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THE DISCOUNT RATE IN GEORGIA PERSONAL INJURY AND WRONGFUL DEATH DAMAGE CALCULATIONS

Peter C. Eisemann[†]

INTRODUCTION

Damage requests in personal injury and wrongful death cases generally incorporate estimates of the injured party's lost earnings reduced to a present value. Georgia is unique in that there is a fixed interest rate designated by statute for discounting this earnings stream. The Georgia statute reads: "It shall be lawful for the trier of fact [the jury or court, as the case may be,] in determining the present value of any future earnings, annuity, or amounts, to reduce the same to the present value upon the basis of interest calculated at 5%, per annum."¹

Despite the statutory directive of a 5% rate, testifying economists in Georgia cases use a variety of interest rates in practice and a leading Georgia commentary states that any rate between 5% and 7% is acceptable.² The analysis presented below

[†] Professor, Department of Finance, Georgia State University. This research was supported, in part, by a research grant from the College of Business Administration at Georgia State University. The Author wishes to thank Jacqueline Faught for her research assistance. Copyright 1997 Peter C. Eisemann.

1. O.C.G.A. § 51-12-13 (1982). Arizona has a statutory rate but it is not fixed as in Georgia. Arizona has adopted a periodic-payments statute that generally obviates the need for present value calculations. In those exceptions where discounting is required, the rate is set at the 52-week United States Treasury bill rate from the most recent auction prior to the calculation date. ARIZ. REV. STAT. § 12-589 (1956); see Roger C. Henderson, *Designing a Responsible Periodic-Payment System for Tort Awards: Arizona Enacts a Prototype*, 12 ARIZ. L. REV. 21 (1990) for an analysis of the statute. An interesting technical issue unaddressed by the statute or Henderson is whether the Treasury bill rate, which is quoted on a discount basis, should be left unadjusted or transformed into a simple interest rate. Such an adjustment would both increase the interest rate used to compute present values and give a better measure of the true return from an investment in that security. One other state that did have a specific statutory rate was Minnesota. However, the 1986 law was repealed less than two years after enactment. Like the Arizona statute, the rate was set by formula and was not fixed. However, the rate changed only once a year. See Karl A. Egge, *Legislatively Imposed Net Discount Rates: Minnesota's Tort Reform*, J. FORENSIC ECON., 7 (1989).

2. ROBERT E. CLEARY, JR., *ELDRIDGE'S GEORGIA WRONGFUL DEATH ACTIONS* § 6-5, at 195 (2d ed. 1992) ("In 1970 the General Assembly by statute gave to the jury the

traces the source of this conflict to the differing case law prior to the 1970 enactment of the interest rate statute and various court interpretations since that date. Only the 5% rate emerges from the inquiry as a legally approved rate for Georgia cases. Further, the analysis shows that the 5% requirement is ill-advised because a fixed statutory rate is inconsistent with both the basic purpose of discounting future earnings and the actual method for calculating the future earnings estimates that are to be discounted. As a result, Georgia's current methodology can lead to severely biased damage valuations.

I. DISCOUNT RATE PRIOR TO 1970

Personal injury and wrongful death cases are based on tort rather than contract law, so there are no pre-agreed interest rates governing present value calculations. Without either a contractual rate or a statutory rate for use in personal injury and wrongful death cases, courts, prior to 1970, were left without any specific guidance for the use of discount rates. A search for related statutory support led the courts to the legal interest rate, a legislatively set rate to be applied in cases where the interest rate is not specified in a prior writing.³ This rate is part of the general code provisions for interest and usury, and has never been legislatively prescribed for personal injury and wrongful death cases.⁴ Since 1845 the legal interest rate in Georgia has been 7%.⁵

In 1895, in *Florida Central & Peninsular Railroad v. Burney*,⁶ the Georgia Supreme Court linked the legal interest rate to

right to choose any rate of interest it wished between five percent and seven percent by which to reduce such sum.").

3. The legal interest rate has a long tradition in Georgia. As early as 1759 the Legislature approved a legal interest rate of 8%, 2 THE EARLIEST PRINTED LAWS OF THE PROVINCE OF GEORGIA, 1755-1770, at 59 (1978), the purpose of which was to prevent usurious interest by specifying a rate for all financial transactions. In 1873, the General Assembly repealed the usury limit aspect of the law and redefined the legal rate as the interest rate that was to be applied in cases where no rate was specified in writing. 1873 Ga. Laws 52. The Legislature has modified the wording of the statute several times since 1873 but the basic nature of the provision as well as the rate are unchanged. 1988 Ga. Laws 534.

4. See 1988 Ga. Laws 534.

5. THOMAS R. R. COBB, A DIGEST OF THE STATUTE LAWS OF THE STATE OF GEORGIA 393 (1851); O.C.G.A. § 7-4-2 (1989).

6. 26 S.E. 730, 98 Ga. 1 (1895).

personal injury and wrongful death cases.⁷ There, a railroad employee who had suffered a career-ending work accident, sued the railroad for negligence and was awarded \$12,108.⁸ The defendant appealed, claiming that the trial judge erred in instructing the jury to use a 6% annuity factor from an annuity table that listed values for both 6% and 7%.⁹ Justice Lumpkin, writing for the court, agreed with the appellant and declared that the 6% instruction was improper and the legal rate of 7% was the appropriate discount rate.¹⁰ The court stated:

With reference to the "6 per Cent." and "7 per Cent." columns in the annuity table, we have thought it best that juries should be restricted to the use of the latter only, because 7 per cent is the legal rate of interest in this state when none is fixed by contract in writing, and calculations of annuities based upon any other rate would be purely arbitrary.¹¹

Justice Lumpkin also set out a model charge in the opinion.¹² A few years later in *Central of Georgia Railway v. Mosely*¹³ the Georgia Supreme Court, when again confronted with the discount rate issue, reaffirmed the validity of the legal interest rate from *Burney*.¹⁴

Rulings from *Burney* and *Mosely* firmly established the legal interest rate as the rate to use when discounting future losses and is the genesis for the 7% rate that is still referenced and used by some practitioners today. Unfortunately, the court's selection of the legal rate was unwise. The 7% rate is inconsistent with the rationale of discounting, both at the time of *Burney* and *Mosely* as well as for most of the following years.

The purpose of discounting lost earnings is to adjust for the difference between the time when an award is received and the time when the lost earnings would have been received. Since the award can be invested at interest, the plaintiff is

7. In a prior case, the court applied a 7% discount rate, but the interest rate was not an issue on appeal. *Atlanta & West Point R.R. v. Newton*, 11 S.E. 776, 85 Ga. 517 (1890).

8. *Burney*, 26 S.E.2d at 731, 98 Ga. at 2.

9. *Id.* at 732, 98 Ga. at 5.

10. *Id.*

11. *Id.*

12. *Id.*

13. 38 S.E. 350, 112 Ga. 914 (1901).

14. *Id.* at 351, 112 Ga. at 915.

overcompensated if the award equals the gross amount of the lost earnings. Discounting future earnings at the recipient's investment return adjusts for the timing difference and eliminates the overcompensation problem.¹⁵ Thus, for 7% to be an appropriate discount rate in *Burney* and *Mosely*, it should have been the appropriate investment return around 1900.

Evaluating the fitness of a particular measure of investment return is not a simple matter because investment returns vary greatly depending on the characteristics of individual investments. Deciding on the investment standard requires that the critical characteristics first be identified. The most significant of these is risk, for which there are two basic positions.¹⁶ Both positions start with the observation that the lost earnings stream is uncertain, and depends on such factors as economic conditions, and the tort victim's health prior to the tort. The first view reasons that if the lost income stream is risky, the appropriate investment standard should be the interest rate on a comparably risky investment.¹⁷ The alternate proposition is that regardless of the income uncertainty, the appropriate standard is the interest rate on a default-free instrument.¹⁸

Although commentators debate the relative merits of applying or not applying a risky component to the discount rate, courts have consistently chosen the latter approach.¹⁹ For example, according to the Supreme Court in *Jones & Laughlin Steel Corp. v. Pfeifer*,²⁰ "the discount rate should be based on the rate of interest that would be earned on 'the best and safest

15. See, e.g., *South-Western R.R. v. Paulk*, 24 Ga. 356, 367-68 (1857); *Atlanta & West Point Ry. v. Newton*, 11 S.E. 776, 777-78, 85 Ga. 517, 529 (1890).

16. There are other significant factors affecting interest rates, more generally, such as maturity, liquidity, taxation, and the presence of both explicit and implicit options. See JAMES C. VAN HORNE, *FINANCIAL MARKET RATES AND FLOWS* (4th ed. 1994) for an extensive discussion of the possible "components" of interest rates.

17. See Richard A. Posner, *Law and the Theory of Finance: Some Intersections*, 54 GEO. WASH. L. REV. 159 (1986); William P. Jennings & Penelope Mercurio, *Selection of an Appropriate Discount Rate in Wrongful Death and Personal Injury Cases*, 14 J. CONTEMP. L. 195 (1988); William P. Jennings & G. Michael Phillips, *Risk as a Discount Rate Determinant in Wrongful Death and Injury Cases*, 56 J. RISK & INS. 122 (1989).

18. See Gary R. Albrecht, *Compensatory Damages and the Appropriate Discount Rate: A Comment*, 6 J. FORENSIC ECON. 271 (1993).

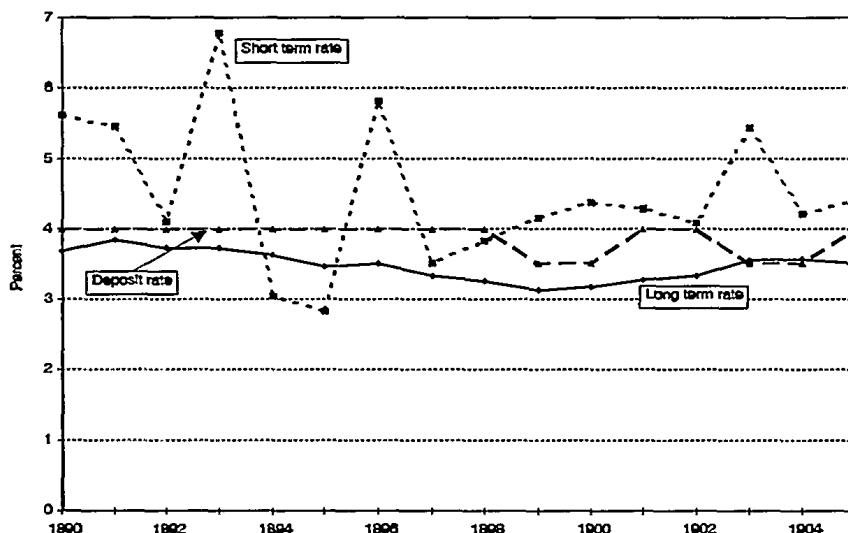
19. 8 AM. JUR. PROOF OF FACTS 2D *Discount Rate* § 2 (1976).

20. 462 U.S. 523 (1983) (citing *Chesapeake & Ohio R.R. v. Kelly*, 241 U.S. 485, 491 (1916)).

investments.’²¹ The Court also noted that the rate “should not reflect the market’s premium for investors who are willing to accept some risk of default.”²²

How well does 7% meet the riskless interest rate standard at the time of *Burney* and *Moseley*? Figure 1 addresses that question. The graph starts at 1890, five years before *Burney*, and includes three interest rate series: short-term and long-term open-market, high-quality corporate paper, and bank deposits.²³ All three reflect low-risk investments during that time period and together they span a range of maturities and forms. Clearly, 7% is far above high-quality, market investment returns, which earned about 4% during that period.

Figure 1
Market Conditions Around 1900



It is not surprising that the legal interest rate is so much larger than market rates on low-risk investments once we recall

21. *Id.* at 537 (citing *Kelly*, 241 U.S. at 491).

22. *Id.*

23. SIDNEY HOMER, A HISTORY OF INTEREST RATES Tbls. 42, 44, 45, 51 (2d ed. 1977). Short-term rates are for 60-90 day commercial paper, long-term rates are for high-quality railroad bonds until 1901 and are then prime corporates, and the deposit rates are for the Bowery Savings Bank. During this period, U.S. government debt rates were controlled so U.S. rates do not fairly represent market returns and they are not shown on the graph. If true market, risk-free returns had been available, they would be lower than the Figure 1 data and the conclusion would be even stronger.

that the legal interest rate of 7% was intended for situations where money was *lent* without a specified rate.²⁴ As a *gross lending rate* applicable to private transactions, the legal rate can be viewed as the sum of three components: a riskless return for the lender's investment in a financial asset, a premium to compensate the lender for default risk, and a premium to cover the administrative costs of credit extension. The appropriate discount rate for an individual receiving an award, on the other hand, is the riskless investment return, a *net rate* that only includes the first of these three components.

While the court argued in *Burney* that it was arbitrary to use an interest rate other than the legal rate, one could also argue that it was arbitrary to choose an interest rate that did not meet the most fundamental test of an appropriate discount rate. With market rates substantially below the legal interest rate, the court had approved a discount rate that was discriminatory against plaintiffs.²⁵

Although it appeared that *Burney* and *Mosely* provided a clear statement of Georgia law, several later appellate decisions challenged the use of the legal rate.²⁶ In *Western & Atlantic R. R. v. Townsend*²⁷ the Georgia Court of Appeals strayed far from Justice Lumpkin's model charge. The case involved a freight-conductor who was killed by a derailment and the action was brought under the Federal Employer's Liability Act.²⁸ At trial, the judge expounded on the choice of interest rate.

In determining what rate of interest you should find that money will bring . . . you would consider all the facts and circumstances of the case. Local conditions are not to be disregarded, nor should the discount necessarily be at what is commonly called the legal rate of interest. It may be that such rates are not obtaining upon investments upon safe securities without the exercise of financial expertise and skill.

24. *Id.* When the legal rate was changed to 7% in 1845, market investment rates approximated 5%. *Id.*

25. For example, consider the effect of discounting a 20-year earnings stream of \$10,000 per year at both 7% and 4%. The present value at the legal rate of 7% (\$105,940) is 22% lower than the present value at a 4% market rate (\$135,903).

26. Several opinions stress the permissible flexibility of methodology without ruling on the allowable interest rate issue. *See* *Standard Oil Co. v. Reagan*, 84 S.E. 69, 15 Ga. App. 571 (1915); *Central of Ga. Ry. v. Minor*, 59 S.E. 81, 2 Ga. App. 804 (1907).

27. 135 S.E. 439, 36 Ga. App. 70 (1926).

28. *Id.*

The compensation should be awarded upon a basis that does not call upon the beneficiaries to exercise such skill. It is a matter for you to decide as to what the earning power of money, at this place and time, on safe investments would be.²⁹

The charge is noteworthy not only because it was upheld on appeal even though it conflicted with the legal rate standard, but also because it addresses the essence of the rationale for discounting future losses.

The *Townsend* opinion cites *Chesapeake & Ohio Railway Co. v. Kelly*,³⁰ a landmark wrongful death case that serves as the basis for both the trial judge's charge and the affirming opinion of the Georgia Court of Appeals.³¹ In *Kelly*, the Supreme Court overturned a Federal Employer's Liability Act case originating in Kentucky where the trial judge had refused to charge the jury that all future losses must be reduced to present value.³² The ruling not only states that reduction to present value is mandatory, but it also provides general guidelines for choosing an interest rate.³³ The Court noted that the rate should be based on investments that do not require "the exercise of financial experience and skill"³⁴ and are "without substantial danger of loss."³⁵ The Court further noted that the rate should not be set equal to the legal interest rate unless the legal rate meets these characteristics.³⁶ Thus, the legal rate was given no special stature. Consequently, the Court provided for flexibility at trial, rather than mandating adherence to a "precise rule or formula."³⁷

A major difference between *Townsend* and the earlier Georgia cases is that *Townsend* was brought under the Federal Employer's Liability Act rather than a state statute, thereby leading the appellate court to turn to federal opinion. Following

29. *Id.* at 441, 36 Ga. App. at 75.

30. 241 U.S. 485 (1916).

31. *Townsend*, 135 S.E. at 442, 36 Ga. App. at 76.

32. *Kelly*, 241 U.S. at 488-91.

33. *Id.* at 490.

34. *Id.*

35. *Id.*

36. *Id.* In another Federal Employer's Liability Act case from Kentucky, the Court again ruled that the legal interest rate was not required. *Louisville & Nashville R.R. v. Holloway*, 246 U.S. 525 (1918).

37. *Kelly*, 241 U.S. at 491.

Townsend, there have been several additional Georgia appellate decisions involving the Federal Employer's Liability Act, and all decisions are consistent with *Townsend*.³⁸

The conflict between the early Georgia cases, which required the legal interest rate, and the federal cases, which mandated consideration of local market conditions for safe investments, was finally addressed in *Bunch v. McCleskey*.³⁹ In a wrongful death case brought under Georgia law, the trial judge charged the jury that they could use whatever interest rate they believed fair rather than rely on any specific rate from an annuity table.⁴⁰ The supreme court ruled that there is a difference between state and federal cases, noting that:

Computation of interest, etc., are matters determined by the law of the forum. In a case brought on a state statute the law of the state governs. The proper measure of damages in cases arising under federal statutes must be settled according to principles administered in federal courts. . . . We think the law of the forum is in Georgia, as ruled above.⁴¹

Having decided that the case required Georgia law, the court concluded the 7% legal interest rate would apply.⁴²

The appellate cases after *McCleskey*, but before 1970, all involved state law and the courts were nearly unanimous in their support of the 7% standard.⁴³ In a minor exception, *Hughes v. Brown*,⁴⁴ a taxicab hit a bicyclist causing serious and permanent injury. A lawsuit was filed under state law against the taxicab driver and a jury returned a verdict in favor of the plaintiff.⁴⁵ In

38. *Central Ry. v. Anderson*, 158 S.E. 333, 43 Ga. App. 189 (1931); *Western & Atl. R.R. v. Lochridge*, 152 S.E. 474, 170 Ga. 208 (1930); *Bart v. Scheider*, 147 S.E. 430, 39 Ga. App. 467 (1929); *Southern Ry. v. Woodward*, 146 S.E. 561, 39 Ga. App. 173 (1929); *Western & Atl. R.R. v. Hughes*, 142 S.E. 185, 37 Ga. App. 771 (1928).

39. 161 S.E. 128, 173 Ga. 545 (1931).

40. *Id.* at 130-31, 173 Ga. at 549.

41. *Id.* at 131, 173 Ga. at 550.

42. *Id.* (citing *Florida Cent. R.R. v. Burney*, 26 S.E. 730, 98 Ga. 1 (1895); *Central Ry. v. Mosely*, 38 S.E. 350, 112 Ga. 914, 915 (1901)).

43. See *Pollard v. Boatwright*, 196 S.E. 215, 57 Ga. App. 565 (1938); *Western & Atl. R.R. v. Bennett*, 171 S.E. 187, 47 Ga. App. 629 (1933); *Radcliffe v. Maddox*, 165 S.E. 841, 45 Ga. App. 676 (1932); *Kitchen v. Hall*, 156 S.E.2d 920, 116 Ga. App. 41 (1967); *Williams v. Young*, 124 S.E.2d 795, 105 Ga. App. 391 (1962); *Cook v. Carr*, 105 S.E.2d 795, 98 Ga. App. 306 (1958); *Swift & Co. v. Lawson*, 97 S.E.2d 168, 95 Ga. App. 35 (1957); *Savannah & Atlanta Ry. v. Newsome*, 83 S.E.2d 80, 90 Ga. App. 390 (1954); *Atlanta, Birmingham & Coast R.R. v. Thomas*, 12 S.E.2d 494, 64 Ga. App. 253 (1940); *Southern Ry. v. Alexandar*, 2 S.E.2d 219, 59 Ga. App. 852 (1939).

44. 143 S.E.2d 30, 111 Ga. App. 676 (1965).

45. *Id.* at 33, 111 Ga. App. at 678. The appeals court heard the case twice. The

his charge, the trial judge specified the 7% rate to the jury.⁴⁶ On appeal, the defendant argued that this charge was incorrect under *Southern Railway v. Woodward*,⁴⁷ in which the court held that the legal rate should not be adopted as the discount rate.⁴⁸ *Woodward*, however, arose out of the Federal Employer's Liability Act and, as discussed in *McCleskey*, different discount rates apply to federal and state cases. Since *Brown* was a state case, the trial judge had presented the proper charge. The appellate court simply stated that under the facts of the case, applying a market rate would lead to a higher present value. Thus, any possible error was in the defendant's favor.⁴⁹ Thus, the case did not explicitly disagree with *McCleskey*, although the fact that the court discussed the use of discount rates other than the 7% rate gives the impression of disagreement.⁵⁰

II. DISCOUNT RATE AFTER 1970

Following *Bunch v. McCleskey*, the Georgia law was clear: cases brought under Georgia statute required the use of the 7% legal interest rate, while federal cases permitted a more flexible approach that took into account actual financial market conditions. However, in 1970, the Georgia General Assembly considered the issue and passed a bill specifically aimed at the interest rate assumption in personal injury and wrongful death cases. Consequently, after 1970, Georgia law provided that it shall be lawful to discount at 5%.⁵¹

court of appeals found reversible errors in the first trial, and a second trial was ordered. *Hughes v. Brown*, 136 S.E.2d 403, 109 Ga. App. 578 (1964). The second trial led to the appeal at hand.

46. *Brown*, 143 S.E.2d at 34, 111 Ga. App. at 681.

47. 146 S.E. 561, 39 Ga. App. 173 (1929).

48. *Id.* at 565, 39 Ga. App. at 182 (citing *Chesapeake & Ohio Ry. v. Kelly*, 241 U.S. 485 (1916)).

49. *Brown*, 143 S.E.2d at 34, 111 Ga. App. at 681.

50. *Id.* A case with a similar conclusion is *Metropolitan Life Ins. v. Talbot*, 205 F.2d 529 (5th Cir. 1953). The appellant claimed that the jury charge dealing with comparative negligence was confusing. In response, the appeals court conducted some illustrative computations using both 6% and 7% discount rates to show that the jury award was far below the amounts calculated under either rate. The jury thus "applied the comparative negligence rule in assessing damages." *Talbot*, 205 F.2d at 532. As in *Brown*, there is no discussion of the appropriate rate by law. The court simply shows that the appellant was not harmed by the chosen rate.

51. 1970 Ga. Laws 168; O.C.G.A. § 51-12-13 (1982).

Earlier, when 7% was adopted as the appropriate discount rate, market rates on safe investments were substantially less than the adopted standard. As a result, the legal rate was discriminatory against plaintiffs.⁵² The new 5% law had the opposite effect. In early 1970, interest rates on safe securities were around 8%,⁵³ while deposit rates were approximately 5%. Deposit rates, however, were controlled by Regulation Q and therefore did not reflect reasonably available *market* investment returns.⁵⁴ With market rates approximately 3% higher than the 5% rate, the new law was unfavorable to defendants.⁵⁵

Instead of a more forceful statement making it clear that the 5% rate must be used, the General Assembly's choice of the phrase "[i]t shall be lawful" raised the question of whether 5% is simply an allowable rate, or whether it is the required rate. Courts have answered by consistently adopting the latter position.

In *Complaint of Farrell Lines Inc.*,⁵⁶ a family was driving over the Sidney Lanier Bridge in Brunswick, Georgia when a ship hit the bridge, dumping their car into the water, and drowning four of the six occupants.⁵⁷ A lawsuit was filed in the the federal court under federal maritime law, and the court awarded damages in several categories, including compensatory damages for lost earnings.⁵⁸ In calculating the present value of the lost earnings, the court discounted at 5%, citing the Georgia statute without comment.⁵⁹ Additionally, the court adopted the Georgia discount rate, although the court nevertheless deducted personal living expenses and taxes from gross earnings in a manner

52. See *supra* note 25.

53. In January 1970, the 3-month Treasury bill rate was 8.10%, the 3-5 year Treasury rate was 8.26%, and the long-term Treasury bond rate was 7.00%. 56 FEDERAL RESERVE BULLETIN, A33-A34 (Mar. 1970).

54. The Regulation Q limits were: 4.50% for savings deposits, 5.00% for time deposits of between 30 days and 1 year, 5.50% for time deposits of over 1 year and up to 2 years, and 5.75% for time deposits over 2 years. 56 FEDERAL RESERVE BULLETIN A11 (Feb. 1970).

55. For example, assume an income stream of \$10,000 per year for 20 years. The present value at the 5% rate is \$124,622 while the present value at 8% is \$98,181. Requiring 5% rather than the market rate of 8% increases the award by about 27%.

56. 389 F. Supp. 194 (S.D. Ga. 1975).

57. *Id.*

58. *Id.* at 197.

59. *Id.* at 199. *Miller v. Tuten* is another example where the 5% rate is used with a citation to the code. 223 S.E.2d 237, 239, 137 Ga. App. 188, 191 (1976).

consistent with federal law but inconsistent with Georgia law.⁶⁰ The court offered no explanations for its choices.

*Piggly-Wiggly Southern, Inc. v. Tucker*⁶¹ is the first case where an appellate court actually addressed whether 5% is required in Georgia cases. At trial, the jury awarded damages to the plaintiff for injuries received in a fall at the defendant's store.⁶² The defendant appealed the verdict and according to the appellate judge, "[t]he defendant also objects to the charge to the jury that they could reduce future expenses to present value 'by any method satisfactory to yourselves' and to the admission in evidence of testimony establishing interest rates in the local community of between 5% and 7%."⁶³ The appellant's basis for the objection was *Kitchens v. Hall*,⁶⁴ a 1967 decision requiring the use of 7%. However, the *Tucker* court rejected the appellant's argument stating: "[S]ince that time, the General Assembly has established that a 5% figure shall be used for reduction of future expenses to present values."⁶⁵ Thus, the 7% rule no longer applied to Georgia cases.

The *Tucker* rationale was also presented in *Harden v. United States*.⁶⁶ There, the trial judge had used 9% to discount an award to present value in a case brought under the Federal Tort Claims Act.⁶⁷ On appeal, the Court of Appeals for the Fifth Circuit stated that "[t]he plaintiffs argue that the statute is mandatory, requiring the application of a 5% rate of interest, while the government contends that '[t]he statute merely suggests an acceptable option.'"⁶⁸ The court stated:

Despite the ambiguity of the statute's literal language, the statute's historical background and Georgia cases

60. Georgia law compensates for the full value of a life without deduction. O.C.G.A. § 51-4-1 (1982). Federal courts require the deduction of personal consumption. *Kansas City Southern Ry. v. Leslie*, 238 U.S. 599 (1915); *Hartz v. United States*, 415 F.2d 259 (5th Cir. 1969); *United States v. English*, 521 F.2d 63 (9th Cir. 1975); see also *Norfolk & Western Ry. v. Leipelt*, 444 U.S. 490 (1980) (tax adjustments).

61. 229 S.E.2d 804, 139 Ga. App. 873 (1976).

62. *Id.* at 805, 139 Ga. App. at 874.

63. *Id.* at 807, 139 Ga. App. at 877.

64. *Id.* (citing 156 S.E.2d 920, 116 Ga. App. 41 (1967)).

65. *Id.* at 807, 139 Ga. App. at 877 (citing *Miller v. Tuten*, 223 S.E.2d 237, 137 Ga. App. 188 (1976); *Complaint of Farrell Lines Inc.*, 389 F. Supp. 194, 199 (S.D. Ga. 1975)).

66. 688 F.2d 1025 (5th Cir. 1982).

67. *Id.* at 1031.

68. *Id.*

suggest that the statute is mandatory rather than permissive.

Prior to 1970, when the statute was passed, Georgia courts had consistently discounted awards of future earnings according to a 7% rate of interest. . . . The statute is reasonably read as a mandatory alteration of this established judicial practice. Indeed, the statute would have little meaning if, as the government contends, it merely expresses a possible option. Georgia courts have accordingly construed the statute to require application of a 5% rate of interest. . . .

We decline to upset the construction that Georgia courts have placed upon the statute and hold that Georgia law requires use of a 5% interest rate in discounting an award of future earnings to present value.⁶⁹

Decisions prior to 1970 differentiated between state and federal cases in Georgia, applying the fixed 7% interest rate only to the state cases. *Farrell* went against this tradition, requiring that the new Georgia statute be applied to a case involving federal maritime law. In *Harden v. United States*, the Fifth Circuit had not only expressed its opinion that 5% was the only correct rate to use in Georgia, but the court applied the Georgia interest rate in a case based on the Federal Tort Claims Act. Thus the federal courts expanded the use of the Georgia interest rate to include federal cases tried in Georgia.⁷⁰

Three additional court of appeals cases serve to cement the 5% requirement for cases brought under Georgia law. First, in *Williams v. Adams*,⁷¹ the trial judge charged the jury that the interest rate should be between 5% and 7%.⁷² Upon receiving an unfavorable verdict, the defendant appealed, claiming that *Kitchens v. Hall* required a 7% rate.⁷³ In response, the court cited *Piggly-Wiggly* to show that the 7% rule was superseded by the 5% statutory rate.⁷⁴ The two other cases, *Gusky v. Candler*

69. *Id.* (citations omitted).

70. These decisions are unsupported by the Fifth Circuit and appear questionable. See Fred S. McChesney, *Problems in Calculating and Awarding Compensatory Damages for Wrongful Death Under the Federal Tort Claims Act*, 36 EMORY L.J. 149 (1987); David R. Kamerschen, *Damage Calibrations Under the Federal Tort Claims Act*, 25 GA. ST. B.J. 100 (1988).

71. 316 S.E.2d 1, 170 Ga. App. 35 (1984).

72. *Id.* at 2, 170 Ga. App. at 35.

73. *Id.*

74. *Id.* The Court did not reverse despite the incorrect charge. The trial judge had permitted 5% to 7%, rather than only five percent. Including the higher discount

*General Hospital, Inc.*⁷⁵ and *Barnes v. Wall*,⁷⁶ offer similar facts. In both cases, trial judges permitted defense experts to testify about annuities and how the plaintiffs could invest any award received. The court of appeals concluded that this constituted error because the effect of such testimony may have been that the jury circumvented the requirement that future amounts be discounted at the 5% rate.⁷⁷ The combined effect of the post-1970 decisions is clear: trial judges may only charge the statutory 5% and juries may not hear any discount rate testimony other than 5%.⁷⁸

III. THE PROBLEM WITH FIVE PERCENT

A. Discounting Future Earnings

To see the weakness of Georgia's fixed statutory discount rate approach, it is helpful to review the general nature of the loss

rates could only have had the effect of reducing the award against the defendant because higher discount rates lead to lower present values. Thus, the incorrect charge helped the defendant. Without harm there was no basis for reversal. *Id.*

75. 385 S.E.2d 698, 192 Ga. App. 521 (1989).

76. 411 S.E.2d 270, 201 Ga. App. 228 (1991).

77. *Gusky*, 385 S.E.2d at 701, 192 Ga. App. at 524; *Barnes*, 411 S.E.2d at 271, 201 Ga. App. at 228.

78. Why then do some experts continue to use other than 5% and why does the Georgia commentary cited earlier sanction 5% to 7%? See CLEARY, *supra* note 2. Several possibilities seem likely. The first is a failure to distinguish between Georgia statute cases and federal statute cases tried in Georgia. Prior to 1970 there was a large group of Federal Employer's Liability Act cases that was considered by the Georgia Court of Appeals. See *Western & Atl. R.R. v. Hughes*, 142 S.E. 185, 37 Ga. App. 771 (1928); *Western & Atl. R.R. v. Townsend*, 135 S.E. 439, 36 Ga. App. 571 (1915). Those decisions permitted juries to hear testimony about market investment opportunities in order to arrive at the proper discount rate. At the same time, however, the Georgia Court of Appeals was ruling that Georgia statute cases required one specific rate, the legal rate. See *Bunch v. McCleskey*, 161 S.E. 128, 173 Ga. 545 (1931); *Central Ry. v. Mosley*, 38 S.E. 350, 112 Ga. 914 (1901); *Florida Cent. & Peninsular R.R. v. Burney*, 26 S.E. 730, 98 Ga. 1 (1895); *Hughes v. Brown*, 136 S.E.2d 403, 109 Ga. App. 578, 681 (1964). By not distinguishing between the two types of cases, some experts may believe that the courts have authorized experts' discretion more generally. A second theory is that the long history of 7% decisions prior to 1970 has had a carryover effect. Some experts may simply be unaware that the 1970 law has been interpreted so unambiguously. The indistinct wording of the statute gives the appearance that 5% is an acceptable, but not required, rate. Without an appreciation for the relevant case law, the experts may feel that 5% is merely another rate to include along with the "required" 7%. A final, much less likely, reason that some may still advocate other than 5% is that there were several cases where the issue of 5% to 7% was raised in dicta of the appellate opinion, and those individuals simply adopted that position.

estimation process. The expert first projects earnings over the victim's worklife and then discounts the resulting earnings estimates to obtain a present value. The equation below states this more formally.

$$PV = \sum_{t=1}^n \frac{E_0(1+g)^t}{(1+d)^t}$$

PV = the present value of lost earnings,⁷⁹

E_0 = the assumed earnings level at the time of injury or death,

g_t = the annual growth rate in earnings for year t ,

d_t = the annual discount rate for year t , and

n = the expected worklife in years.

This relationship is very general in that it allows the growth rates and discount rates to vary by year.⁸⁰ In most cases, however, the analyst simplifies the relationship and uses a single rate for both earnings growth and discounting.⁸¹ The result is analyzed in the following:

$$PV = E_0 \left[\sum_{t=1}^n \frac{(1+g)^t}{(1+d)^t} \right]$$

The present value equation shows that the loss estimate depends on the initial earnings (E_0) and the relative size of the earnings growth rate and the discount rate (the bracketed part of the equation). Many factors affect these rates. The problem with Georgia law is that although both of the rates should systematically fluctuate with market conditions, the law fixes the

79. Since the trial date necessarily is later than the date of the tort, there is a question of the appropriate date for computing the present value. The approach presented here is to discount all earnings back to the tort date. An alternative approach is to separate earnings into lost earnings prior to the trial date and lost earnings subsequent to the trial date. In this case, only the latter earnings require discounting since the prior earnings represent historical losses.

80. It is also general in that it explicitly specifies both a growth rate and a discount rate. Another approach is to net the growth and discount rates and use a net discount rate in the calculations.

81. An exception is when the age-earnings cycle is modelled. This requires different earnings growth rates for each year.

discount rate at 5% and only allows the earnings growth rate to adapt to market forces. The result of this asymmetric treatment is that the *relative* size of the growth rate and the discount rate can be incorrect thereby leading to biases for the present value of lost earnings. To see the nature of the difficulty, it is useful to briefly look at the economic factors affecting each rate, beginning with the earnings growth rate.

B. Earnings Growth Rate

Wages increase for two basic reasons. First, earnings grow because of the increasing productivity of workers. This occurs economy-wide as workers become more efficient primarily through technological improvements.⁸² In addition, individuals improve their personal skills through increased education and experience. The age-earnings cycle frequently captures this latter effect.⁸³ The combined consequence of the group and individual sources of productivity growth is an increase in earnings. Because the earnings increase reflects an improvement in the employee's purchasing power and because general economy-wide price increases are not the cause, the earnings increase is known as real earnings growth.

General increases in the price level have been the rule, however, in the post war era.⁸⁴ With prices rising, the real value of workers' earnings would be reduced if earnings did not at least keep pace with the rate of price increase. This second factor, inflation, also influences earnings growth, and combines with the effect of real growth to create an overall earnings growth rate.

82. See LLOYD G. REYNOLDS, *LABOR ECONOMICS AND LABOR RELATIONS* ch. 9 (10th ed. 1991), for a more complete discussion.

83. See CAMPBELL R. MCCONNELL & STANLEY L. BRUE, *CONTEMPORARY LABOR ECONOMICS* ch. 4 (2d ed. 1989).

84. U.S. Department of Commerce, *Business Statistics, 1963-1991*, at 24 (27th ed. 1992).

Combining the factors gives the following basic relationship.

$$\text{Earnings growth} = \text{Real growth} + \text{Inflation}$$

or

$$\text{Earnings growth} = \text{Economy productivity} + \text{Individual productivity} + \text{Inflation}$$

Because the causal factors themselves change with economic conditions, the overall earnings growth rate can be quite variable. For example, using one illustrative measure of earnings growth, the annual growth rate averaged 5.1% from 1970 to 1993 but had a range of 1.9% to 8.5%.⁸⁵

Georgia law recognizes that earnings do grow and that it is proper to incorporate wage growth when estimating losses. Unfortunately, judges are sometimes careless with their use of economic terminology, which makes the legal standing of each of the three individual growth factors less clear.

In the first significant case involving earnings growth, *Jordan v. Fowler*,⁸⁶ a boy was killed in an automobile crash, and his father was awarded \$7500 based on the son's likely earning capacity.⁸⁷ On appeal, the defendant claimed that the award was excessive, in part, because the trial judge had permitted consideration of future earnings growth.⁸⁸ The appeals court disagreed, saying that "[a]mong those things which the jury may take into consideration from its experience and knowledge of human affairs is the period of inflation now existing. . . . Where there was evidence that the deceased was a precocious, industrious, hard-working, 15-year-old boy, the jury were [sic] authorized to infer that his rate of earnings would probably have increased considerably prior to his reaching his majority. Among other things which the jury may take into consideration from its experience and knowledge of human affairs is the period of inflation now existing."⁸⁹ The first of these points, that earnings would grow from age fifteen to age of majority, sanctions the use of individual productivity growth in instances where case facts

85. *Id.* at 57. The measure is: Average Weekly Earnings of Production or Nonsupervisory Workers on Private Nonfarm Payrolls. *Id.*; see also *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics 93 (Sept. 1994). Other earnings measures would show similar variation around their average values.

86. 123 S.E.2d 334, 104 Ga. App. 824 (1961).

87. *Id.* at 336, 104 Ga. App. at 827.

88. *Id.*

89. *Id.*

support the assumption. The inflation comment does not provide any context so it is not possible to determine whether the court approved particular testimony about a future inflation rate, or just general information about inflation.

Several later cases both upheld and extended *Fowler*.⁹⁰ In *Henry Grady Hotel v. Watts*,⁹¹ a fourteen-year-old boy drowned in a hotel pool, his parents sued the hotel, and the parents were awarded a total of \$113,000.⁹² At trial, an actuary testified to the lifetime earnings of an average high school graduate, explicitly including the effect of future wage increases.⁹³ On appeal, the defendants claimed that the amount was excessive, and that the trial court erred by permitting expert opinion about average high school graduates to be presented to the jury.⁹⁴ The appeals court affirmed the verdict, noting that it was appropriate for juries to hear this type of testimony because "proper evidence of this sort should militate against arbitrary and capricious verdicts."⁹⁵ The ruling not only permitted consideration of inflation, but also went further than earlier cases by allowing expert testimony as to a specific numerical future growth rate (in this case 3.5%).⁹⁶ Unfortunately, the appellate opinion provides few details of the actuary's methodology, and the opinion simply refers to the "wage increase factor" and the "wage rise factors." No distinction is made between the real and inflation components.⁹⁷

Further support for the admissibility and nature of earnings growth testimony came in *Woods v. Andersen*.⁹⁸ There, a mother sued Woods, a delivery truck driver, and his company after Woods' delivery truck struck and killed her six-year-old

90. In *J.J. Woodside Storage Co. v. Carr*, the appellate court ruled that it was improper for the trial judge to charge the jury that inflation should be considered. 132 S.E.2d 241, 244, 108 Ga. App. 34, 37 (1963). However, the court did not hold that it is always improper to take inflation into account, only that the specific case facts precluded its consideration. In *Leonard v. Kirkpatrick*, the court ruled that the trial court's refusal to permit an inflation charge was not an error. 163 S.E.2d 340, 342, 118 Ga. App. 277, 278 (1968). Once again, the court responded to case specifics rather than the general principle. *Id.*

91. 167 S.E.2d 205, 119 Ga. App. 251 (1969).

92. *Id.*

93. *Id.* at 210, 119 Ga. App. at 256.

94. *Id.*

95. *Id.* at 211, 119 Ga. App. at 257.

96. *Id.* at 210, 119 Ga. App. at 257.

97. *Id.*

98. 243 S.E.2d 748, 145 Ga. App. 492 (1978).

daughter.⁹⁹ As part of the plaintiff's case, a finance expert testified to the lost earnings of the child, assuming that future earnings would grow at 5%.¹⁰⁰ The jury found for the plaintiff and awarded \$155,000.¹⁰¹ One of the issues on appeal was the admissibility of the expert's testimony regarding the impact of future inflation on wages.¹⁰² The appellant argued that this testimony was too speculative and remote to be considered. The appeals court rejected this argument, stating that the testimony exactly paralleled the *Watts* case and was allowable.¹⁰³

The disclosure of the expert's computations was more detailed in *Andersen* than in *Watts*, and this provides more insight into the court's position on the three factors of earnings growth. While the expert's data source is not identified, from discussion of the computations it is likely that the expert used a Department of Commerce publication that gives earnings by age and level of educational attainment.¹⁰⁴ This data source surveys individuals of varying ages and education levels, resulting in a cross-sectional view of earnings. A picture of how earnings change by age emerges by holding the educational level constant and looking at the average earnings for all surveyed persons of a similar age. Since all computations are at the same date, the earnings numbers across ages do not reflect either changes in general economy-wide productivity or pure inflation-induced wage increases. Instead, the earnings increases from age to age are solely the result of individual productivity.

The expert in *Andersen* started with the earnings schedule by age, and then increased the entire schedule by the 5% assumed wage-growth-rate for each year from the survey date of the data source to the assumed date of the victim's loss. The expert apparently justified the use of the 5% figure by looking at the previous sixty years of earnings growth. Because the 5% figure is an economy-wide adjustment applied to persons of all ages, it must equal the sum of the economy-wide productivity factor and

99. *Id.* at 749, 145 Ga. App. at 492.

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.* at 750-51, 145 Ga. App. at 494-95. "This is exactly the same type testimony as the expert gave in the *Henry Grady Hotel* case, except there the annual rate was 3-1/2%." *Id.* at 751, 145 Ga. App. at 495.

104. See, e.g., U.S. Department of Commerce, LIFETIME EARNINGS ESTIMATES FOR MEN AND WOMEN IN THE UNITED STATES: 1979 (Feb. 1983).

the inflation factor. Unfortunately, the opinion does not clarify explicitly how the 5% is apportioned between the two factors. The court adds to the ambiguity by referring to the 5% as an inflation factor even though the supporting historical growth data includes both factors. Nonetheless, by accepting the expert's testimony, the court permitted future wage growth assumptions to be non-zero, variable, and inclusive of individual productivity factors as well as economy-wide factors.

However, four judges dissented from parts of the *Anderson* majority opinion.¹⁰⁵ Judge Smith writes in his dissent: "Should the trial court have granted appellants' motion to strike the expert's testimony because it incorporated as a basic premise thereof the annual inflation multiplier (also known as a 'wage rise factor')? I answer affirmatively."¹⁰⁶ Contrary to the majority, Judge Smith did not believe that *Watts* was relevant to the case at hand. In *Watts*, "no objection was raised as to the 'accuracy of the facts to which he [the expert] testified.' Here the appellants moved to strike the expert testimony because the factual assumption as to inflation was 'too speculative.'"¹⁰⁷

Judge Smith makes a distinction between testimony concerning *general* economic trends and testimony about a *specific* salary figure computed using a wage increase factor.¹⁰⁸ In his opinion, the former was the issue in *Watts* and is proper testimony.¹⁰⁹ An expert may educate the court about historical relationships and trends.¹¹⁰ On the other hand, the expert may not take the next step of using the information to pick a particular wage growth rate to use when calculating the economic loss.¹¹¹ Instead, the expert should ignore wage growth in calculating losses. For support, Judge Smith relies on several federal cases that take similar views regarding the use of wage growth rates.¹¹² That position, known as the Penrod rule, is

105. *Woods v. Anderson*, 243 S.E.2d 748, 751, 145 Ga. App. 492, 496 (1978).

106. *Id.* at 753, 145 Ga. App. at 500. Judge Smith perpetuates the incorrect equating of "wage growth" and "inflation."

107. *Id.* (citation omitted). Further, *Watts* was a nonbinding decision with one judge concurring and the third judge concurring in the judgment only. *Watts*, 167 S.E.2d at 211, 119 Ga. App. at 258.

108. *Anderson*, 243 S.E.2d at 753, 145 Ga. App. at 500.

109. *Id.* at 753-54, 145 Ga. App. at 500-01.

110. *Id.* at 754, 145 Ga. App. at 501.

111. *Id.*

112. *Id.* (citing *Bach v. Penn Cent. Transp. Co.*, 502 F.2d 1117 (6th Cir. 1974); *Riha v. Jasper Blackburn Corp.*, 516 F.2d 840 (8th Cir. 1975); *Johnson v. Penrod Drilling*

that future lost earnings should be assumed to grow at a 0% rate.¹¹³

At the time of the *Woods v. Andersen* decision, federal courts had diverse views on how to incorporate wage growth in lost earnings estimates.¹¹⁴ Some courts, such as those with which Judge Smith agreed, viewed wage growth skeptically, believing that growth estimates are too speculative. The *Andersen* majority, on the other hand, aligned itself with the opposite and much more defensible federal opinions arguing that future wage growth should be considered.¹¹⁵ A succinct description of the weakness of the first position is found in a dissenting opinion in *Higginbotham v. Mobil Oil Corp.*,¹¹⁶ where the judge, criticizing the majority's adoption of the Penrod rule, writes:

[W]e deny ourselves the best evidence available on the asserted ground that it is not sufficiently reliable, and, in the name of reliability we mandate the artificial conclusion that one will earn the rest of his life what he is earning on the day he is killed or injured. The only thing certain about this is that it is certain to be wrong.¹¹⁷

Georgia cases after *Woods v. Andersen* all accept the majority position in *Andersen*.¹¹⁸ This viewpoint is also supported by the U.S. Supreme Court's 1983 decision in *Jones & Laughlin Steel Corp. v. Pfeifer*,¹¹⁹ where the Court rejected the argument that it was too speculative to estimate all components of future wage

Co., 510 F.2d 234 (5th Cir. 1975)); see also *Douglas v. Herringdine*, 159 S.E.2d 711, 117 Ga. App. 72 (1967). However, the referenced section is not really germane to the issue and, if anything, contradicts Judge Smith's position.

113. See *Johnson v. Penrod Drilling Co.*, 510 F.2d 234 (5th Cir. 1975).

114. See *Jones & Laughlin Steel Corp. v. Pfeifer*, 462 U.S. 523, 542-47 (1983) (discussing differing wage growth concepts of different federal circuits); Gary A. Andersen & David L. Roberts, *Economic Theory and the Present Value of Future Lost Earnings: An Integration, Unification, and Simplification of Court Adopted Methodologies*, 39 U. MIAMI L. REV. 723 (1985) (analyzing various wage growth computation methods).

115. *Woods*, 243 S.E.2d at 751, 145 Ga. App. at 495.

116. 545 F.2d 422 (5th Cir. 1977).

117. *Id.* at 437.

118. See, e.g., *Cook v. Seaboard Sys. R.R.*, 363 S.E.2d 56, 184 Ga. App. 838 (1987); *Gibson v. Talley*, 275 S.E.2d 154, 156 Ga. App. 593 (1980); *Georgia & Fla. Ry. v. Odom*, 263 S.E.2d 469, 152 Ga. App. 664 (1979).

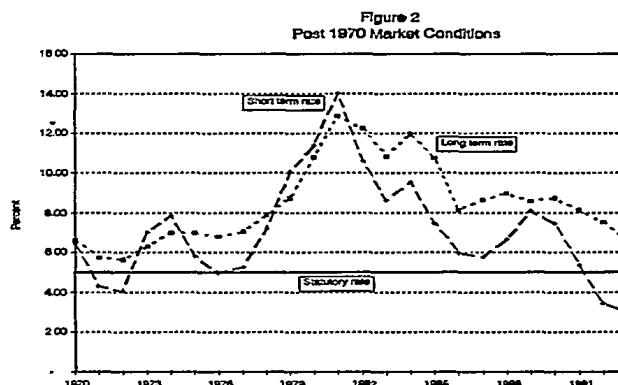
119. 462 U.S. 523 (1983); see Sumner J. La Croix & H. Laurence Miller, Jr., *Lost Earnings Calculations and Tort Law: Reflections on the Pfeifer Decision*, 8 U. HAWAII L. REV. 31 (1986) (analyzing *Pfeifer*).

growth and recommended a flexible approach to loss estimation.¹²⁰

To summarize the current state of Georgia law on earnings growth, lost earnings estimates may take into account individual productivity growth, where the evidence clearly supports this (as with a minor), as well as economy-wide growth. The courts have not directly spoken on the breakdown of economy-wide growth into real and inflation components, but they have clearly endorsed inflation adjustments for future earnings losses.

C. Discount Rate

The other important rate in the present value equation is the discount rate. The discount rate should equal the market rate on riskless investments.¹²¹ Earlier we saw that at the date of enactment of the discount rate statute, riskless market investment returns were substantially above 5%. This condition was not unique to 1970. Figure 2, which includes both short term and long term interest rates, shows that market rates varied widely and exceeded the statutory rate for most of the time since 1970.¹²²



120. *Pfeifer*, 462 U.S. at 536-38.

121. See 8 AM. JUR. PROOF OF FACTS 2D *Discount Rate* § 2, at 9.

122. The short-term rate is the 3-month Treasury bill secondary market, discount-quoted rate and the long-term rate is the average of U.S. Treasury bonds with more than ten years maturity. All data are taken from FEDERAL RESERVE BULLETIN tables starting with December 1970 and running through July 1994. The table and page numbers vary by year. All rates represent annual values computed using arithmetic averages of monthly data. Because the plotted values are annual averages, the graph understates the actual volatility of interest rates throughout the year. In early 1970, when the discounting statute was approved, interest rates were higher than the remainder of the year. That is why the 1970 plotted values are less than the interest rates cited in *supra* note 77.

Like the earnings growth rate, the market interest rate is also a composite of a real rate and an inflation rate. The real component reflects forces such as the demand for credit and Federal Reserve policy, and the inflation component incorporates investors' expectations about future changes in prices. While both components are important, inflation forces strongly dominate changes in levels of market interest rates.¹²³ With the large changes in inflation over the past two decades, it is not surprising that market rates have deviated significantly from the statutory rate.

When the market interest rate varies from the statutory 5% discount rate, present values computed using 5% will be in error. To get a sense of the magnitude of the problem, consider an illustrative case where expected earnings growth is 4%, the appropriate market interest rate is 7%, and the period of lost earnings is five years. In this instance, the present value of lost earnings computed using the statutory rate is 5.7% greater than the present value computed with the correct 7% discount rate. Figure 3 shows additional bias percentages for various investment rates and maturities.

Figure 3
Percentage by Which the Georgia 5% Discount
Rate Overcompensates (+) or Undercompensates (-)
(Earnings Growth Equals 4.0%)

| Market Rate | Years of Lost Earnings | | | | |
|----------------|------------------------|--------|--------|--------|--------|
| | 5 | 10 | 20 | 30 | 40 |
| 3.0% | -5.6% | -10.0% | -18.3% | -25.8% | -32.6% |
| 4.0% | -2.8% | -5.1% | -9.4% | -13.5% | -17.3% |
| 5.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 6.0% | 2.9% | 5.2% | 10.0% | 14.7% | 19.3% |
| 7.0% | 5.7% | 10.6% | 20.5% | 30.4% | 40.4% |

While the numbers in Figure 3 are unique to the specific assumptions of growth, market conditions, and the period of lost earnings; the basic findings are applicable to a broad array of possible realistic assumptions. First, the bias can run in both directions. When the market investment rate is below the

123. For a more complete discussion of interest rates and inflation, see JAMES C. VAN HORNE, *FINANCIAL MARKET RATES AND FLOWS* ch. 4 (4th ed. 1994).

statutory rate, using the statutory requirement understates the true present value. On the other hand, during periods of high market interest rates, the statutory requirement overstates the loss. The size of the bias is affected by the magnitude of the market interest rate relative to the statutory rate as well as both of these rates compared to the earnings growth rate. The second point from Figure 3 is that the longer the period of lost earnings, the greater the bias for any given interest rate and earnings growth rate. It is not surprising that using an incorrect assumption for a more extended period causes greater error. A third and final point is that using the 5% discount rate results in a correct result only when the statutory interest rate accurately reflects available riskless investment returns (the market return is 5% in the example).

CONCLUSIONS

Experts use diverse discount rates when determining the present value of lost earnings in Georgia personal injury and wrongful death cases. A major Georgia damages commentary also sanctions a range of acceptable discount rates.¹²⁴ Nonetheless, a careful analysis of case law relevant to the 1970 discount rate statute indicates that experts do not have a choice. The only legally acceptable discount rate is the 5% statutory rate.

The lost earnings road is old and well traveled. State legislatures and Congress have had ample opportunity to form legal guidelines, and the large volume of personal injury and wrongful death cases decided across the country have provided courts with numerous opportunities to rule on proper methodology. On some issues, such as the basic standard of value (for example, full value of life versus value to the estate) and income tax treatment, there continue to be differences. However, on several key elements, such as earnings growth and discount rates, federal and state courts have developed consensus opinions that are well-supported by economic evidence. Earnings growth and interest rates vary over time, generally in a similar fashion, so loss estimation methodology should be flexible enough to deal with those changes. Further, the methodology must permit both rates to respond equally to common factors.

124. See CLEARY, *supra* note 2.

Georgia law on earnings growth and the discount rate stands in opposition to this consensus of other jurisdictions. While earnings estimates may be adjusted to deal with changing market forces, the discount rate is fixed at 5%, regardless of the economic situation.¹²⁵ This can lead to situations where the legally required discount rate is inconsistent with both market investment opportunities and the assumptions impounded in the earnings growth rate. In these cases, the present values of lost earnings computed using the Georgia approved methodology are incorrect, sometimes substantially so.

Georgia travels down this road alone. Accuracy would be enhanced by eliminating Georgia's status of being the only state with a fixed discount rate, and freeing the discount rate to move along with the earnings growth rate.

125. Georgia makes a similar mistake in another related context. The Unliquidated Damages Interest Act sets the interest rate when notice is given to a defendant in a tort action to pay. O.C.G.A. § 51-12-14 (Supp. 1996). The current rate of 12% was set in 1981 at the height of interest rates. Since that time, rates have plummeted but the statutory rate remains at its lofty level.