* solution.

Therefore, a normative outcome would consist of re-characterizing the economic and financial losses, the damages, and the method to calculate the *quantum* as no longer simple questions of fact but also as questions of law.

Finally, our study brings us a little bit closer to damages schedules and to the prospect of predictive justice. Additional research is currently performed to i) explain the observed trends in judicial behavior and conduct; ii) expand the empirical analysis with additional features; and iii) to include larger sample sizes. If damages schedules were broadly adopted, they could give rise to artificial intelligence and machine learning models whose predictive value would be far greater than the tools at our disposal today.

Appendix 1. A comparative glance at the three laws on contract damages

Valuation of damages for contract breach in the three laws

Laws	Civil Law	Common Law	Intl Coml Law (CISG, PICC)
Theory			
A common general principle	Full compensation	Full compensation	Full compensation
Liability trigger	Direct , certain, foreseeable	Reasonably certain, foreseeable-contemplated	Reasonably certain, foreseeable
Default rules for remedy	Specific performance	Expectation damages	Expectation and reliance damages
Scope of damages	All harms	Pure economic loss	All harms
Other specificities	Liquidated damages No punitive damages	Liquidated damages No punitive damages	Liquidated damages No punitive damages
	Loss of a chance Emotional harm	Conseq. damages No emotional harm Mitigated damages New business rule	Loss of a chance Emotional harm (PICC) Mitigated damages

*Appendix 2. Qualitative interviews with legal practitioners***2.1 Interview guide**

1. When you are party to a contract, what legal means do you generally use to deter a potential breach from the other party?
 - in the contract drafting itself;
 - outside the contract drafting.
2. In case of breach of contract which legal means or remedy do you look for? In which situations?
 - I. specific performance;
 - J. damages;
 - K. injunctive relief;
 - L. others.
3. When it comes to damages, what differences did you observe between American courts, French courts and International arbitration tribunals when same law applies?
 - quantum of damages granted for similar matter of facts (grant/claim ratio);
 - use of expert witnesses;
 - transposition of valuation techniques used in other fields of law (securities law, antitrust law, IP law, employment law, family law, tort law on personal bodily injury).
4. What evolution did you observe overtime?
 1. on overall convergence between the three jurisdictions;
 2. on recovery generosity;
 3. on expert witnesses;
 4. on economic training of judges;
 5. on sophistication of valuation techniques;
 6. on informal recourse to guidelines and schedules.
7. Specifically, on valuation techniques, you are aware of the schedules used by courts to compensate personal bodily injuries.
 - Which schedules are you aware of to compensate other types of damages?
 - Particularly in case of contract termination (employment, family) and business law?
 - Which other techniques (financial, economic, marketing) did you observe implemented?
 - Can you please cite specific cases?
8. How do you evaluate the economic efficiency and the legal effectiveness of a remedy? Which relation did you observe between the two?

9. « *When strictly implemented, the principle of full recovery limits compensation—in fact if not in law—to the certain loss/damages, actually suffered by the creditor, directly and solely caused by contract breach, and foreseeable by the debtor* ».
- Would you rather/totally agree or disagree with the previous assertion?
 - In American law? In French law? In international commercial law?
10. If you totally or rather agree with the previous assertion, which amendments would you suggest in the implementation of the principle of full recovery, in order to actually compensate creditors:
1. include loss potentially suffered, not only loss actually suffered;
 2. include indirect loss, not only direct loss;
 3. include loss partially caused, not only solely caused by contract breach;
 4. include likely loss, not only loss foreseeable by the debtor.
5. How would it be possible to make those amendments compliant to the basic principles of contract law? And due process?
6. In general, which reforms of the judicial system would you suggest in order to actually compensate creditors while being compliant with the law and due process?
7. develop the recourse to international arbitration;
 8. develop recourse to competent expert witnesses;
 9. develop economic and financial training of judges;
 10. develop legal guidelines which would be reviewable as a matter of law;
 11. develop compensatory schedules as a suggested tool to assist judges' rulings.

2.2 Legal practitioners interviewed

Twenty-three field interviews were managed between 2015 and 2018, mainly in New York and Paris, with legal practitioners, all having a long experience of commercial contracts. Each interview was recorded and transcribed. The content was then reorganized by theme and questions.

Legal practitioners are listed below in alphabetic order:

1. Forrest Alogna, attorney at law, partner, Darrois Villey Maillot & Brochier, Paris;
2. Laurent Aynès, attorney at law, partner, Darrois Villey Maillot & Brochier;
3. Claude Bendel, attorney at law, partner, Bredin Prat, Paris;
4. Cyril Bonan, attorney at law, partner, Darrois Villey Maillot & Brochier, Paris;
5. Emmanuel Brochier, attorney at law, partner, Darrois Villey Maillot & Brochier, Paris;
6. Matthieu de Boisseson, attorney at law, partner, Linklaters, Paris;
7. Pascal Chadenet, attorney at law, managing partner, Dentons, Paris;
8. François Château, attorney at law, partner, Dentons, New York;
9. Adam Emmerich, attorney at law, partner, Wachtell Lipton Rosen & Katz, New York;
10. Norbert Giaoui, general counsel, Lagardère Groupe, Paris;
11. Claire Karsenti, expert witness, partner, Sorgem Evaluation, Paris;
12. David Katz, attorney at law, partner, Wachtell Lipton Rosen & Katz, New York;
13. Alain Maillot, attorney at law, partner, Darrois Villey Maillot & Brochier, Paris;
14. Olivia Maginley, attorney at law, Wachtell Lipton Rosen & Katz, New York;
15. Ryan McLeod, attorney at law, partner, Wachtell Lipton Rosen & Katz, New York;
16. Jonathan Moses, attorney at law, partner, Wachtell Lipton Rosen & Katz, New York;
17. Maurice Nussenbaum, expert witness, managing partner, Sorgem Evaluation, Paris;
18. Christian Pierret, attorney at law, partner, August & Debouzy, Paris;
19. David Rosenbloom, attorney at law, member, Caplin & Drysdale, Washington, D.C.;
20. Peter Saunders, attorney at law, Cravath, New York, Prof. Georgetown University;
21. William Savitt, attorney at law, partner, Wachtell Lipton Rosen & Katz, New York;
22. Christine Sévère, attorney at law, partner, Dentons, Paris;
23. Richard Schepard, attorney at law, partner, Bredin Prat, Paris.

Appendix 3. Quantitative analysis of case law, sample and methodology

Our research aimed to identify any trend or pattern in the damage compensation that a court would grant for a contract breach in each of and across three jurisdictions: United States, France, and international. In examining compensation, we were concerned primarily with recoverable damages, or losses that were reasonably, certainly, and foreseeably incurred as a result of a breach in an agreement. We conducted our investigation based on inductive reasoning, employing data from previous lawsuits to validate and improve our theories about the court decision-making on damage compensation. We collected 905 cases (dated from 1989 to 2016)¹⁷⁵ and indexed 208 cases (or 219 claims) for which we extracted both qualitative and quantitative data. In doing so, we categorized the cases under three kinds of situations—denoted as Situations 1, 2 and 3. Situation 1 was assigned to cases in which there was a breach in an agreement to negotiate or to agree. Situation 2 was assigned to those in which there was damage to goodwill, business reputation or image. Situation 3 was assigned to those in which there was a loss in profit or opportunity for new businesses. While Situations 1 and 2 applied to all three jurisdictions, Situation 3 pertained primarily to the United States where the New Business Rule evolved to allow for damage compensation to un-established or recently founded businesses.

Table [1]: Summary of Contract Breach Cases Extracted and Indexed from 1989 to 2016

	United States	France	International	Total
Situation 1	150 cases extracted 35 cases indexed	150 cases extracted 30 cases indexed	75 cases extracted 26 cases (31 claims) indexed	375 cases extracted 91 cases (96 claims) indexed
Situation 2	150 cases extracted 28 cases indexed	150 cases extracted 30 cases indexed	30 cases extracted 20 cases (26 claims) indexed	330 cases extracted 78 cases (84 claims) indexed
Situation 3*	150 cases extracted 26 cases indexed	30 cases extracted 8 cases indexed	20 cases extracted 5 cases indexed	200 cases extracted 39 cases indexed
Total	450 cases extracted 89 cases indexed	330 cases extracted 68 cases indexed	125 cases extracted 51 cases (62 claims) indexed	905 cases extracted 208 cases (219 claims) indexed

*For Situation 3, we extracted and indexed cases from all three jurisdictions, but used only the cases from the United States in our actual analyses. As explained above, Situation 3 was relevant mostly to the United States (and not so much to the other two jurisdictions) due to differences in the legislation on new businesses/startups.

In accounting for the outcomes of the cases, we looked at two calculations relating to the damage award granted by the court: the probability of grant and the grant-to-claim ratio. The probability of grant refers to the percentage of cases in which the court granted any amount of award to the claimant. The grant-to-claim ratio represents the average proportion of the quantum value of claim (or the amount claimed as the value of damage incurred) that the court granted to the claimant. We

¹⁷⁵ U.S. cases from higher jurisdictions in New York, Delaware and California were extracted from Lexis Nexis and Westlaw. French cases from higher jurisdictions of Paris, Versailles and Lyon were extracted from Lexis Nexis, Dalloz and Lamyline. International commercial arbitration and International litigation cases under the CISG and The Unidroit Principles were extracted from Pace, Unilex, Uncitral and the professional experience of the author.

performed several successive analyses with these calculations, focusing first on the convergence between jurisdictions over time and then on the different criteria that could influence the outcome.

I. Convergence in Outcome Over Time Between Jurisdictions

In our first analysis, we measured and compared how the jurisdictions each evolved in their total probability of grant and grant-to-claim ratio over time. We calculated these measurements based on three time-ranges that we established for each jurisdiction. In order to avoid producing skewed results, we prioritized equalizing the number of cases that fell under each of the time ranges for each jurisdiction. As a result, the jurisdictions (which varied in the number of cases they provided in the data) were assigned similar but slightly different sets of three time-ranges.

Table [2]: Time Ranges Used for Analysis on Convergence Between Jurisdictions

	Range 1	Range 2	Range 3	Mean Year	Median Year
United States	1989-1997	1998-2006	2007-2015	2005	2005
France	1990-1998	1999-2007	2008-2016	2009	2010
International	1994-2000	2001-2007	2008-2015	2001	2000

We visualized simple trend lines out of these calculations and observed whether the jurisdictions respectively increased or decreased in their grant values from one time period to the next. Moreover, we assessed the degree to which these trend lines converged over time (in other words, the degree to which the jurisdictions progressed towards similar grant values).

II. Criteria Influencing Outcome Across Jurisdictions

In our next analyses, we determined the relative weight that certain aspects of a contract breach lawsuit could have in explaining the compensation that the court would grant a claimant for recoverable damages. While working with our data, we took note of various parameters that commonly described contract breach cases across the jurisdictions. We concentrated on six of these factors after identifying which seemed most relevant to the court decision-making on the damage award appropriate to a particular lawsuit. The table below explains the six criteria that we selected for our research.

Table [3]: Main Criteria Selected for Analysis Across Jurisdictions

	Definition	Measurement
Quantum Value of Claim	Amount of money that the claimant declares that the damage they face is valued at	Measured in thousands of U.S. dollars or euros; Not scaled
Sophistication of Damage Proof	Degree to which the claimant justifies the quantum value of claim that they seek for damage compensation	Scaled from 1 (lowest) to 4 (highest)*
Length of Relationship	Duration of the claimant and defendant's agreement or (alternatively) negotiations to reach one	Measured in years; Not scaled
Business Risk	Degree to which the claimant's business performance is volatile	Scaled from 1 (lowest) to 4 (highest)
Reputation	Degree to which the claimant's business performance depends on its reputation or image	Scaled from 1 (lowest) to 4 (highest)
Law Firm Size	Size of the law firm that represents the claimant in court	Scaled from 1 (very small) to 4 (very big)

*In scaling the sophistication of damage proof, we came up with a standard for each level from 1 to 4. Level 1 was assigned to cases in which the claimant makes a claim without any discernible basis. Level 2 was assigned to cases in which the claimant makes a claim based on different factors but does not provide any explanation. Level 3 was assigned to cases in which the claimant makes a claim based on different factors and provides simple justification (e.g., only qualitative). Level 4 was assigned to cases in which the claimant makes a claim based on different factors and provides complex justification (e.g., both qualitative and quantitative) possibly including expert witness reports.

A. Influence of Each Criterion on Damage Award Granted

We first measured how each criterion was correlated with the damage award amongst the cases for which we were able to retrieve the necessary pieces of information. Using the graphical functions of Microsoft Excel, we formulated single-variable functions in which a criterion was inputted as the regressor and the grant (either the probability of grant or grant-to-claim ratio) was outputted as the outcome:

Function 1: Probability of grant as a function of [criterion]

Function 2 (Version 1): Grant-to-claim ratio (including no-grant cases) as a function of [criterion]

Function 2 (Version 2): Grant-to-claim ratio (excluding no-grant cases) as a function of [criterion]¹⁷⁶

Per each criterion, we developed equations for these two functions in order to approximate the direction in and extent to which it weighed into the damage award that a court granted to a specific case. We worked towards both simplicity and explanatory power in creating these regression models. We sought to minimize the number of terms in the equation while ensuring that the coefficient of determination (R^2) was significant.¹⁷⁷ We then compared the equations for the second function in order to identify the relative influence of impact that the different criteria have in explaining the damage grant.

B. Comparison Between Criteria in Influence on Damage Award Granted

Through our initial steps detailed above, we identified the quantum value of claim as the most influential and strongly evidenced criterion amongst the six. We subsequently compared each of the other criteria directly with the quantum value of claim in order to further validate our theories about their relative weight in explaining the damage grant. Using the numerical computing program known as Matlab, we built a two-variable function in which the quantum value of claim was put as one regressor, another criterion as a second regressor, and grant as the outcome:

Function 4: Quantum value of grant as a function of the quantum value of claim and [another criterion]¹⁷⁸

¹⁷⁶ The two versions of Function 2 used different calculations of the grant-to-claim ratio. The first version was based on calculations of the grant-to-claim ratio amongst all cases in a selected sample—including cases that did not grant any damage award. The second version was based on calculations of the grant-to-claim ratio amongst only the cases that granted.

¹⁷⁷ R^2 , which takes on a value between 0 and 1, is a measurement of how well a regression model explains variations or movements in the dependent variable (outcome). In establishing our models, we considered significant R^2 values that are equal to or greater than 0.66. In other words, we chose models that explained roughly two-thirds of the fluctuations in the probability grant or grant-to-claim ratio.

¹⁷⁸ We created the two-variable function with the quantum value of grant because using the probability of grant and/or the grant-to-claim ratio—both average values within a set of cases—would require the data for the quantum value of claim and that for the other criterion be categorized into groups together. This would have reduced the number of values inputted and therefore, the precision of our regression model.

As we did with the single-variable regression models, we sought both simplicity and explanatory power in developing our two-variable models. In addition, we kept consistent the function form (i.e., polynomial form) across the six criteria when we were able to do so without compromising the explanatory power (or having the R^2 drop below the threshold of 0.66). We calculated the partial derivatives of the equations with respect to their two regressor variables in order to approximate the difference in weight between the quantum value of claim and the other criterion. The first partial derivatives represented the relative size of impact that each criterion has on the damage grant in comparison to the other. The second partial derivatives were used to confirm the direction of the impact of each criterion—that is, whether it was correlated positively or negatively with the damage grant.

III. Challenges to Research

A. Sample Size Limitation

To our knowledge, our research represents the first attempt amongst comparative law specialists to systematically measure contractual damages. We gathered 905 cases dated between 1989 and 2016 and were able to manually code data from 208 of them (219 claims) in our research. However, this sample could be considered relatively modest in size. We are currently expanding our work to increase the sample size using modern natural legal language processing and machine learning techniques that are less nuanced but much faster.¹⁷⁹

In compiling our sample, we found it challenging to identify a sufficient number of relevant cases that documented both the quantum value of claim and quantum value of grant. This lack of documentation could be indicative of the legal community's limited interest in quantitative analysis, a challenge present equally in the United States, France, and international law. Over time, we may be able to overcome this difficulty in sample size enlargement as more advances are made in the development of analytical technologies and availability of information on public or private legal databases.

B. Selection Biases

After sample size, selection biases comprised one of the main methodological challenges to our research, as is the case in most empirical studies. We could address our first selection bias in terms of both general theory and practical objectives specific to our research. Since Priest and Klein have notably published in 1984 on the subject of selection effect, we have been aware of the fact that cases that get carried to court do not necessarily constitute a random representation of all disputes that take place. Many researchers have thus subscribed to the conclusion that the character of law cannot be inferred from the observation of litigated cases alone. This conclusion seems to hold given that cases that are settled out of court are, by nature, excluded from any litigation sample. However, recent studies concerning this matter have nuanced this conclusion. Klerman and Lee have argued in 2014-2015 that while selection effects do exist, they are partial and still allow for valid inferences to be drawn from the percentage of plaintiff trial victories. Hence, as Schweizer has established in 2016, "empirical analysis confined to data from litigated cases seems possible and fruitful in spite of the selection effect." In addition to having tolerance against this effect in theory, we are able to embrace selection bias in the particular context of our research. Since they are litigated, our selected disputes are arguably ones in which the involved parties face the highest degree of uncertainty and/or have very different expectations about the outcome. We are precisely interested in these cases as the objective of our analysis is to determine ways to reduce judicial uncertainty.

A second selection bias that we have considered in our research pertains to the comparative component of our analyses. The United States, France, and international commercial law are

¹⁷⁹ At this stage, we have been able to expand our analysis to a sample of 8000 contract breach cases from the U.S. and we are in the process of doing the same on a similar sample from France.

characterized by different proportions of commercial disputes that are litigated and those that are settled out of court. The common knowledge is that a majority of commercial disputes are settled out of court in the United States; the proportion is significant but probably lower in France. Comparing international commercial law to the United States and France adds another layer of complication to our analysis. For example, the inclusion of a liquidated damages clause in a contract reduces, albeit in an unequal fashion between the U.S. and France, the number of cases that continue to the verdict stage. However, the potential difference in the share of litigated cases between the jurisdictions should not affect the validity of the conclusions that we are drawing from our sample. As explained above for the first selection bias, we focused primarily on litigation cases and their outcomes (as opposed to non-litigation cases and their outcomes) in the three jurisdictions.

An obvious third selection bias arises from the fact that not every litigated case is necessarily published online. On one hand, this bias seems to have reduced over time, as the major databases continually work on their collection and publication of cases. On the other hand, the only way to definitively address this issue would be to manually access all the dockets of the jurisdictions under investigation. This is unfortunately out of our current scope and means.

IV. Sample Description

While we tried to maximize the number of cases that we used in our analyses, we had to exclude some of the 208 indexed cases (219 claims) due to three different reasons. First, we excluded the cases of Situation 3 for France and International as they were very few and the analysis was mainly relevant for the U.S. anyway. Second, we could not use cases that were missing information about one or more parameters (e.g., quantum value of claim, quantum value of grant) in certain parts of our analyses. The specific set of cases that we excluded varied depending on the particular section of our analyses that we were conducting. For example, we could have included a case in our analysis on the convergence between jurisdictions but not in our analysis on the sophistication of damage proof because it had a quantum value of claim while missing a sophistication level. Third, we excluded cases that were outliers in order to improve the explanatory power of our regression models. For example, in evaluating trends based on the sophistication of damage proof, we removed cases that deviated significantly from the average grant values for their corresponding sophistication levels. We made it a rule to keep the number of outliers that we removed less than ten percent of the original sample. In doing so, we considered it a priority to also preserve the original sample size as much as possible. The tables below summarize the sample used for each portion of our analyses.

Table [4]: Summary of Sample Used in the Analysis on the Convergence Amongst the Jurisdictions

	Cases Used	Cases Excluded	Total Cases
United States	72	17	89
Situation 1	21	14	35
Situation 2	26	2	28
Situation 3	25	1	26
France	56	4	60
Situation 1	27	3	30
Situation 2	29	1	30
International	43	16	59
Situation 1	22	9	31
Situation 2	21	7	28
Total	171	37	208

Table [5]: Summary of Sample Used in the Analysis on the Different Criteria

	Situation(s) & Jurisdiction(s)*	Cases Used	Cases Excluded	Total Cases
Quantum Value of Claim	All	160	48	208
Sophistication of Damage Proof	All except Situation 2 in International	120	60	180
Length of Negotiation	All except Situations 1-3 in International	30	66	96
Business Risk	Situation 1 in all jurisdictions	63	33	96
Reputation	Situation 2 in all jurisdictions	66	20	86
Law Firm Size (S1)	Situation 1 in U.S.	12	23	35
Law Firm Size (S2)	Situation 2 in U.S.	13	15	28

*Some criteria were not documented for cases under all situations (or kinds of contract breaches) and/or jurisdictions covered. For example, reputation was documented for Situation 2 (damage to goodwill or image) but not Situation 1 (breach of an agreement to negotiate/to agree) presumably because it was relevant for the former kind of contract breach but not for the latter.