

**DISCOUNT RATES**  
**IN PERSONAL INJURY CLAIMS**

**Research Paper for Emerging Issues/Advanced Topics Course**

**Diploma in Investigative and Forensic Accounting**

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## **INTRODUCTION**

In Canada, the purpose of a personal injury award is to place the plaintiff in the financial position he/she would have been in had the accident not occurred, and to compensate for any injuries suffered. The challenge lies in how to determine the amount of the award that would ultimately achieve this objective. A main determinant of the amount of the award is the discount rate utilized to calculate future losses, which can be a significant sum.

As will be discussed in this research paper, while some provinces in Canada require the use of legislated discount rates for the purposes of calculating future income losses, other provinces do not mandate discount rates. The challenge then becomes how to determine the discount rate that best reflects the specific circumstances of the plaintiff, while at the same time, does not create considerable inequities in damages that are awarded within the same province and within Canada.

This paper will discuss the mandated discount rates for each province, with a specific focus on Ontario's unique two-tiered approach. Forensic accountants generally disagree on the interpretation as to how this approach should be applied; background will be provided on each interpretation and its effects on the resulting income loss calculation. It is also essential to review various court cases to establish whether there is a preferred method that is favoured by the judicial system.

This paper will also examine how the discount rate is determined in provinces that do not have mandated rates. This will include a discussion of court cases for each province, to understand the various approaches for calculating the rate that are generally accepted by both the forensic accounting profession as well as the provincial courts. The

methodologies applied within Canada will be compared to practices carried out in both the United Kingdom and the United States, to determine if the procedures employed in Canada should be revised.

### **OBJECTIVES**

The desired outcome of this research paper is to conclude whether it is more advantageous to require a mandated discount rate or to allow experts to calculate a discount rate on a case by case basis. The objective is to also recommend possible ways to reduce the discrepancies that arise from the various interpretations of, and approaches taken to, the discount rate within Canada.

### **DOCUMENTS REVIEWED**

In order to compile the findings of this research paper, various sources were reviewed. There has been extensive research performed in the area of discount rates by forensic economists, and therefore, a heavy reliance was placed on journal articles written by these experts, both in Canada and the U.S.

As well, several court cases were reviewed to determine whether the courts have expressed any conclusions as to preferred methods or approaches to determining and applying discount rates. Court cases from across Canada, the U.S., and the U.K. were examined and summarized.

The last primary source relied upon were articles. The correct calculation and application of the discount rate appears to be a matter of opinion amongst forensic accountants and economists. It was therefore necessary to gather a variety of such opinions to understand the advantages and disadvantages of each approach, and express a conclusion as to which methodology was most reasonable.

## **SUMMARY OF FINDINGS**

Although the actual discount rate legislated can vary amongst provinces and countries, the basic premise behind the discount rate remains the same. It is intended to reflect the difference between the investment rate of interest and the inflation rate. Although most of the provinces have mandated discount rates, there are some that still allow judges to use their discretion in determining the discount rate, if the circumstances of the case warrant a deviation from the rates legislated by law.

There are 2 provinces, Newfoundland and Alberta, that do not have mandated discount rates. In these provinces, there are several court cases that address how forensic accountants and economists calculate the discount rates.

Based on these court cases, there are methods used by experts to determine the appropriate discount rate: (1) use discount rates based on previous court cases (precedents), (2) use discount rates mandated in other provinces, or (3) calculate the discount rate based on economic and market factors.

The courts have generally accepted that future costs of care require the use of a different discount rate. This is due to the higher rate of inflation associated with medical costs.

## **DETAILED FINDINGS**

### **Purpose and Use of Discount Rates**

In personal injury cases, plaintiffs often receive awards to compensate them for a loss of future earnings resulting from their injuries, and/or to provide them with funds for anticipated future medical costs. A discount rate is utilized to calculate the appropriate amount of the award.

The theory behind discount rates is that a dollar today is worth more than a dollar tomorrow. By applying a discount rate to the annual loss of income, the plaintiff would ideally receive enough funds such that at the end of the future loss period, the plaintiff will have no funds remaining and their loss of income will have been replaced in full. As discussed in the case *Townsend v. Kroppmanns*, “The purpose of the discount rate is thus to insure that victims will be fully compensated but that defendants will not be called on to overpay.”<sup>1</sup>

Discount rates are a function of two items: the inflation rate and the interest rate at which the plaintiff can invest their award.<sup>2</sup> A higher interest rate results in a higher discount rate, which reduces the future income loss award.

**Discount Rates Mandated by Province**

In Canada, there are 8 provinces with mandated discount rates:

<b><u>PROVINCE</u></b>	<b><u>DISCOUNT RATE</u></b>
British Columbia <sup>3</sup>	3.50% - Costs of Care 2.50% - Loss of Income
Saskatchewan <sup>4</sup>	3.00%
Manitoba <sup>5</sup>	3.00%
Ontario <sup>6</sup>	Variable rate – Year 1 to 15 of loss period 2.50% - Year 16 and beyond
Quebec <sup>7</sup>	2.00% - Income related losses

<sup>1</sup> *Townsend v. Kroppmanns*, 2004 SCC 10, [2004] 1 SCR 315, para. 5.

<sup>2</sup> Christopher Bruce, “What is a Discount Rate?”, *Economica*, 1996.

<sup>3</sup> British Columbia Law and Equity Act, RSBC 1996, c 253, Section 56.

<sup>4</sup> The Queen’s Bench Rules, Rule 284(1)(b).

<sup>5</sup> Court of Queen’s Bench Act, CCSM, c C280, Section 83(2).

<sup>6</sup> Rules of Civil Procedure, RRO 1990, Reg 194 (Courts of Justice Act), Rule 53.09(1).

	3.25% - Non-income related losses
New Brunswick <sup>8</sup>	2.50%
Nova Scotia <sup>9</sup>	2.50%
Prince Edward Island <sup>10</sup>	2.50%

As is discussed further in this research paper, although some of the provinces may differ in terms of the discount rate mandated, the general method used to determine this discount rate is the same. In other words, the discount rate for each of the provinces is based on the estimated difference between the investment rate of interest and the inflation rate.

British Columbia and Quebec are the only provinces in Canada which provide separate rates for income losses and future costs of care, while Ontario is the only province with a two-tiered discount rate. Since Quebec is subject to the Civil Code of Quebec, the focus of this research paper will be on the common law provinces.

### **British Columbia**

British Columbia utilizes a separate discount rate for income losses and costs of care. The discount rate of 2.50% for income losses is based on the estimated difference between the investment rate of interest and inflation rate for earnings, and the growth rate in productivity.<sup>11</sup> The discount rate of 3.50% for costs of care is based on the estimated difference between the investment rate of interest and the general inflation rate.<sup>12</sup>

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<sup>7</sup> Civil Code of Quebec, LRQ, c C-1991, Article 1614.

<sup>8</sup> Rules of Court, NB Reg 82-73, Rule 54.10(2).

<sup>9</sup> Civil Procedure Rules, NS Reg 370/2008, Rule 31.10(2).

<sup>10</sup> Supreme Court Rules of Civil Procedure, Rule 53.09(1).

<sup>11</sup> Supra, note 3.

<sup>12</sup> Supra, note 3.



The reason for mandating two separate discount rates is due to the fact that typically, for future costs of care, the plaintiff is awarded a lump sum, which is invested in order to earn interest income. This interest income often exceeds the general inflation rate. However, expert evidence has been presented in various court cases establishing that medical costs in Canada typically increase 30% faster than the general inflation rate. This supports a lower discount rate for future costs of care, in order to ensure that the plaintiff's award is able to cover these increasing costs.<sup>13</sup>

### **Saskatchewan**

The Queen's Bench Rules of Saskatchewan prescribes a discount rate of 3.00%, which represents the difference between the estimated investment rate of return and the inflation rate.<sup>14</sup> However, the Queen's Bench Act also permits judges to prescribe a rate that is relevant and appropriate in the circumstances of the case.<sup>15</sup> Therefore, Saskatchewan provides a combination approach, whereby the plaintiff and defendant are permitted to present evidence to the court as to the discount rate that should be applied in the case. Based on this expert evidence, the judge can determine the appropriate discount rate to use. However, in the absence of such evidence, a mandated rate is provided.

### **Nova Scotia**

Nova Scotia has implemented a mandated discount rate of 2.50%, except in cases that involve a loss of business income or a motor vehicle accident that falls under the jurisdiction of the Insurance Act.<sup>16</sup>

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<sup>13</sup> Diana L. Dorey et al. "Emerging Trends in Motor Vehicle Liability and Damage Awards", 2008.

<sup>14</sup> Supra, note 4.

<sup>15</sup> The Queen's Bench Act, 1998, SS 1998, c Q-1.01, Section 28(1).

<sup>16</sup> Supra, note 9.

Section 113C of the Nova Scotia Insurance Act states that in the case of injury or death resulting from a car accident, the discount rate to be used will be either 3.50%, or for the period January 1, 2005 and beyond, the rate “may” be set at the difference between the rate for Government of Canada bonds and the Consumer Price Index for the preceding 12 months.<sup>17</sup>

Therefore, Nova Scotia’s rules appear to be similar to Saskatchewan. This province also provides a combination approach, where although a mandated rate is in effect, the laws allow for some flexibility in terms of allowing the plaintiff and/or defendant to present evidence that the difference between current bond interest rates and inflation rates would produce a more accurate and appropriate discount rate.

### **Manitoba, New Brunswick, and Prince Edward Island**

The above provinces have based their mandated discount rates on the estimated difference between the rate earned on investments and the future inflation rate.

### **Ontario**

In Ontario, the discount rate is defined in Rule 53.09 in the Rules of Civil Procedure, described below.

#### **Rule 53.09**

Rule 53.09 (1) prescribes the discount rate as follows:

- (a) *For the 15-year period that follows the start of the trial, the average of the value for the last Wednesday in each month of the real rate of interest on long-term Government of Canada real return bonds, as published in the Bank of Canada Weekly Financial Statistics for the 12 months ending on August 31 in the year before the year in which the trial begins, less 1 per cent and rounded to the nearest ¼ per cent; and*
- (b) *For any later period covered by the award, 2.5 per cent per year.*<sup>18</sup>

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<sup>17</sup> Insurance Act, RSNS 1989, c 231, Section 113C.

<sup>18</sup> Supra, note 6.

The above definition results in a variable discount rate during the first 15 years of the loss period that fluctuates every year, since the rate must be re-calculated on an annual basis, depending on how the real rate of interest changes. For trials commencing in 2011, the discount rate for the first 15 years is 0.50% (see Appendix A). Each component of the above calculation is examined in more detail below.

### *Real Rate of Return*

For the first 15 years of the discount period, the discount rate is based in part on real return bonds since they are linked to the Consumer Price Index, and therefore provide an accurate estimate of the rate of return that would be earned by an investor. Relying on the real rate of return removes the impact of inflation, thereby calculating a rate that is less volatile than the nominal rate of return. This is especially important given that when the discount rate was originally set in the 1980s, there were significant fluctuations in the inflation rate.<sup>19</sup>

### *Deduction of 1.00%*

Following the determination of the real rate of interest, a deduction of 1.00% is made, based on the wording of Rule 53.09. This is due to the fact that real return bonds are not traded frequently and also receive unfavourable tax treatment. As a result, the deduction of 1.00% calculates a discount rate that is more in line with a risk free investment.<sup>20</sup>

### History of Mandated Discount Rate in Ontario

In 1980, a committee (“the Committee”) was established to determine the appropriate discount rate to be used within the province of Ontario. The Committee suggested the discount rate should be calculated by “subtracting from the present rate of

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<sup>19</sup> Christopher Bruce, “Ontario’s Mandated Discount Rate – Rule 53.09(1)”, 2000.

<sup>20</sup> Ibid, note 19.

return on long term investments, the predicted rate of future inflation during the corresponding period”.<sup>21</sup> The issue that arose from this was how to estimate the rate of future inflation, which at the time, could not be done with any degree of accuracy or certainty.

The Committee was of the opinion that the best way to predict the future inflation rate was to calculate the difference between the market interest rate and the average historical long-term real interest rate.<sup>22</sup> Based on this comparison, the Committee determined that the real rate of return in Canada was on average between 2.00% and 3.00%. This resulted in a recommended single-tiered discount rate of 2.50%, which represented the real risk free rate of return, and was to be applied to each year of the loss period.<sup>23</sup>

In 1990, a subsequent report was prepared, which later became the basis for Rule 53.09 under the current Ontario Rules of Civil Procedure. The Committee re-evaluated the discount rate recommendation from 1980, and concluded that the rate of 2.50% was too low, given the high inflation rates experienced during the 1980s. A two-tiered approach was recommended whereby a discount rate of 4.50% should be used annually up to and including December 31, 1999 and then a rate of 3.00% should be applied in subsequent years.<sup>24</sup>

In the “Report of the Subcommittee of the Civil Rules Committee on the Discount Rate and Other Matters” published in February 1998, the Committee agreed unanimously

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<sup>21</sup> “Report to the Committee of the Supreme Court of Ontario on Fixing Capitalization Rates in Damage Actions” dated February 14, 1980.

<sup>22</sup> Ibid, note 21.

<sup>23</sup> Ibid, note 21.

<sup>24</sup> “Report to the Discount Rate and Gross Up Subcommittee of the Ontario Courts of Justice” dated December 19, 1990.

that the original discount rate of 2.50% was appropriate for long periods of time, since it was based on real interest rates averaged over the long-term. However, there was disagreement as to what discount rate should be used in the short-term and over what period of time the discount rate should be measured.

Further, the Committee continued to struggle with the issue of estimating future inflation. Research had shown that the monetary and fiscal policy set by the federal government had a direct influence over the inflation rate, but this impact was delayed, meaning that it also had an impact on the future rate of inflation.<sup>25</sup> This allowed economists to predict the future inflation rate in the short-term, but to do so in the long-term would require predictions about monetary and fiscal policy, which could not be done with any accuracy given there were several factors that would influence these government policies. By utilizing the real rate of return as the basis of the discount rate, one did not need to predict the future inflation rate, since real interest rates are equal to the difference between market interest rates and future inflation rates. Further, real interest rates are fairly stable, since market interest rates rise with increases in the expected future inflation rate. It was based on this that the Committee determined that the discount rate in the short-term should be calculated as the real interest rate offered immediately before the trial on long-term Government of Canada bonds.<sup>26</sup>

This two-tiered approach was likely developed by the Committee to allow for a flexible method of determining the discount rate. Therefore, any significant economic or market changes would automatically be reflected in the discount rate. Further, this approach recognizes that while short-term inflation rates can be estimated quite

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<sup>25</sup> Jack L. Carr, "The Role of the Economics Expert in Fatal Accident and Personal Injury Litigation", *Advocates' Quarterly*, Volume 8, Number 4, December 1987, page 388.

<sup>26</sup> *Supra*, note 24.

accurately based on the real rate of return of Government of Canada bonds, long-term inflation rates require an analysis of historical rates over a long period of time.

However, this approach has resulted in significantly varying interpretations of Rule 53.09, as the courts provide contradictory rulings as to which interpretation reflects the true intent of this legislation.

#### Interpretations of Rule 53.09

In general, forensic accountants agree as to the methodology to be used when discounting future income losses for the first 15 years of the loss period. However, there are two interpretations as to how losses should be discounted beyond year 15.

The first interpretation assumes that all losses from year 16 onwards should be discounted at the full discount rate of 2.50%.<sup>27</sup> Under this interpretation, the discount factor in year 16 of a loss would be calculated as:  $1 / (1+2.50\%)^{16} = 0.674$ .

The second interpretation assumes that losses from year 16 onwards should be discounted based on the calculated rate prescribed in Rule 53.09(1)(a) for the first 15 years of the discount period, and 2.50% for subsequent years, resulting in a “blended” approach.<sup>28</sup> This results in a higher discount factor and therefore a higher income loss calculation. This is because in this approach, the discount rate never reaches the prescribed rate of 2.50% beyond the first 15 years of the loss period. Under this interpretation, the discount factor in year 16 would be calculated as (based on a trial commencing in 2011):  $1 / [(1+0.50\%)^{15} \times (1+2.50\%)^1] = 0.905$ .

The difference in the interpretations of Rule 53.09 can result in significantly different future income loss calculations (see Appendix B).

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<sup>27</sup> Matt Mulholland, “Net Present Value”, WP Magazine, December 2008, page 14.

<sup>28</sup> Ibid, note 27.

## **Ontario Court Cases**

There are two recent Ontario court cases that deal with the interpretation of Rule 53.09 and the resulting discount rate.

### **Greenhalgh et al v. The Corporation for the Township of Douro-Dummer**

The plaintiff, Jessica Greenhalgh, drove down an unmarked roadway on January 14, 2000 when her vehicle stalled. It was alleged that due to the fact she had been drinking heavily and was caught in the middle of a snowstorm, she was unable to seek help and as a result, was forced to spend the entire night in her car. Due to the extremely cold temperatures, she received severe frostbite. When she was eventually found the next day and taken to the hospital, doctors were forced to amputate both legs and 8 fingers. Ms. Greenhalgh later sued the Township of Douro-Dummer for not marking the roadway properly.<sup>29</sup>

A significant difference between the plaintiff's and defendant's future income loss calculations resulted from each expert's interpretation of Rule 53.09. The plaintiff's expert, Mark Berenblut, followed the interpretation which produces a blended rate – i.e. in year 16 of the loss period, the first 15 years utilizes the short-term rate based on Government of Canada bonds and year 16 utilizes the long-term rate of 2.50%. The trial judge did not believe this was an appropriate interpretation, and stated “Mr. Berenblut’s report actually carried out a wholly novel calculation for the post 15-year period, so novel that Mr. Fireman and Mr. Boghosian advised me that there were no cases in which its use

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<sup>29</sup> Greenhalgh et al. v. The Corporation for the Township of Douro-Dummer 2009 CanLII 71014 (ON SC), para 7.

had been discussed.” Mr. Berenblut did not provide any written or oral evidence to support his methodology or interpretation.<sup>30</sup>

The defendant’s expert utilized the second interpretation, which assumes that all losses in year 16 and beyond require the application of the mandated 2.50% rate. This methodology was consistent with the trial judge’s understanding of the intention of Rule 53.09, and he ruled in favour of the defendant.<sup>31</sup>

This case was significant, since it was the first known case in Ontario that addressed the varying interpretations of Rule 53.09. The judge based his decision on 2 factors: firstly, the plaintiff’s expert did not provide any explanation to support his interpretation of Rule 53.09. Without this understanding, the judge was unable to determine whether his approach had any merit. Secondly, the objective of the judge was to understand the true intent of the wording of Rule 53.09. He determined that the correct interpretation of the rule was that all losses after the first 15 years should utilize the full 2.50% rate. This case provided guidance to investigative and forensic accountants as to which interpretation was generally accepted by the courts.

#### Slaght v. Philips and Wicaartz

The plaintiff, Deborah Slaght, was involved in a motor vehicle accident when she was 47 years old, causing her significant pain and rendering her unable to continue her employment as a personal trainer and factory worker. She pursued litigation against the drivers of the other vehicle, claiming a loss of future income among other things.<sup>32</sup>

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<sup>30</sup> Ibid, note 29, para 541 – 552.

<sup>31</sup> Ibid, note 30.

<sup>32</sup> Slaght v. Phillips and Wicaartz, 2010 ONSC 6464 (CanLII), para 1.



The plaintiff's expert, Ronald Smith, utilized the blended rate approach, while the defendant's expert utilized the flat rate of 2.50% for years 16 and beyond. In this case, the trial judge agreed with Mr. Smith's interpretation of Rule 53.09 based on 3 reasons.<sup>33</sup>

- 1) Firstly, the trial judge believed that if the Committee had intended that the discount rate in years 16 and beyond should be a flat rate of 2.50%, the legislation would have been worded as such. In other words, the wording of Rule 53.09 does not refer to amounts that arise subsequent to year 15, but implies that the rate should be applied during that period.
- 2) Secondly, the trial judge agreed with Mr. Smith's critique of the methodology utilized by the defence expert, who provided the following example. Under the defendant's interpretation of Rule 53.09, a loss of \$1,000,000 over a period of 15 years would amount to a present value of \$894,000. However, if the same loss of \$1,000,000 was payable over 15 years plus 1 day, the present value would decrease significantly to \$690,500. The judge agreed that it did not seem reasonable that a difference of 1 day would cause the plaintiff to receive \$203,500 less.
- 3) Lastly, the trial judge referred to the decision in the Greenhalgh case. His opinion was that had the plaintiff's expert (Mr. Berenblut) testified in response to the judge's concerns regarding his methodology, the judge likely would have ruled in favour of the plaintiff's expert, and therefore applied the blended approach.

The findings in this case contradict the conclusions reached by the trial judge in the Greenhalgh case. The difference in the rulings in each case results from the interpretations of the true intent of Rule 53.09. Therefore, as these cases clearly

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<sup>33</sup> Ibid, note 32, para 112 – 128.

demonstrate, even in cases where the discount rate is mandated, discrepancies can still result where there are issues resulting from the interpretation of the various rules, and where the intent of the rules is unclear.

#### Conclusion on Rule 53.09

The lack of clarity in the wording of Rule 53.09 has resulted in significant consequences to plaintiffs.

Firstly, it has created a struggle between experts who are unable to agree on how to apply the mandated rules. Considering that slight changes in the discount rate can create large fluctuations in the value of the future income loss, the ultimate decision of the appropriate discount rate falls to judges, who, as seen in the Ontario court cases mentioned above, also do not agree on the intentions of Rule 53.09. This creates inconsistencies within the justice system, as a plaintiff in one case may receive a higher award than another plaintiff, merely because of the judge's understanding of the rule or the effectiveness of the expert evidence presented in the case.

Secondly, it has removed what should be the ultimate focus of the discussion surrounding the appropriate discount rate. Instead of attempting to determine the appropriate discount rate given the specific facts of the case that is before the courts, experts are debating the wording of the legislation. The intent of the discussion surrounding the discount rate should be to determine what rate satisfies the objective of a damage award, which is to fully compensate the plaintiff for a loss of income.

Ultimately, the benefit of implementing a mandated discount rate, which is in part to eliminate the costs and difficulties of retaining expensive experts to testify and provide

evidence, is not addressed by Rule 53.09, as the debate continues, resulting in inequalities in damage awards across Ontario.

### **Provinces Without Mandated Rates**

The provinces of Newfoundland and Alberta do not have mandated discount rates. Below, we will discuss various court cases that examine how the discount rate is determined in each of these provinces.

### **Newfoundland**

#### **Wells and Augot v. Young**

The plaintiff, Joanne Smith Young, was involved in a motor vehicle accident on April 13, 1999. At the time of the accident, Mrs. Young was a university student studying nursing. Although she was able to complete her education after the accident, as a result of her injuries, she was unable to seek employment in this field due to its physical demands. Damages for loss of future earning capacity were awarded, but were later appealed by the defendants on the grounds that the trial judge applied a discount rate that was “neither proven nor agreed to”, since no expert evidence had been presented with regards to the rate.<sup>34</sup>

The appellate judge quoted from a previous case, *Woelk v. Halvorson*, which stated:

*“It is well settled that a Court of Appeal should not alter a damage award made at trial merely because, on its view of the evidence, it would have come to a different conclusion. It is only where a Court of Appeal comes to the conclusion that there was no evidence upon which a trial judge could have reached this conclusion, or where he proceeded upon a mistake or wrong principle, or where the result reached at the trial was wholly erroneous, that a Court of Appeal is entitled to intervene.”<sup>35</sup>*

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<sup>34</sup> *Wells and Augot v. Young*, 2007 NLCA 23.

<sup>35</sup> *Woelk v. Halvorson* [1980] 2 S.C.R. 430, page 435.

The appellate judge then referred to the case *Dobbin v. Alexander Enterprises Limited and Alexander*, which outlined 2 possible methods to calculate future income losses. The conventional method calculates the loss by multiplying the annual income loss (adjusted annually by the estimated inflation rate) by the number of years the plaintiff's earnings would be affected, and does not take into account any discount rate. The actuarial method is similar, but calculates a discount rate, which accounts for the fact that although the income loss award will be invested in order to earn interest income, changes in inflation will reduce the interest rate. Therefore, the actuarial method accounts for both the long-term interest rate and the estimated future inflation rate, both of which may require expert evidence.<sup>36</sup>

The trial judge in the *Dobbin* case then concluded that where there is evidence of the interest rate but no evidence of the projected inflation rate, the discount rate should be based on the interest rate alone. The impact of this would be that the plaintiff may be under-compensated, since the income loss award would not account for the fact that future inflation would erode the value of the award. The judge further stated that where there is no evidence for either the interest rate or the projected inflation rate, both the conventional and actuarial methods are useless and the judge must use discretion to conclude as to the appropriate discount rate to use. The usefulness of both methods depends entirely on the adequacy of the evidence presented as to how the calculations were made.<sup>37</sup>

The trial judge in the *Wells* case relied upon the actuarial method discussed in the *Dobbin* case to determine the discount rate of 2.50%, and the appellate judge concluded

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<sup>36</sup> *Supra*, note 34.

<sup>37</sup> *Ibid*, note 36.

the discount rate was justified. The appellate judge believed that trial judges can either select a discount rate themselves based on the information available, or can review the evidence and select a “round figure which would fully compensate the injured party”.<sup>38</sup> In this case, the trial judge elected to utilize a discount rate of 2.50% which was used in previous personal injury cases based on expert evidence, and had been mandated in other provinces in Canada.

This case was critical in terms of emphasizing that judges are ultimately responsible for determining the discount rate that is appropriate in the circumstances.

This case provided judges with the ability to use their discretion in this decision.

The appeals court was clear that there were essentially 3 methods that could be used by trial judges to determine the discount rate: the judge could rely on expert evidence presented at trial or in previous cases, utilize rates mandated in other provinces, or calculate the rate based on what the judge believes is reasonable based on their evaluation of all the evidence.

Lastly, this case illustrated that appeals may be dismissed if the basis of the appeal is that a different discount rate should be used. However, the appeal may be granted if the issue is that the rate utilized by the trial judge was based on no evidence.

#### Driscoll v. Morgan et al.

On December 20, 1998, the plaintiff, Sharon Driscoll, was a passenger in a car, which was hit by another vehicle driven by Lloyd Morgan. Mr. Morgan was killed in the accident, and Mrs. Driscoll suffered serious injuries, rendering her disabled and unable to

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<sup>38</sup> *Crawley v. Sears* (1984), 47 Nfld. & P.E.I.R. 232 (NCLA).

work. The plaintiff called an actuary as an expert witness, to present evidence as to her loss of future earning capacity.<sup>39</sup>

In his calculations, the actuary, Mr. Wolgelerenter, testified that the appropriate discount rates to use were 1.50% for the first 15 years of the loss period, and 2.50% for subsequent years, which at the time of the trial, were the rates mandated in Ontario. The basis of his opinion was that the Ontario rates were set on an annual basis, and were calculated using the real rate of return, which meant that no further adjustments for inflation were required to be made to the calculated loss. Although Mr. Wolgelerenter's report did not express an opinion as to the reasonableness of the Ontario rates, he later testified at trial that the Ontario rates were reasonable. The trial judge accepted his opinion evidence and agreed with the discount rates calculated.<sup>40</sup>

The defendant later appealed the trial judge's decision, claiming that there was no evidence to support the use of 1.50% for the first 15 years of the loss, and that "in the face of the defects in the proof of the discount rates the trial judge should have rejected the actuarial method and made a global award".<sup>41</sup>

The judge in the appellate court did not overturn the trial judge's decision and also found that the selection of the discount rates based on the mandated rates in Ontario was a reasonable approach. He referred to the case discussed above, *Wells and Augot v. Young*, which provided judges with the authority to select a discount rate themselves, based on precedents and/or the rates mandated in other provinces. In other words, expert evidence is not always required to determine the appropriate rate to be used. It was not unreasonable for Mr. Wolgelerenter to present evidence as to how the Ontario rates were

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<sup>39</sup> *Driscoll v. Morgan et al.* 2007 NLCA 39.

<sup>40</sup> *Ibid*, note 39.

<sup>41</sup> *Ibid*, note 40.

calculated, to allow the trial judge to render his own decision as to what would be appropriate given the circumstances of the specific case.<sup>42</sup>

This case was significant in terms of emphasizing the fact that although expert evidence can be heard with regards to setting the discount rate, power is ultimately given to the judge to determine whether the discount rate presented by the expert is reasonable. In many cases, if the expert evidence is reasonable, trial judges will not hesitate to concur with their opinions on the discount rate. However, in the absence of reliable expert evidence, this case further emphasized that judges in Newfoundland possess the authority to set the discount rate themselves, based on precedents in similar cases, or relying on discount rates utilized in other provinces.

Beam v. Pittman et al.

Maura Beam, the plaintiff, was involved in 3 separate automobile accidents that took place over a four year period (1989 to 1992). In all 3 accidents, her injuries worsened until she was unable to continue working as a full-time nurse. As a result, she pursued litigation against all 3 defendants, claiming a loss of income.<sup>43</sup>

Both the plaintiff and defendants presented evidence as to the appropriate discount rate. The plaintiff's expert, Murray Segal, had been a member of the Committee in Ontario that recommended use of the 2.50% discount rate. In his testimony, he reiterated the Committee's opinion, which was that the best method to determine the discount rate was to analyze the annual real interest rate during the period 1930 to 1993, which resulted in an average rate of 2.42%. He further stated that while the net discount

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<sup>42</sup> Ibid, note 40.

<sup>43</sup> Beam v. Pittman et al. 1994 CanLII 4428 (NL SCTD).

rate may fluctuate significantly on an annual basis, over the long-term it would average out to approximately 2.50%.

The defendants' expert, Dr. Rose Anne Devlin, argued that the real interest rate over the next 5 to 6 years would be 6.00%, which was the real interest rate at the time of the trial (1994), and it was her opinion that this discount rate would be more appropriate. She testified that historical real interest rates prior to 1980 were not reflective of what would be realized in the future, since there were significant domestic and international financial market influences that would impact the real interest rate. To rely only on historical rates would ignore these influences. Her research indicated that the average real interest rate for the period 1980 to 1993 was 5.40%, and was a more accurate way of predicting what future real interest rates would be over a short time horizon (5 to 6 years). For the following 10 years, it was her opinion that the real interest rate would fall to 4.50%.<sup>44</sup>

In this case, the most significant issue with regards to the discount rate was the time period over which the rate would be utilized. The plaintiff's future loss period was only 9 years, due to her age at the time of the trial and the assumption she would only work up to age 58. As a result, the judge had to consider whether, given the volatility of the net discount rate over the short-term, using long-term historical rates would accurately reflect the plaintiff's losses over such a short period of time.<sup>45</sup>

The trial judge concluded that there was "some merit in both methods but neither can be accurately described as the only reasonable approach." He felt that although Mr. Segal's approach was the generally accepted method of determining the discount rate

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<sup>44</sup> Ibid, note 43.

<sup>45</sup> Ibid, note 43.



amongst economists, the fact that the loss period was only 9 years warranted a higher discount rate similar to Dr. Devlin's approach.<sup>46</sup>

However, the judge's primary concern with Dr. Devlin's methodology was that she unable to provide any information or documentation showing that her approach was widely accepted within the economics community. The judge quoted from the case *R. v. Mohan*, which required that "a novel scientific theory or technique should be subjected to special scrutiny to determine whether it meets a basic threshold of reliability." Had Dr. Devlin been able to provide additional support for her approach, the judge would likely have accepted her calculated rates given the short loss period and the fact that her method of calculating the discount rate took this factor into account.<sup>47</sup>

The trial judge eventually settled on a discount rate of 4.00% for the first 10 years of the loss period (which was the approximate average of the discount rates presented by the experts), and 2.50% afterwards.<sup>48</sup>

This case was important in terms of demonstrating the importance of assessing the specific circumstances and facts of the case prior to deciding on the discount rate. A critical factor was that the plaintiff's loss period was only 9 years. Given this short time period, the way in which the discount rate was calculated was crucial. Using long-term averages would have resulted in a discount rate that was too high (risking under-compensating the plaintiff). However, using averages taken over the short-term would have accounted for the fact that real interest rates are more volatile, enabling the plaintiff to potentially earn a higher rate of return on the award.

### Conclusions – Newfoundland Court Cases

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<sup>46</sup> Ibid, note 43.

<sup>47</sup> Ibid, note 43.

<sup>48</sup> Ibid, note 43.

The Newfoundland cases provided important guidance to investigative and forensic accountants involved in personal injury calculations:

- The discount rate can be based on expert evidence presented at trial or in previous cases, rates legislated in other provinces, or based on what the judge believes is reasonable given the specific circumstances of the case. This provides a significant amount of flexibility that is not seen in the provinces with mandated discount rates.
- Expert evidence is not required in order to determine the discount rate. The ultimate decision lies with the judge, who is allowed to use discretion in order to conclude on the appropriate rate to be used.
- The loss period is an important consideration in determining the discount rate. A short loss period warrants the use of short-term interest rates, in order to account for the volatility of these rates, and the potential for the plaintiff to earn a higher rate of return. A longer loss period commands the use of long-term interest rates, to account for the fact that the plaintiff must ensure the funds last far into the future, and is therefore unable to make risky investments.

## **Alberta**

### **Palmquist v. Ziegler**

This case involved a fatal car accident that took place in Edmonton on February 22, 2005. The plaintiff, Joseph Palmquist, was driving a truck owned by his employer when it was hit by a car driven by Carlin Ziegler. Mr. Palmquist died as a result of his injuries, and his estate pursued damages for loss of income.<sup>49</sup>

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<sup>49</sup> Palmquist v. Ziegler, 2010 ABQB 337 (CanLII).

Both the plaintiff and defendant retained experts to calculate the income loss, which included a determination of the appropriate discount rate. The plaintiff's expert, Cara Brown, calculated a discount rate of 2.17% for the first 5 years of the loss period, and 3.00% for years 6 and beyond. Her reasoning was that interest rates are easier to estimate in the short-term and 2.17% was an accurate reflection of the low interest rates in Alberta at the time of the trial. She then relied on the findings of other economists in other cases to determine that 3.00% was an appropriate rate for a longer time horizon. The defendant's expert, Gerry Taunton, assumed a discount rate of 3.50% throughout the loss period, although no reasoning was provided in the judgement for this rate.<sup>50</sup>

The trial judge found in favour of Ms. Brown's discount rate of 2.17% for the first 5 years, and 3.00% subsequent to that period. In this case, the judge found her basis of relying on the current low interest rates was reasonable, and believed that it was unjust to risk using Mr. Taunton's higher discount rate and under-compensate the plaintiff's family, which included 3 small children.<sup>51</sup>

This case was unique in the sense that the judge came to her decision about the discount rate by taking into consideration both the expert evidence, and the circumstances of the case. The judge took into account whether using a higher discount rate would cause an injustice to be committed against the plaintiff's surviving family members. Although there was strong expert evidence for both a low and high discount rate, in the end, the judge determined that it was more appropriate to remove any burden that may be placed upon Mr. Palmquist's wife to try and invest the damages award in risky investments in order to ensure the funds would last for her and her children.

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<sup>50</sup> Ibid, note 49.

<sup>51</sup> Ibid, note 49.

The findings in this case coincided with the findings of the Newfoundland courts, which did not require that judges rely solely on expert evidence to determine the discount rate. This case further provided judges with some degree of discretion in terms of basing their decision on what truly reflects the loss incurred by the plaintiff and on what rate would accurately compensate them for the loss.

Schmolzer v. Higenbottam

The plaintiff, Peter Schmolzer, was a commercial pilot at the time of his motor vehicle accident on November 1, 2000, when his vehicle was struck by Nigel John Higenbottam, who was driving a truck filled with waste materials for his employer. As a result of his injuries, Mr. Schmolzer alleged he was forced to end his career early, and was claiming a loss of past and future income.<sup>52</sup>

The plaintiff retained an expert, Dr. Christopher Bruce, to provide evidence on discount rates. Dr. Bruce utilized an escalating discount rate that started at 1.80% in the first year of the loss, and increased in each subsequent year up to 3.00% for year 15 and beyond. The rates were based on the interest rates offered on Government of Canada bonds with various terms of maturity.<sup>53</sup>

Dr. Bruce relied on the assumption that any award received by the plaintiff would be invested partly in short-term assets to allow the plaintiff to redeem a portion of the principal each year, and partly in long-term investments to ensure that the funds would last into the future. The result would be that the rate of return would vary each year, depending on the portion of the investments held that were short-term versus long-term.<sup>54</sup>

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<sup>52</sup> Schmolzer v. Higenbottam, 2009 ABQB 522 (CanLII).

<sup>53</sup> Ibid, note 52.

<sup>54</sup> Ibid, note 52.

The defendant's expert, Mr. Darren Benning, disagreed with Dr. Bruce's determination of the discount rate, and testified that it was too low given the circumstances of the case. Mr. Benning argued a more appropriate discount rate would be 3.00% for each year of the loss period, which was based in part on data published by the Canadian Institute of Actuaries, which showed real interest rates were approximately 3.50%.<sup>55</sup>

He further maintained that Dr. Bruce's approach of assuming that the plaintiff would purchase several Government of Canada bonds, each with a different maturity date, was a complex investment approach, and that Dr. Bruce failed to consider other investment options. He believed it would have been more practical for the plaintiff to purchase one Government of Canada bond with a very long maturity and which would yield a higher rate of return, or purchase an investment where a portion could be redeemed annually in order to ensure a constant stream of income each year.<sup>56</sup>

The trial judge decided in favour of the defendant's expert and utilized a discount rate of 3.00%. The judge felt that the escalating discount rate, although would have been a more precise measurement, relied on too many unsubstantiated assumptions and was too complex. Instead, he favoured utilizing a simpler approach which relied on a flat discount rate for each year of the loss period, based on actual historical averages over a long period of time.<sup>57</sup>

This case illustrated the reluctance on the part of the courts to base a discount rate on short-term trends and estimates, and instead rely on long-term historical rates actually realized. In this case, the judge felt that the longer the period of time that is examined in

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<sup>55</sup> Ibid, note 52.

<sup>56</sup> Ibid, note 52.

<sup>57</sup> Ibid, note 52.

terms of actual interest rates, the more accurately the future interest rate and therefore discount rate can be calculated.

This case also set a precedent in terms of courts disliking a discount rate approach that involves an escalating rate that increases each year. This type of methodology relies on significant assumptions that can have a large impact on the income loss award should these assumptions not come to fruition. Due to the uncertainty surrounding future income loss calculations, this case emphasized a preference for rates that are based on actual historical data as opposed to unsupported hypotheses about the future.

### Conclusions – Alberta Court Cases

The court cases in Alberta were critical in terms of establishing generally accepted principles to be followed when determining the discount rate:

- It is crucial to examine the specific facts of the case when setting the appropriate discount rate. As seen as in “Palmquist v. Ziegler”, in the face of uncertainty about the future, courts prefer to give the plaintiff the benefit of the doubt and award a future income loss based on a lower discount rate. Although this results in a higher award, it prevents the plaintiff from being placed in a position of having to recklessly invest the funds in risky investments in order to ensure their future financial security.
- The courts prefer that the discount rate be based on historical data, as opposed to assumptions about the future that cannot be proven. Due to the uncertainty regarding the future, judges favour approaches that are based on hard data.

### United Kingdom

#### History of Mandated Rate

In June 2001, the United Kingdom (“U.K.”) passed the Damages (Personal Injury) Order 2001, which set a discount rate of 2.50% for personal injury claims. This rate was based on the average gross rate of return on Index-Linked Government Stock for the 3 year period June 9, 1998 to June 8, 2001.<sup>58</sup>

Lord Chancellor Irvine of Lairg based this rate on several factors. Firstly, the overall consensus in the U.K. was that it was more advantageous to legislate a fixed discount rate, which would enable both sides of a litigation matter to understand the impact of the discount rate on their cases with certainty, and therefore promote an environment of negotiation. Utilizing a set rate would further reduce the costs associated with calling experts to provide evidence as to their opinion on what the rate should be in each individual case.<sup>59</sup>

Secondly, Irvine’s objective was to ensure the discount rate would be sufficient to ensure that plaintiffs with serious injuries could rely on knowing that their award would last them throughout their period of loss. If the discount rate was too high and resulted in a lower damages calculation, he felt that some plaintiffs would make risky investments to earn a higher return that may not be realized. However, Irvine further acknowledged the difficulty in determining a set rate, as he was aware that it must be reasonable enough to cover a variety of cases involving a diverse array of plaintiffs, each with unique circumstances.<sup>60</sup>

Prior to the establishment of 2.50% as the mandated discount rate, it was common practice to use a discount rate of between 4.00% and 5.00%, which was based on an arbitrary estimate, created at a time before Index-Linked Government Stock existed.

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<sup>58</sup> <http://webarchive.nationalarchives.gov.uk/+http://www.dca.gov.uk/civil/discount.htm>

<sup>59</sup> Ibid, note 58.

<sup>60</sup> Ibid, note 58.

Since a higher discount rate resulted in a lower net present value factor and therefore a lower damages award, the courts felt that plaintiffs were frequently being under-compensated as a result.<sup>61</sup> In fact, research was conducted into plaintiffs that had been awarded large lump sums in personal injury cases to determine at what point in time their funds were depleted. Their findings showed that the smaller the amount of the award, the faster the funds were spent, the result of which was that plaintiffs found their awards were depleted prior to the end of their loss periods.<sup>62</sup>

Irvine referred to a case, *Wells v. Wells*, where the House of Lords determined that the real rate of return should be based on “gross redemption yields on Index-Linked Government Stock”. In this case, the plaintiff was a 58 year old part-time nurse who was seriously injured in a car accident. She suffered severe brain damage and was no longer able to work.

The Lords made the assumption that a plaintiff would likely invest her award in Index-Linked Government Stock to ensure a steady flow of income into the future (both through interest payments and annual redemptions of the stock), and would hold these investments until their maturity/redemption. This investment strategy would have earned the plaintiff a conservative 2.50% real rate of return. These stocks were also considered to be an accurate measure of the real rate of return since they accounted for inflation. This eliminated the need to estimate future inflation rates, which is difficult to do with any degree of accuracy. Further, these are considered risk-free investments that offer a constant stream of income since they increase proportionally to increases in inflation. A

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<sup>61</sup> *Wells v. Wells* [1996] EWCA Civ 784.

<sup>62</sup> *Ibid*, note 61.



3 year average was determined to be an appropriate period over which to calculate the discount rate, although no rationale for this was provided.<sup>63</sup>

Irvine also believed that plaintiffs who received large damage awards would likely seek professional investment advice that would promote investing in a mixed portfolio with a low level of risk, as opposed to investing primarily in Index-Linked Government Stock. Therefore, the mandated discount rate recognizes that plaintiffs have the option of investment in low-risk portfolios that consist of investments other than these stocks, but would still, on average, earn a real rate of return of approximately 2.50%.<sup>64</sup>

Despite legislating a fixed discount rate of 2.50%, the Damages Act of 1996 continues to allow judges to use discretion in the determination of the discount rate. Section 1(2) of the Act states “Subsection (1) above shall not however prevent the court taking a different rate of return into account if any party to the proceedings shows that it is more appropriate in the case in question.” This is consistent with provinces such as Saskatchewan and Nova Scotia, which mandate a discount rate, but recognize that there is still a need to evaluate the plaintiff’s situation on a case by case basis to ensure the discount rate is an accurate reflection of his/her specific circumstances.

#### Departures From the Mandated Rate

On January 14, 2010, the Royal Court of Guernsey in the case *Helmut v. Simon* ruled that the discount rate on the future income loss should be reduced to 1.00%.<sup>65</sup> The discount rate was calculated in 3 separate parts:

- 1) The starting point was the mandated rate in the U.K. of 2.50%.

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<sup>63</sup> Ibid, note 61.

<sup>64</sup> Supra, note 58.

<sup>65</sup> Robert Tarren, “The Discount Rate in Personal Injury Awards”, 2010.

- 2) Experts for the plaintiff determined that since 2001 (when the discount rate was set), the rate of return on Index-Linked Government Stocks had decreased from 2.18% in 2001 to 1.13% in 2009. Therefore, the difference of 1.05% was deducted from the mandated rate of 2.50%.
- 3) Experts for the plaintiff further determined that the inflation rate in Guernsey was 0.50% higher than the average U.K. inflation rate. A higher inflation rate should result in a lower discount rate to account for the fact that inflation reduces the value of future dollars. Therefore, the difference in inflation rates of 0.50% was also deducted from the mandated rate of 2.50%.

The result of the above was a discount rate of 1.00% (2.50% mandated rate, less 1.05% for the reduced rate of return on the stocks, less 0.50% for the difference in inflation).<sup>66</sup>

This case was significant, as it directly addressed the issue regarding whether the rate mandated in 2001 was still relevant 9 years later. It appears that as time went on, the mandated rate, which was based on the average real rate of return on Government Stocks from 1998 to 2001, became less relevant in terms of accurately reflect the rate of return that would be expected in the future.

This case also raised a crucial question regarding mandated rates – should mandated rates be adjusted every few years, to ensure it reflects current and future economic and market conditions, as well as the unique conditions of a geographic area/region? This case appears to have promoted considerable discussion as to whether Lord Chancellor Irvine may have erred in his support of a mandated rate, and in essence, possibly under-compensated plaintiffs in cases where judges simply followed the rate dictated by law. In the absence of expert evidence provided by either the plaintiff,

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<sup>66</sup> Ibid, note 65.

defendant, or both with regards to the appropriate discount rate to use based on the facts of the specific case, judges would be left with little choice but to follow the mandated rate.

This case was successful in encouraging change, since in the summer of 2010, the Lord Chancellor agreed to review the mandated discount rate. However, as of November 2010, no changes to the rate had yet been made.<sup>67</sup>

### **United States**

In the U.S., personal injury cases are heard before the state courts. None of the states currently have mandated discount rates, meaning that in these cases, the discount rate used is completely dependent on the expert evidence presented.<sup>68</sup>

The Washington State Civil Jury Instruction 34.02 states the following:

*“The rate of interest to be applied in determining present cash value should be that rate which in your judgment is reasonable under all circumstances. In this regard, you should take into consideration the prevailing rates of interest in the area that can reasonably be expected from safe investments that a person of ordinary prudence, but without particular financial experience or skill, can make in this locality.”*<sup>69</sup>

Generally, the consensus amongst forensic economists is that U.S. government securities represent a “safe investment” that can be used as a basis for calculating the present value of the loss, such that the plaintiff would not be placed in a position of having to make risky investments in order to achieve a high rate of return.<sup>70</sup>

Forensic economists in the U.S. rely on U.S. Government Bonds to calculate the appropriate discount rate. These securities offer the highest return on an investment with

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<sup>67</sup> Ibid, note 65.

<sup>68</sup> George Jouganatos, “Economic Analysis in Personal Injury Cases”, 2009.

<sup>69</sup> “Washington Supreme Court Committee on Jury Instructions”, 2009.

<sup>70</sup> Gerald Martin, “Determining Economic Damages”, (Santa Ana: James Publishing Inc., 1997), Chapter 11.

the lowest amount of risk.<sup>71</sup> However, experts tend to disagree on whether the short-term or long-term rate earned on these investments should be used.

Experts who use short-term rates calculate the discount rate by utilizing U.S. Government Bills, which are short term treasury securities that mature annually. The advantage is that it allows the plaintiff to redeem the securities at the end of each year, remove the portion of the principal required to cover living expenses, and reinvest the balance which would earn the current rate of interest. In this case, since the yield on these investments would change every year in order to keep up with inflation, the rate of return would always take changes in inflation into account. However, since these securities have a short maturity, they offer a lower rate of return compared to long-term securities, which means the plaintiff will received a larger award (since any funds invested would be assumed to earn a lower rate of interest).<sup>72</sup> Further, studies have shown that although an investment with a longer maturity offers a higher rate of return than a short-term investment, a plaintiff would earn a higher return overall by investing their award in 30 year government bonds, redeeming them at the end of each year (allowing them to use a portion of the principal to pay living and other expenses), and then reinvesting the remaining balance in 30 year government bonds. If this same procedure was followed using one year bonds, the return earned by the plaintiff would be significantly lower.<sup>73</sup> Therefore, although the use of short-term interest rates can be more favourable to the plaintiff, it does not necessarily reflect the best investment strategy.

Experts who use long-term rates calculate the discount rate by obtaining the yield offered on 30 year U.S. Government Bonds. It has been argued that this method results

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<sup>71</sup> Ibid, note 70.

<sup>72</sup> Ibid, note 70.

<sup>73</sup> Ibid, note 70.

in a loss amount more favourable to the defendant, since it understates the present value of the income loss. This is because in the initial years of the investment, the interest earned will likely be significant. However, if the rate of return declines in future years, the plaintiff will earn a lower return. Therefore, the plaintiff benefits by having the ability to lock in their initial investment at a favourable rate, but this is combined with a lower reinvestment rate, which can hurt them in future years.<sup>74</sup>

#### Guidelines for Determining the Discount Rate

In the U.S., there are 3 generally accepted guidelines followed for calculating the appropriate discount rate. The first guideline is that a risk-free rate should be used, based on U.S. Government securities, such as treasury bonds. The basis of this is that any uncertainty or risk associated with realizing the future stream of income is normally factored into the projected income calculations as well as the length of the loss period. To include a risk premium in the discount rate would be unnecessary and result in a duplication of the risk factors.<sup>75</sup>

The discount rate should also be a tax-free rate. The difference between the total future income and the present value of the award is the interest that will be earned by the plaintiff. This interest is taxable income for the plaintiff. If a pre-tax discount rate was applied, the award would not fully represent the plaintiff's lost income.<sup>76</sup>

Lastly, the discount rate should be calculated based on an average that covers a reasonable time period. The time period used should be long enough to eliminate the impact of any fluctuations in the nominal and real interest rates, but not so long as to

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<sup>74</sup> Ibid, note 70.

<sup>75</sup> J. Thomas Romans et al. "Four Guidelines for Selecting a Discount Rate", *Journal of Forensic Economics*, 5(3), 1992, pages 265 – 266.

<sup>76</sup> Ibid, note 75.

include periods with significant economic differences. In general, the time period over which the discount rate is calculated should be the same as the time period over which the earnings growth rate is measured.<sup>77</sup>

The above guidelines result in 2 implications: firstly, the interest rate in effect at the time of the trial is irrelevant, and the actual securities the award is invested in are also irrelevant. Secondly, any return earned on the award that differs from the discount rate is considered to simply reflect the amount of risk involved.<sup>78</sup>

#### Total Offset Method

The total offset method is used primarily in Alaska and Pennsylvania, and was popular since it required no forecast of future inflation or interest rates. This method assumes that the rate of future inflation equals the discount rate. Under this method, the future income loss of the plaintiff equals the annual loss of income multiplied by the number of years in the loss period. In other words, no discount rate is applied to the future income loss, and the loss is not discounted to its present value.<sup>79</sup>

Very few forensic economists in the U.S. support the use of this methodology, although it is still applied frequently in Alaska and Pennsylvania. Most economists agree that although the inflation rate and interest rates move in the same direction, they are not necessarily equal at all points in time.<sup>80</sup> Further, this methodology appears to over-compensate the plaintiff, since it does not account for the time value of money – in other words, this method assumes that a dollar today is equal to a dollar tomorrow, and does not recognize that as time passes, the value of a dollar declines. Instead, it compensates a

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<sup>77</sup> Ibid, note 75.

<sup>78</sup> Ibid, note 75.

<sup>79</sup> Rolando Pelaez, “The Total Offset Method”, *Journal of Forensic Economics*, April 1989, pages 45 – 60.

<sup>80</sup> Ibid, note 79.

plaintiff for a future income loss in present day dollars, thereby overstating the loss of income.

### Average Discount Rates

In a survey conducted in 2009 for the Journal of Forensic Economics, economists were asked what discount rate they use in personal injury cases to calculate future income losses. The results ranged from -2.66% to 7.88%, and the mean rate was 1.75%. A discount rate of zero or less indicated that the economist supported the “total offset” methodology, which was first addressed in the case Jones & Laughlin Steel Corp. v. Pfeifer. In this same survey, the discount rate was between 3.50% and 4.08% for future costs of care.<sup>81</sup>

The survey also asked how the interest rate would be determined for a loss period that spanned 30 years. Almost 60% of the economists surveyed indicated that would use historical average interest rates, and 25% stated they would use current interest rates. Of the 60% that would use historical rates, 53% stated that they would calculate the average over a 27 year period, and 27% stated that they would base the average on the number of years remaining in the plaintiff’s expected work life.<sup>82</sup>

The survey results appear to echo the methodology utilized in Canada, which is that the most appropriate way to calculate the discount rate is to examine historical interest rates over a long period of time, in order to eliminate the impact of any significant fluctuations that may occur in the short-term.

A summary of relevant court cases in the U.S. have been presented below.

### Jones & Laughlin Steel Corp. v. Pfeifer

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<sup>81</sup> Michael L. Brookshire et al. “A 2009 Survey of Forensic Economists: Their Methods, Estimates and Perspectives”, Journal of Forensic Economics 21(1), 2009, pages 5 – 34.

<sup>82</sup> Ibid, note 81.

The plaintiff in this case was injured while working as a loading helper for the Laughlin Steel Corp., which was located in Pennsylvania. His injuries were so severe, he was unable to return to work or find employment in another field. Mr. Pfeifer brought a lawsuit against his employer in 1983 alleging negligence, and the court awarded him over \$275,000 for loss of income. The defendant later appealed the decision claiming that in calculating the award, the trial judge did not apply a discount rate to determine the net present value of the loss of future income (i.e. the judge utilized the “total offset” method). The appeal was filed despite the fact that neither the plaintiff nor the defendant provided any expert evidence regarding the appropriate discount rate to use, or the relationship between interest rates and inflation rates.<sup>83</sup>

The trial judge’s decision with regards to the discount rate was based on a decision made by the Pennsylvania Supreme Court, where the court held that the future inflation rate was assumed to equal future interest rates, and that as a result, the inflation and discount rates are legally assumed to be equal. Under this “total offset” method, it is further assumed that there is no need to apply a discount rate. The court also assumed that the relationship between future earnings growth and interest rates would remain the same over the long-term, regardless of movements in the inflation rate.<sup>84</sup>

During the trial in this case, 3 methods for determining the appropriate discount rate were discussed. The first method is called the market interest rate approach, where the discount rate is equal to the market interest rate. The advantage of this method is that the discount rate is based on concrete evidence and the basis for the rate is clear. The

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<sup>83</sup> Jones & Laughlin Steel Corp. v. Pfeifer, 462 US 523 1983.

<sup>84</sup> Ibid, note 84.



disadvantage is that the market interest rate may not appropriately reflect the rate of return that will be realized by the plaintiff in the future.<sup>85</sup>

The second method is the real interest rate approach, which assumes that the market interest rate consists of 2 components: estimated future inflation and a real rate of return (which is consistent over the long-term). In other words, the discount rate is equal to the interest rate minus the inflation rate. This method does not require an expert to provide evidence on the future inflation rate because it is already factored into the market interest rate.<sup>86</sup>

The third method is the total offset approach, which assumes that the interest rate is equal to the inflation rate. This simplifies the present value calculation, since the present value is then determined based on the annual loss of income multiplied by the number of years in the loss period. In this case, the total offset method was utilized by the trial judge.<sup>87</sup>

The appeals court found in favour of the defendant and concluded that the trial judge was incorrect in not applying a discount rate to the loss amount. The appellate judges concluded that the rate of inflation would have a direct impact on the discount rate to be applied, and that the rate calculated should be based on the specific circumstances of the case. The judges also stated in their decision, “... whatever rate the District Court may choose to discount the estimated stream of future earnings, it must make a deliberate choice, rather than assuming that it is bound by a rule of state law.”<sup>88</sup>

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<sup>85</sup> Allan Feldman, “Real Interest Rates and Total Offset in Computations of Damages in Death and Disability Cases”, Connecticut Bar Journal, Volume 62, pages 212 – 230.

<sup>86</sup> Ibid, note 83.

<sup>87</sup> Ibid, note 83.

<sup>88</sup> Ibid, note 83.

This case, which was heard in Pennsylvania, was significant in several ways. Firstly, the appellate court's decision clearly demonstrated a lack of support for the total offset method. Although this method is simple and straightforward in terms of its application, and easily understood by both judges and juries, it does not take into account the impact of inflation which does influence the discount rate to be applied. Using this method severely penalizes the defendant by awarding the plaintiff for a future income loss in present day dollars, which have a higher value.

The case was also the first to discuss alternative methods for determining the discount rate (i.e. utilizing the market interest rate, or calculating the inflation rate minus the interest rate). This was helpful for forensic economists, who were able to understand what methodologies would be accepted by the courts.

Lastly, this case was influential in terms of its emphasis that judges must make a "deliberate choice" with regards to the discount rate to be utilized. As has been presented in this research paper, the rules in each geographic region examined appear to reiterate the importance of examining the facts of each case in setting the discount rate, and not simply following the rates used in previous cases or applying the rates set by law.

#### Wilson v. Gilbert

This case involved a young boy named Paul Wilson, who was taken to the hospital on August 12, 1961, with an accidental gunshot wound in his leg. The doctor who examined him, Dr. Gilbert, performed surgery on the child, without having the proper experience in this type of procedure. As a result, the plaintiff's leg became

infected and portions of it had to be amputated. A lawsuit followed, claiming that the plaintiff suffered a loss of future income.<sup>89</sup>

On the day the judge intended to instruct the jury, Dr. Gilbert presented a calculation of the plaintiff's future loss of income. The trial judge refused to accept the calculation into evidence because no expert testimony had been offered to explain to the jury how the discount rate had been determined. The judge further believed that expert evidence would have been required since the discount rate was not in the "common knowledge of the jury", and would have required the jury to recommend an award amount without understanding the complexities of the calculation or the various factors that must be taken into consideration.<sup>90</sup>

In the end, the plaintiff was awarded a total sum of \$300,000. The defendant appealed the case, claiming that the trial judge erred by refusing to accept the present value calculation and entering it into evidence. The appeals court rejected the appeal, and stated that the trial judge was correct in refusing to instruct the jury to consider the calculation without expert evidence.<sup>91</sup>

This case ties into the previous case discussed, *Jones & Laughlin Steel Corp. v. Pfeifer*, which emphasized the importance of judges using their discretion and knowledge of the case to conclude on the appropriate discount rate to apply. In this case, the judge received a present value calculation, but no oral evidence was presented to explain the nature of the calculations made. Therefore, although the ultimate decision on the discount rate is in the hands of the judge or jury, it is critical that an expert in the area be made available to impart his/her knowledge as to how the discount rate should be

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<sup>89</sup> *Wilson v. Gilbert* [25 Cal. App. 3d 607].

<sup>90</sup> *Ibid*, note 86.

<sup>91</sup> *Ibid*, note 86.

calculated. It is an expert's responsibility to share their expertise with the courts, on a subject in which the judge/jury has little or no knowledge. Given that the stakes in personal injury cases is significantly high (due to the fact that plaintiffs are unable to return to court to request additional funds should the income loss award be insufficient), the role of an expert is even more important in terms of providing the triers of fact with the information required to make an informed and reasonable decision. Without this guidance, the court is unable to render such a decision, and the risk of under-compensation falls on the shoulders of the plaintiff.

Conde v. Starlight I Inc.

The plaintiff, Joaquim Conde, was employed as a first mate aboard a commercial fishing vessel called Starlight I, when he injured his hand on August 13, 1988. Mr. Conde sued his former employer alleging negligence. One of the significant issues that arose during trial was the appropriate discount rate to apply to Mr. Conde's future loss of income. Both the plaintiff and defendant presented their own calculations as to the future income loss.<sup>92</sup>

The court was presented with expert evidence that stated the appropriate discount rate should be between 1.00% and 3.00%. During the time of the trial, the U.S. was experiencing high inflation which supported the use of a discount rate that was below market interest rates (which were 6.00% at the time). The reasoning was that if inflation was expected to be high in the future, this would result in an investment rate of return that would be lower than market interest rates.<sup>93</sup>

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<sup>92</sup> Conde v. Starlight I Inc., 103 F.3d 210.

<sup>93</sup> Ibid, note 92.

The trial judge eventually utilized the lowest discount rate presented of 1.00%, based on the fact that this was most favourable to the plaintiff, given the uncertainty regarding future inflation rates.<sup>94</sup>

This case was similar to the Alberta case “Palmquist v. Ziegler”, where the judge made a determination about the discount rate by taking into consideration both expert evidence, and the circumstances of the case. In both cases, the trial judges examined the impact of the discount rate on the behaviour of the plaintiff. In other words, given the uncertainty surrounding future inflation rates and the difficulties encountered in estimating the, the judges concluded that it would be better to utilize a lower discount rate (resulting in a higher future income loss award) as opposed to risking that the plaintiff would be forced to make risky investments in order to ensure their award would last throughout the loss period. Similar to the court cases in Canada, this case emphasized the importance of determining the discount rate based on the specific facts of the case and the circumstances of the plaintiff.

#### Brown v. Secretary of the Department of Health and Human Services

Michael Brown was given a tetanus vaccination and contracted Guillian-Barre syndrome, an uncommon side effect of the vaccination. Mr. Brown filed a lawsuit against the Department of Health and Human Services, and claimed a loss of past and future earnings.<sup>95</sup>

Both the plaintiff and defendant presented expert testimony with regards to the discount rate.

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<sup>94</sup> Ibid, note 92.

<sup>95</sup> Brown v. Secretary of the Department of Health and Human Services, No. 01-0060V.

The defendant's expert, Dr. Kennedy, reviewed the historical relationship between yields on U.S. Treasury notes and wage growth, and calculated a discount rate of 1.50%.<sup>96</sup>

The plaintiff's expert, Dr. Lurito, projected the appropriate discount rate based on the expected rate of return that would be earned in the present day on a portfolio of conservative investments (which included municipal bonds, certificates of deposit, and U.S. Treasury notes). This resulted in a discount rate of 0.50%. Dr. Lurito criticized the defendant's approach, claiming that by basing the discount rate on information from the previous 20 to 25 years, Dr. Kennedy was utilizing data which included interest rates that were much higher than the present day, which resulted in a higher discount rate (and lower loss calculation).<sup>97</sup>

The court agreed with the defendant's methodology and concluded that a 1.50% discount rate was appropriate. The judge concluded that Dr. Lurito was utilizing present day interest rates which could be highly volatile, and felt that the use of a long period of historical interest rates, as done by Dr. Kennedy, would result in a more accurate reflection of what could be achieved by the plaintiff going forward, given his young age.<sup>98</sup>

This case was similar to the Newfoundland case "Beam v. Pittman et al", where the difference in the expert evidence presented centred on the use of short-term versus long-term rates. The general consensus of forensic economists is that short-term rates tend to be extremely volatile, and may not be appropriate for income loss involving long discount periods. The view in the Beam v. Pittman case, which is that short-term rates

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<sup>96</sup> Ibid, note 94.

<sup>97</sup> Ibid, note 94.

<sup>98</sup> Ibid, note 94.

are only appropriate in cases with short discount periods, appears to be the same view taken in the U.S.

### Conclusions – U.S. Court Cases

The court cases in the U.S. provide significant guidance to forensic accountants and economists in terms of how to calculate the discount rate:

- The total offset method is not favoured by either the courts or forensic experts in general. It has been proven that there is a strong correlation between interest and inflation rates. However, to assume that these rates are equal severely penalizes the defendant in these cases, and the courts recognize that this method does not truly compensate the plaintiff for income losses suffered.
- Due to the specialized nature of this field, expert evidence is required where the discount rate is not mandated. To expect judges and juries to be able to determine the appropriate discount rate without expert evidence is unrealistic, given the complexity of the issues and the fact that there are several factors to take into consideration in each case, of which these decision makers may not be aware.
- In the face of uncertainty, the courts will generally side with the plaintiff and utilize a lower discount rate if expert evidence is unclear or inconclusive. This is similar to the cases seen in Canada.
- Also similar to the court cases in Canada was the approach taken by the U.S. courts on short-term versus long-term interest rates. The U.S. courts agree with the Canadian courts that short-term interest rates are appropriate for short discount periods, due to the volatility of these rates. Judges prefer long-term rates

for longer discount periods, as they more accurately reflect the investment strategy that will likely be taken by the plaintiff.

### **Advantages of Mandated Discount Rates**

Mandated discount rates can have several advantages. Firstly, they reduce the costs associated with retaining actuaries and other experts such as forensic accountants to provide expert evidence in court and offer opinions on the appropriate discount rate to use.<sup>99</sup> If this was required in every case, the courts would require a significant amount of time and money to qualify these experts and hear their testimony. It would also require a certain level of understanding from the judge to determine which expert's evidence should be followed, especially given that the judge's decision will have a considerable impact on the amount awarded to the plaintiff.

Mandated rates also ensure consistency in terms of judgments rendered in various cases.<sup>100</sup> They prevent plaintiffs from receiving different results due to the use of different discount rates, which can result in significant inequalities. It would be unfair for 2 plaintiffs in the same province to receive different awards simply because of the individual opinions of the trial judges, or due to the lack of persuasiveness or expertise of certain experts testifying in their cases.

Mandated rates also ensure that experts are not placed under undue pressure in the course of providing expert evidence in court. Experts bear a huge responsibility when placed in a position of having to explain to a judge or jury how the discount rate is

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<sup>99</sup> Christopher Bruce, "Discount Rates", *Economica*, 2000.

<sup>100</sup> *Ibid*, note 98.



calculated. As described in this research paper, there are many factors to take into consideration when setting the discount rate.<sup>101</sup>

An additional benefit of implementing mandated rates is that it prevents plaintiffs from being placed in a position of having to make risky investments to ensure their awards last throughout the loss period. A mandated rate allows plaintiffs to understand how the discount rate impacts their loss calculation, and they can invest their awards accordingly. If the discount rate is not legislated, and a trial judge sets the rate too high, the plaintiff will receive a lower award. This may create a situation where the plaintiff will make unsafe investments to try and earn a higher rate of return.

Mandated rates are also beneficial in terms of promoting an environment of negotiation. It eliminates a point of contention between the plaintiff and defendant, and allows both sides to focus on debating other issues, especially given the complexity and subjectivity involved in determining the discount rate.

### **Disadvantages of Mandated Discount Rates**

Mandated discount rates are not always beneficial. Firstly, it requires the relevant authorities to reach a consensus as to what the discount rate should be. Without this agreement, it is impossible to mandate the rate.<sup>102</sup> This consensus can only be reached after a sequence of debates between various experts, and taking into consideration all the relevant economic and market factors. The entire process can take several months or even years, and even after the discount rate is decided upon, there is no guarantee that the debate will cease.

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<sup>101</sup> Supra, note 2.

<sup>102</sup> Supra, note 98.

As seen in “Beam v. Pittman”, not having a mandated rate forces each party to look at the specific circumstances of the case and examine the unique factors that would influence the discount rate. It doesn’t assume that the same discount rate would apply to everyone in all circumstances. In certain situations, it is beneficial to provide judges with some degree of discretion to determine the discount rate in an independent and objective manner, if the risk of utilizing a mandated rate that is too high could cause hardship for the plaintiff. This was evident in the case “Palmquist v. Ziegler”, where the plaintiff’s wife and young children would have endured financial difficulties if the award was insufficient. As a result, the judge was able to utilize a lower discount rate based on the evidence presented. As noted in the case “Lewis v. Todd and McClure”,

*“... It is important, I think, that the Court affirm the principle that the discount rate is normally a factual issue which will turn on the evidence advanced in individual cases.”*<sup>103</sup>

Therefore, the courts recognize that the determination of the discount rate requires an examination of the unique circumstances of each case.

The majority of the provinces with mandated rates calculate the discount rate based on the difference between the projected interest rate and future inflation. This assumes that the plaintiff’s income will move proportionally to changes in inflation, which may not always be the case where the plaintiff is employed in certain professions or industries. The flexibility offered by not having a mandated rate encourages the court to ensure they have reviewed all the information available to determine the appropriate rate, instead of following the law and assuming that it is applicable to all circumstances.

Provinces without mandated rates also provide more flexibility in terms of being able to adjust to changes in the economy and financial markets.<sup>104</sup> Changes in interest

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<sup>103</sup> Lewis v. Todd and McClure, [1980] 2 SCR 69, page 711.

and inflation rates can immediately be factored into the decision of which discount rate to utilize, and these rates would be more reflective of what the plaintiff would incur in the future, since it is based on more current and relevant information.

### **Determining the Discount Rate When Not Mandated**

There are several methods used to calculate the discount rate in provinces where the rate is not mandated. These are discussed below; however, there is still a great deal of debate amongst forensic accountants and economists as to which of the approaches yields the most accurate result.

The historical approach is based on the concept that the average real interest rates that have occurred in the past will continue to exist into the future.<sup>105</sup> This method is the least reliable since historical rates have fluctuated significantly since the 1970s, and therefore are not necessarily an accurate predictor of what will occur in the future.<sup>106</sup>

Forecasting agencies specialize in providing estimates of various economic factors such as inflation, the unemployment rate, and the Gross National Product. These agencies generally provide short-term forecasts, since long-term forecasts would require assumptions about factors for which the agencies have no expertise or knowledge (i.e. fiscal and monetary policy, exchange rates, foreign interest rates). Further, forecasters have no incentive to create accurate forecasts, since inaccurate estimates and assumptions will not impact their reputation.<sup>107</sup> Therefore, it is important to understand the limitations of using this type of source, in terms of its accuracy and reliability.

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<sup>104</sup> *Supra*, note 2.

<sup>105</sup> Christopher Bruce, "Selecting the Discount Rate", *Economica*, 1996.

<sup>106</sup> *Ibid*, note 104.

<sup>107</sup> *Ibid*, note 104.

The money market can provide useful information that can be used to determine an appropriate discount rate. The concept behind this methodology is that investors' forecasts of nominal interest rates can be used to calculate real interest rates.<sup>108</sup> In other words, when the government issues real rate of return bonds, you can determine the real rate of interest that investors believe will exist in the future.<sup>109</sup> The disadvantage of utilizing this approach is that since very few real rate of return bonds are issued and rates calculated via this method tend to fluctuate significantly, it is difficult to calculate a definitive rate. Further, any rates calculated may not reflect rates that prevail in the market as a whole.<sup>110</sup> Despite this, most economists prefer this method since it is based on concrete evidence that can be corroborated.

### **Future Costs of Care**

The discount rate for future costs of care requires a special understanding and attention. This is because future costs of care are generally calculated over the plaintiff's life expectancy versus future income loss awards, which only cover a plaintiff's expected working life. As such, future costs of care are expected to be incurred over a longer period of time, which increases the importance of any estimate of the discount rate. The courts would want to ensure that the plaintiff's award is sufficient to cover any medical expenses that will arise decades into the future, when inflation rates are even more unknown. Further, an award for future costs of care is final, and the plaintiff is not

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<sup>108</sup> Ibid, note 104.

<sup>109</sup> Ibid, note 104.

<sup>110</sup> Ibid, note 104.

permitted to return to the court to make a further claim for additional funds should the original award be insufficient.<sup>111</sup>

There are two main cases in Ontario where the courts modified the mandated discount rate to account for future care costs, and recognized that these types of costs may require the discount rate to be adjusted. These cases have been vital in terms of providing the opportunity for plaintiffs to increasingly present expert testimony to justify a reduced discount rate on future care costs, which will increase the amount of any such awards in the future.

#### Gordon v. Greig

This case, which went to trial in 2007 in Ontario, involved 4 young men who were involved in a motor vehicle accident, after consuming excess amounts of alcohol. The accident rendered the driver and one passenger as quadriplegics, who would require substantial medical expenses and round the clock attendant care for the remainder of their lives. The issue became whether the rate mandated in Ontario was appropriate for the plaintiffs' future income loss and costs of care.<sup>112</sup>

At the time of the trial, the Rules of Civil Procedure stated the discount rate for the first 15 years of the loss period should be 1.00%, and 2.50% afterwards. The plaintiffs retained an expert in health economics, Dr. Peter Coyte, who testified that the discount rates in Rule 53.09 did not accurately reflect the costs that would be incurred by the plaintiffs in the future. His opinion was that the appropriate rates should be 0.00% for

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<sup>111</sup> D. Bruce Garrow et al., "Damages for Personal Injury and Wrongful Death in Canada", *Journal of Air Law and Commerce*, Spring 2004, Volume 69, Number 2, page 254.

<sup>112</sup> *Gordon v. Greig*, 2007 CanLII 1333 (ON SC).

the first 15 years, and 1.50% for subsequent years. Dr. Coyte's rationale for this was that historically, medical costs have increased 30% more than the rate of inflation.<sup>113</sup>

The defence expert, Dr. Charette, criticized Dr. Coyte's approach, stating that Dr. Coyte based his opinion on medical expenditures as opposed to prices, where expenditures are calculated as the price of the item multiplied by the quantity of the item. The example provided was that expenditures for computers have increased, but the price of a computer has declined. As a result, Dr. Charette believed that the price of medical goods and services would remain consistent with inflation, and did not see any basis for disregarding the mandated rates.<sup>114</sup>

Dr. Coyte argued that there are various factors to consider when assessing future costs of care: the unit price per quality, the overall quality, and how often the good/service will be purchased. Therefore, the courts would need to consider how the standard of care would change in the future, and how the unit price per quality would change. These factors would be greatly influenced by the aging population in Canada, population growth, inflation, etc. Focusing solely on unit price would not necessarily reflect the actual costs that would be incurred by the plaintiffs, since as the quality of health care increases, their cost increases as well.<sup>115</sup>

The trial judge accepted Dr. Coyte's findings and based the calculation of future care costs on a discount of 0.00% for the first 15 years and 1.50% afterwards. The judge agreed with Dr. Coyte's view that medical costs will increase 30% faster than the overall

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<sup>113</sup> Ibid, note 111.

<sup>114</sup> Ibid, note 111.

<sup>115</sup> Ibid, note 111.

inflation rate, and as a result, believed that the mandated rates were too high to account for this.<sup>116</sup>

This case was essential in terms of setting the standard for reducing the mandated discount rate for future costs of care. The focus of the argument presented by Dr. Coyte was not simply on the rate at which medical costs will increase. Since the standard of care and related medical technology will improve over time, it is implied that the cost of such care will also increase. It is therefore reasonable to claim that a reduced discount rate should be implemented in order to ensure that the rate of return earned on the award can keep up with the increase in costs over time.

#### Desbiens v. Mordini

On November 8, 1999, the plaintiff, Phillippe Desbiens (a quadriplegic) was struck by a vehicle while operating his wheelchair on a sidewalk. Mr. Desbiens' disability became worse, and required a significant increase in his future costs of care as a result of the additional injuries he sustained.<sup>117</sup>

At the time of the trial, the discount rate according to Rule 53.09 was 2.25% for the first 15 years, and 2.50% afterwards. The plaintiff's retained Dr. Coyte as an expert, and testified that health care cost inflation in Ontario would be 3.60% per year for the first 15 years of the loss period, and would then decline to 3.25% per year. This was in comparison to an expected rate of inflation of 3.00% per year and 2.75% per year for each period respectively.

Based on the expert evidence presented, the judge ruled that the appropriate discount rate should be 1.65% in the first 15 years and 2.00% thereafter.

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<sup>116</sup> Ibid, note 111.

<sup>117</sup> Desbiens v. Mordini, 2004 CanLII 41166 (ON SC).

In this case, the judge ultimately found that since inflation would have a greater impact on future medical costs than on goods and services in general, and that Rule 53.09 did not properly account for this fact. The judge was satisfied by the evidence presented by Dr. Coyte that unless the discount rate was reduced to reflect the that price increases in the health care sector, the plaintiff would be grossly under-compensated and the award would not last until the end of his life expectancy.

As illustrated in this case, with regards to future costs of care, the courts are primarily concerned with whether the award is sufficient to last the plaintiff until the end of his/her life, and cover any medical expenses that may arise. This factor appears to be the main consideration when determining the appropriate discount rate.

### **RECOMMENDATIONS**

Based on the findings and research outlined above, the following recommendations are suggested:

- Mandated rates are more beneficial than requiring experts and courts to determine the discount rate on a case by case basis. Not only does this reduce the costs associated with hearing these cases, but it also ensures that all plaintiffs are treated equally under the law. Given the degree of expertise required in this field to determine an appropriate discount rate, it is best to leave this determination to the top experts in this field, as opposed to forensic accountants.
- The laws that dictate the discount rates to be used in a particular province should also allow some degree of flexibility, whereby evidence regarding the discount rate can be presented by both the plaintiff and defendant. However, this should only be permitted in situations where the circumstances of the case suggest that



the mandated discount rate is inappropriate or would not reflect the plaintiff's true loss of income. This will allow plaintiffs with unique circumstances to argue for a discount rate that better reflects their specific situation. Further, forensic accountants who perform personal injury calculations should be required to always review the facts of the case, and determine whether a special discount rate should be calculated. If so, a forensic economist can be retained to assist in the determination of this rate, if the forensic accountant does not have the appropriate expertise in this area.

- Since the majority of the provinces utilize a discount rate of 2.50%, a national discount rate can be mandated, to ensure consistency and equality across Canada. This would not result in any significant changes, since most of the provinces with mandated discount rates already use this rate, and calculate the discount rate in a similar manner.
- It is clear, based on the court cases reviewed, that a two-tiered approach should be implemented, similar to what is currently mandated in Ontario. The discount rate for short loss periods will be significantly different from discount rates for long-term loss periods, due to the volatility of interest rates. Therefore, in order to ensure fairness to plaintiffs who may have income losses over a fewer number of years, a discount rate for the first 10 to 15 years of a loss period should be calculated, and a separate rate determined for the remaining number of years. Further, the discount rate for the first 10 to 15 years should be variable (again, similar to the current Rule 53.09 in Ontario), to ensure that the short-term volatility of interest rates is always reflected in the discount rate.

- Even with mandated discount rates, the laws should be reviewed every 5 years at a minimum, to ensure that the discount rates continue to reflect current economic and market conditions. This will ensure that the discount rate is as accurate as possible and accounts for any significant changes that may impact the plaintiff's ability to invest their award and earn a return on the funds.
- In Ontario, Rule 53.09 should be revised such that its interpretation and intent is clear. This will eliminate any disputes with regards to the wording of the rule, and ensure that all plaintiffs in Ontario are treated the same in terms of how their future loss of income is calculated.
- For future costs of care, a separate discount rate should be mandated as well, so that the rapidly rising costs of medical care are truly reflected in the discount rate. This will provide a significant amount of financial security to plaintiffs in these cases, and will ensure that they receive sufficient funds to cover any medical costs that may arise in the future. Based on the court cases described above, there has been substantial research in this area, to support the use of a discount rate that is different from the rate utilized in income loss calculations.

## **CONCLUSION**

In the case Lewis v. Todd and McClure, the trial judge stated the following with regards to discount rates:

*“The principle remains that, absent legislation which directs the manner of calculating discount rate (e.g. by setting a figure or by pegging the interest rate to return on specific investment vehicles and inflation to a particular index), the discount rate will vary according to the expert testimony led at trial. This does not mean that there will never be any uniformity in the selection of discount rate. As litigants in these cases produce more thorough and rigorous economic data and as the judiciary*

*becomes more familiar with this data, a certain uniformity will no doubt emerge.*<sup>118</sup>

Although we have not yet reached a point of uniformity across Canada, it is clear that the more these cases are presented before the courts, the greater the need to address the issue of whether mandated rates are required in each province. It is evident, based on the court cases examined, that even in provinces with mandated discount rates, there are still disputes regarding the wording of the legislation and its intentions (i.e. Ontario). It is critical, to ensure justice and fairness for all plaintiffs, that any implemented legislation is clear in its wording. If not, not only will experts continue to debate the application of the rules, but judges will also differ in their rulings, creating inconsistencies, with significant impacts to injured plaintiffs.

In provinces with mandated rates, such as Saskatchewan and Nova Scotia, the laws are worded such that judges are still permitted to use discretion in determining what discount rate should be used in a specific case. This element is crucial because as an independent reviewer of the evidence, judges are in a position to objectively decide whether the mandated discount rate truly indemnifies the plaintiff for any losses suffered. Having both a mandated discount rate and permitting judges to deviate from this rate when deemed necessary allows the best of both worlds, and provides some flexibility in cases that are unique.

It is also evident that in the face of uncertainty, judges will often provide plaintiffs with the benefit of the doubt and use a lower discount rate if given the option. The courts appear to be hesitant to take the risk that plaintiffs will run out of funds prior to the end of

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<sup>118</sup> Supra, note 102.

their loss periods, or will be placed in a position of having to make risky investments in order to survive financially.

Based on the analysis of this paper, it is clear that mandated discount rates are more beneficial. It will be interesting to see what the future brings, and whether uniformity across Canada will ever be realized.

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# **APPENDIX A**

## **Calculation of Ontario Discount Rate for the First 15 Years – 2011 Trials**



## Calculation of Ontario Discount Rate for the First 15 Years – 2011 Trials

MONTH	FOR NON-INDEXED PYMTS BANK OF CANADA LONG TERM GOV'T BONDS (SERIES V121791)	INFLATION RATE	FOR INDEXED PYMTS BANK OF CANADA REAL RETURN BONDS (SERIES V122553)
September 2009	3.84%	2.10%	1.74%
October	3.96%	2.33%	1.63%
November	3.85%	2.29%	1.56%
December	4.07%	2.55%	1.52%
January 2010	3.96%	2.41%	1.55%
February	4.05%	2.46%	1.59%
March	4.07%	2.51%	1.56%
April	4.04%	2.50%	1.54%
May	3.68%	2.24%	1.44%
June	3.65%	2.23%	1.42%
July	3.77%	2.22%	1.55%
August	3.47%	2.07%	1.40%
Average	3.87%	2.33%	1.54%
Rounded to the Nearest Quarter	3.75%	2.25%	1.50%
Minus 1% Rounded to the Nearest Quarter	<b>2.75%</b>		<b>0.50%</b>

SOURCE: For non-indexed payment streams  
<http://www.bankofcanada.ca/en/bond-look.htm>  
 Series V121791 - as of last Wednesday of each month  
 Bank of Canada Weekly Financial Statistics - Long Term  
 Government of Canada Bonds

For indexed payment streams  
<http://www.bankofcanada.ca/en/bond-look.htm>  
 Series V122553 - as of last Wednesday of each month  
 Bank of Canada Weekly Financial Statistics - Government  
 of Canada real return bonds

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# **APPENDIX B**

## **Interpretations of Ontario's Rule 53.09**

**Interpretations of Ontario's Rule 53.09**

Years 1 to 15 utilize a discount rate of 0.50%, based on trial dates commencing in 2011.

Years 16 and beyond utilize a discount rate of 2.50%. The full rate approach calculates the present value factor in this period using the full 2.50% rate. The blended approach calculates the present value factor in this period using 0.50% for the first 15 years and 2.50% for subsequent years. This results in a higher loss calculation.

YEAR	FULL RATE 2.50%	BLENDED APPROACH
1	0.9950	0.9950
2	0.9901	0.9901
3	0.9851	0.9851
4	0.9802	0.9802
5	0.9754	0.9754
6	0.9705	0.9705
7	0.9657	0.9657
8	0.9609	0.9609
9	0.9561	0.9561
10	0.9513	0.9513
11	0.9466	0.9466
12	0.9419	0.9419
13	0.9372	0.9372
14	0.9326	0.9326
15	0.9279	0.9279
16	0.6736	0.9053
17	0.6572	0.8832
18	0.6412	0.8617
19	0.6255	0.8406
20	0.6103	0.8201
21	0.5954	0.8001
22	0.5809	0.7806
23	0.5667	0.7616
24	0.5529	0.7430
25	0.5394	0.7249
26	0.5262	0.7072
27	0.5134	0.6900
28	0.5009	0.6731
29	0.4887	0.6567
30	0.4767	0.6407