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Contemporary Studies in Economic and Financial Analysis
Volume 91

Personal Injury and Wrongful Death Damages Calculations: A Transatlantic Dialogue

This volume is centered on damages, economic and noneconomic, including punitive damages, definition, calculation, and assignment in the United States and the European Union. The objective is to examine areas of convergence and divergence in the academic and practical treatment of damages issues in the United States and the European Union. Many of the chapters in the volume are drawn from the papers and discussions generated at the Trans-Atlantic Dialogue meetings of the *National Association of Forensic Economics* that began in Edinburgh, Scotland, in 2004. That meeting focused on the development of the "Ogden" multipliers for calculating damages mandated for consideration by UK Courts in 1999. The 2005 meetings (Dublin, Ireland) centered on Markov methodologies used in the United States for generating work-life tables and their adoption into damages multipliers, punitive damages, and the process of Irish tort reform. The 2006 discussions in Florence, Italy, focused on methods for calculating noneconomic damages in the United States and the European Union, as well as the process of harmonization of tort law within the European Union. Most recently, the 2007 discussions in Barcelona, Spain, dealt with comparisons of scheduled damages systems in the United States and the European Union.

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THE TRANSATLANTIC DIALOGUE: AN INTRODUCTION

John O. Ward and Robert J. Thornton

1. BACKGROUND TO THE DIALOGUE

This collection of original papers had its origin in a series of annual meetings of the National Association of Forensic Economics (NAFE) held in Great Britain, Ireland, Italy, and the United States from 2004 to 2008.[1] NAFE sponsored these meetings to explore common research areas in the calculation of damages in personal injury and death litigation in Western Europe and the United States. NAFE was founded in 1986 and is the largest association of economists and other damages experts specializing in the calculation of economic damages in litigation in the United States and Canada. The *Journal of Forensic Economics* (JFE) is the journal of NAFE and has been the primary outlet of peer-reviewed research in forensic economics over the past 22 years. The field of forensic economics has generated a substantial literature on methodologies and empirical research in the calculation of damages in personal injury, death, employment, and commercial litigation; and the use of that literature in the United States and Canadian courts by economists, CPAs, and actuaries has become commonplace in the past two decades (Thornton & Ward, 1999).[2] AU :1

The intent of the first international meeting of NAFE in Edinburgh in 2004 was to compare U.S. methodologies for calculating economic damages in personal injury and death litigation with those procedures used in the

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United Kingdom and other European Union (EU) members. In the United Kingdom prior to 1999, economic damages in such litigation were typically assessed by individual judges using "rule of thumb" multipliers with little actuarial or economic input or content. In 1999 in a case titled *Wells v. Wells*[3] before the House of Lords, the courts took judicial notice of actuarially derived multipliers used in the calculation of lost wages in personal injury and death litigation. These actuarially derived multipliers were the "Ogden" tables, named after Sir Michael Ogden. Ogden was the force behind the development of the tables in the 1980s through the work of the Law Commission and the Ogden Working Group, as described by Matthias Kelly, QC, in the following chapter of this volume. After the *Wells v. Wells* decision in 1999 by the House of Lords, there began a process of examination of methodologies appropriate to the calculation of economic damages in personal injury and death litigation in the United Kingdom involving lawyers, actuaries, and economists. The Ogden Working Groups that followed that decisions have included the participation of several authors of chapters in this volume and have utilized the best available statistical, actuarial, and economic methodologies in creating future Ogden tables. These have included the examination of forensic economic methodologies used in the United States.

Two of the contributors to this volume, Robert McNabb and Victoria Wass, coauthored a paper in 2003 with Lewis and Robinson titled "Loss of Earnings Following Personal Injury: Do the Courts Adequately Compensate Injured Parties?" (Lewis, McNabb, Robinson, & Wass, 2002[4]). The paper reviewed the development of forensic economic methodologies and concepts in the United States and concluded that, while the current Ogden tables were a substantial improvement over "rule of thumb" verdicts by judges prior to the *Wells v. Wells* decision, the "U.S. model" offered even greater accuracy in the forecasting of lost earnings. The authors also outlined an agenda for future research in the United Kingdom to incorporate improvements into future Ogden tables. It was this agenda that was the focus of the 2004 NAFE meetings in Edinburgh with both Robert McNabb and Matthias Kelly participating.

At the NAFE 2005 meetings in Dublin, Steve Haberman, Richard Verrall, and Zoltan Butt presented their research on enhanced Markov worklife tables for the United Kingdom as an addition to the 2006 Ogden tables. Their research parallels that done in the United States done by Gary Skoog, James Ciecka, and Kurt Krueger. Haberman, Verrall, and Butts also AU :2 prepared a paper on their Markov worklife calculations for the NAFE meetings in Boston in 2006 (Verrall, Haberman, & Butt, 2006).

In 2007, the NAFE meetings in Florence, Italy, explored the topic of awards for noneconomic damages, focusing on research by Giovanni Comandé on a European model for non-pecuniary damages awards. Comandé later proposed a similar non-pecuniary damages model for the United States in a paper that he presented at the NAFE meetings in Chicago in 2007. Papers were also presented in Florence and Chicago by John Ward and Robert Minnehan on the development of Ogden-type multipliers for the United States, particularly in class-action cases.

The exchange of ideas on forensic economic methodologies between economists and actuaries who attended the NAFE meetings described above has been most fruitful. It has opened new paths for cooperative research and stimulated new ways of thinking about both economic and noneconomic damages in personal injury and death torts in the United States and Europe. And the original papers in this volume serve to capture the essence of the dialogue described above.

2. OVERVIEW OF CHAPTERS

In this section, we provide summary overviews of each of the chapters (largely in the words of the authors themselves). The volume begins with Matthias Kelly's contribution, "The Development of an Actuarial Approach to the Calculation of Future Loss in the UK." The chapter is a history of the adoption of actuarial methods for calculating and awarding pecuniary damages by the courts of the United Kingdom during the past two decades. The author examines the case law leading to the *Wells v. Wells* decision that officially recognized the Ogden tables as the mechanism for determining compensation in personal injury litigation, and also the work of the Law Commission in recognizing the need for actuarial precision in making such awards. The chapter discusses the evolution of the Ogden tables and the role of Sir Michael Ogden, QC, in gaining acceptance for the tables. The work of the Ogden Working Party in addressing issues of discounting, adjusting losses for inflation, and addressing rising health care costs through periodic payments is also reviewed. Finally, the author outlines the areas of damages calculation that remain to be addressed as well as the need for continued input by the Ogden Working Party and the Law Commission to address those issues.

The next chapter is by John Ward and is entitled "Economic Damages and Tort Reform: A Comparative Analysis of the Calculation of Economic Damages in Personal Injury and Death Litigation in the United States and

the United Kingdom.'' The chapter compares the traditional actuarial method of calculating pecuniary damages for personal injury litigation in the United States with the system of scheduled pecuniary damages (the Ogden tables) in the United Kingdom in the contexts of both exactness of measurement and the goals of tort reform. In the United States, the presentation of a pecuniary-damages claim is commonly made by an economic expert to a jury, while in the United Kingdom the judge directly decides upon damages and may rely upon published actuarial multipliers in arriving at the level of pecuniary damages to award. The chapter lays out the design of the actuarial model used by experts in the United States and how that design has been incorporated into the Ogden tables in the United Kingdom. It also discusses the possibility of developing a system of scheduled damage multipliers for pecuniary-damages awards in the United States and offers a model for the design of such multipliers. Finally, the Ogden tables, the multipliers derived from the damages model of the September 10, 2001, Victim's Compensation Fund, and U.S. scheduled damages model multipliers are each applied to hypothetical personal injury cases. The results are then compared, along with their implications for the accuracy of damages calculations and for tort reform.

In ''Accounting for the Effects of Disablement on Future Employment in Britain,'' Victoria Wass and Robert McNabb first note that UK law generally provides that any person injured through the fault of another may claim monetary compensation in the form of damages. The quantum of damages is determined by means of a formula, the multiplier–multiplicand formula, in which an annual sum for posttax earnings (the multiplicand) is multiplied by the number of years to retirement (the multiplier), with the latter discounted by a real rate of return and the risks of both mortality and nonemployment prior to retirement age. In contrast to U.S. courts, courts in the United Kingdom have been reluctant to engage labor market data or economic expertise in the determination of employment risks. Instead, normal practice has been the arbitrary adjustment of multipliers in the form of judicial discretion. Such adjustments set precedents and become established. One such precedent is the *Smith v. Manchester* award of between 6 and 24 months post-injury earnings in response to the increased risk of nonemployment over a lifetime for a claimant who is disabled but who retains the capacity to work.

There is surprisingly little UK research on the labor market effects of disability, and none that looks at the effects of disability over a working lifetime. However, the research that does exist indicates a much greater employment disadvantage than that assumed by the courts. Nonparticipation

rates for the disabled are generally about twice that of the nondisabled, and the trend is upwards. While acknowledging the difficulties in measuring disability-induced employment effects, the authors proceed to develop a simple two-state increment–decrement model to estimate worklife expectancies (WLE) by age, sex, and employment and disability status. The authors use this model to estimate individual WLEs before and after injury. The use of empirically based disability-adjusted multipliers in the calculation of post-injury earnings precludes the need to make arbitrary adjustments to the lump sum for the purpose of accounting for the employment effects of disability. A comparison of WLE by disability status indicates that the impact of disablement on employment exceeds 24 months by a substantial margin. Finally, using a sample of 100 awards adjudicated in the UK courts during the 1990s, the authors use their model to recalculate the award for future loss of earnings in each case and compare this hypothetical figure with that actually awarded by the court to reveal a situation of substantial undercompensation.

The next chapter, ''Estimating and Using Work Life Expectancy in the UK,'' is by Zoltan Butt, Steve Haberman, Richard Verrall, and Victoria Wass. The starting point for this chapter is the deficiencies in the estimated employment risks contained in the Ogden tables for use in the traditional multiplier–multiplicand calculation, namely the use of average (unconditional) employment rates and the absence of account of the impact of disability. (These points were also raised in the previous chapter.) The focus of this chapter is to provide a suitable modification to the multiplier–multiplicand calculation, since this is the approach that lawyers are committed to using, and to reestimate the parameters of the formula to more accurately account for employment risks.

The parameters of the multiplier–multiplicand formula are contained within the Ogden tables. The baseline multiplier is the discounted life expectancy, and the reduction for employment risks is a discounted WLE expressed as a proportion of the discounted number of years alive to retirement. The authors provide improved estimates of the reduction factors (RFs) for employment risks. WLE and RFs are modeled within the framework of a multiple-state Markov process and, as in the previous chapter, are conditioned upon age, sex, starting employment status, and disability. In this chapter, the authors make use of the longitudinal element of the labor force survey (LFS) and a more sophisticated from of modeling. One of the benefits of this approach is the addition of a further covariate – educational achievement. The combination of disability and skill level proved to be powerful in the determination of employment.

The new RFs estimated in this study, and the adaptation to the calculation to formally incorporate the effects of disability on the multiplier, were adopted in the latest version of the Ogden tables (Sixth Edition, May 2006). However, the law is slow to change. Incorporation of the disability-induced employment disadvantage into the quantum of damages has proved to be controversial with both insurance companies and with the judiciary. The focus of their concern is the magnitude of the impact (compared to the *Smith v. Manchester* award) and the consequent implication for the level of damages. A case example (*Conner v. Bradman*) shows how the courts, while adopting the new approach, use judicial discretion to reduce its effect on the award of damages.

Judicial discretion is the perfectly reasonable response to imprecision in the RFs, which are estimated for broad categories of the working population and not for individual claimants. However, the decision in *Conner v. Bradman* suggests a need for further guidance on the magnitude of discretionary adjustments away from the average RF. In this regard, the authors look to important developments in the U.S. forensic economics literature in which the average RF is treated as a random variable whose distribution can be estimated through simulation techniques.

In the next chapter, "Markov Worklife Table Research in the United States," Gary Skoog and James Ciecka summarize worklife-related research in the United States over the last 25 years. They point out that striking theoretical and empirical developments have occurred over this period. The switch, first of all, from life-table-based constructs to Markov process models was seminal. The probabilistic implications of Markov models have been captured theoretically and estimated with large, current, and nationally representative data sets. Parametric and nonparametric worklife models have been estimated, along with models of full-time and part-time worklife as well as occupation-specific worklife models. Skoog and Ciecka also note that worklife research has progressed along quite different paths in the United States and the United Kingdom over the last 25 years. The chapter concludes with a glimpse at the likely direction of future worklife-related research.

The focus switches again to the United Kingdom in the next chapter, "Periodical Payments Awards and the Transfer of Risk." Richard Cropper and Victoria Wass point out that personal injury claims for future loss in the United Kingdom have been settled traditionally by lump sum payments. Although structured settlements have long been available as a remedy, they have rarely been used. But as of April 2005, an amendment to the Damages Act of 1996 introduced a new approach to claims in the United Kingdom in which the court is required to consider (and potentially impose) an award of

damages in the form of a structured settlement. In contrast to the existing structured settlement, the new form of award is to be called a "periodical payment" and is to be determined on a "bottom up" basis where the claimant's needs are paramount. This approach has been described as "the most fundamental change in 150 years in the quantification of bodily injury claims" (London International Insurance and Reinsurance Market Association, 2003).

As the authors explain, under a lump sum award it is the *claimant* who bears the risk of uncertain mortality and investment returns. However, periodical payments were designed to transfer these risks to the *tortfeasor* where, for reasons of justice, equity, and efficiency, they ought properly to lie. Yet the statutory provision for periodical payments left the issue of indexation unresolved. The UK retail price index (RPI) was the default measure, and the first order for a periodical payment was linked to this index. However, historically earnings have risen faster than have prices in the United Kingdom; and, since the largest component of any care plan is the wages of the "carers" (caregivers), uprating the annual cost of care by the RPI would very likely leave the claimant unable to afford the cost of future care from his/her damages. The risk of a shortfall was high – in fact, it was almost a certainty – and with annual sums often in the region of £250 thousand, the magnitude of the shortfall was also high. The indexation issue was to prove critical to the success of periodical payments. The benefits to the claimant of the transfer of risk were acknowledged by both the parties and the courts. However, indexation to an inappropriate measure, in which the failure of the annual sum to meet the rising cost of the expenditure is all but guaranteed, threatened to jeopardize the reform in its entirety. In this chapter, the authors outline the arguments in favor of replacing the RPI with an earning-based measure for the indexation of annual care costs. As things turned out, these arguments were to prevail in both the High Court and the Court of Appeal so that the very considerable potential benefits to the claimant of the transfer of mortality and investment risks to the defendant were able to be realized. The authors were the lead expert witnesses in a series of test cases centered on the issue of indexation of periodical payments during 2006–2007.

The next chapter, "The United States Approach to Computing Economic Damages due to Personal Injury and Wrongful Death," was written by Kurt Krueger and Gary Albrecht. As the authors point out, tort damage law in the United States allows the claimant to recover economic damages incurred because of injury when the injury causes reduced individual productivity. The level of economic damages recoverable is a function of the difference

between the pre-injury and the post-injury values of the claimant's economic output. Although state jurisdictions in the United States show marked variations in their compensable economic damages, there are nonetheless certain "core" economic methods that are used in all jurisdictions to determine economic damages in tort cases. This chapter presents the generally accepted economic theories and methodologies which comprise what has been called the "U.S. approach" to computing economic damages.

The following chapter crosses the Atlantic once more, this time directing attention to the Republic of Ireland. In "Principles and Practice of Assessing Damages for Personal Injury and Wrongful Death in Ireland," Shane Whelan lays out the fundamental processes underlying the assessment of damages in Ireland by reference to landmark statutes and precedents. The principal focus of the chapter, however, is on how damages in Ireland are computed in practice. The discussion highlights those assumptions to which the quantum of damages is most sensitive while also noting the more debatable ones. In particular, Whelan discusses and analyzes the sensitivity of the lump sum to the discount rate(s), to future mortality improvements, and to future taxation. The expert witnesses relied on by the Irish courts to capitalize future pecuniary losses have for many decades been actuaries, and their original market-consistent approach influenced practice in the United Kingdom following the adoption of the Ogden tables. In more recent years, Irish actuaries and Irish courts have had to adopt a less theoretically sound approach to setting the discount rate, consequent on the failure of an index-linked bond market to develop in Ireland from the mid-1980s.

The focus next turns to Italy, with Giovanni Comandé's "Doing Away with Inequality in Loss of Enjoyment of Life." The aim of this chapter is to show the viability and the benefits for the United States of experimenting with awarding methods for non-pecuniary losses in light of European experiences. A comparison of innovative methods shows that the use of "European style" guidelines would help the review process while safeguarding the jury's independence and enabling courts to consider the legitimate evidential factors that evoked the specific jury verdict. A better understanding of non-U.S. solutions would at least bring about more consistency in striving for individual justice while retaining judicial "discretion."

In their chapter, "Scheduled Damages and the American Tort Environment," Steven Shapiro and A.E. Rodriguez return to the United States to compare caps on noneconomic damages with proposals to adopt "scheduling" of such damages. In comparing scheduling with caps on noneconomic damages, the authors conclude that caps do not eliminate horizontal and vertical inequities. In addition, caps can create greater incentives for victims

to underinsure, they can lessen incentives to avoid injury, and they may lead to larger awards for economic damages. By contrast, scheduling is a second-best solution to a status quo of unconstrained awards for noneconomic damages by jurors. Scheduling does provide greater horizontal and vertical equity for litigants. However, scheduling requires using information based on past awards or on subjective judgments by legislators in order to construct schedules. Hence, problems of suboptimal deterrence and insurance are not necessarily reduced.

In "Examples of Scheduled damages Used in Europe and the United States," Robert Minnehan describes nine selected examples of "Schedules of Damages" from Europe and the United States that illustrate the range of complexity found in such schedules. The author distinguishes between "general" and "special" damages, which are specific concepts in American and British laws, and provides examples of how both types of concepts are formulated and specified. The general damages compensation schemes vary from relatively simple – with only a few levels of awards – to much more complex schemes – with as many as 29 levels of awards in one example or with awards based on the percent of disability in another. The special damages compensation schemes, which focus on quantifiable economic or pecuniary losses, are formula-based calculations with either a few factors or with many factors considered in the calculations. These examples also vary from simple to relatively complex. Although not a specific focus of this chapter, differences in potential award levels across countries can be observed in these descriptions.

The concluding chapter in the volume is entitled "International Data and the Forensic Economist: A Guide to Sources and Uses." As the authors, Michael Piette and David Williams, note, forensic economists are often asked to calculate economic damages in cases that are tried in the United States but involve the death or injury of a citizen or resident of a foreign country. Commonly called "international cases," they can range from a single tourist who is killed or injured when visiting the United States to mass torts such as plane crashes or product liability claims. In international cases, macroeconomic data compiled by various governmental or private sources within the United States are of very limited use in preparing economic loss estimates. Rather, the decedent or injured party's economic, demographic, and social environment may differ significantly that of an individual living in the United States. In this regard, plaintiffs are impacted by the macroeconomic conditions of their country of domicile. The purpose of this chapter is to provide an overview of the data sources that are available as well as the limitations of these sources in preparing economic loss estimates in international cases.

We hope that the exchange of ideas on forensic economic methodologies contained herein will be both useful and enlightening for practitioners. We also hope that the exchange will continue to create opportunities for cooperative research on both sides of the Atlantic as well as stimulate new ways of thinking about damages estimation in torts involving personal injury and death.

NOTES

1. The European meetings were held in Scotland, Dublin, and Florence; and the U.S. meetings were held in Boston and Chicago in conjunction with the meetings of the Allied Social Sciences Association.
2. See Thornton & Ward (1999) for a history of the development of the field of forensic economics in the United States.
3. *Wells v. Wells* (1999) 1 AC 345.
4. The paper was based on an earlier one, "Methods of Calculating Damages for Loss of Future Earnings," in the *Journal of Personal Injury Law*, 2002, No. 2.

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