Discounting Future Losses to Present Value: Consideration of Inflation and Market Risk

William G. Brandt

Abstract

In most venues, an award for future pecuniary damages must be reduced to present value when the court finds a Defendant liable for those losses. The Defendant's liability is transferred from Defendant to Plaintiff when reduced to judgment at trial. The Damages Expert must assess the proper compensation for that transfer. In doing so, one must (1) understand the risk characteristics inherent in the financial instruments on which the discount rate is based, and (2) evaluate how those risks compare to the risk characteristics of the underlying loss. This article focuses on the evaluation of inflation risk and market risk in assessing the appropriate transfer price. There are two primary schools of thought regarding the appropriate discount rate to apply to future losses based, in part, on guidelines expressed by the U.S. Supreme Court in *Jones & Laughlin Steel Corp. v. Pfeifer*. This article evaluates those discounting approaches, and concludes that the "Short Term Rollover Method" is more effective than the "Dedicated Portfolio Method" in the matching of inflation and market risks of the damage compensation with those of the underlying losses that are being assessed.

Introduction

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The 1983 U.S. Supreme Court Decision in *Jones & Laughlin Steel Corp. v. Pfeifer* ("*Jones/Laughlin*") established the guidelines by which future losses are to be reduced to their present value in loss claims:

> The discount rate should be based on the rate of interest that would be earned on "the best and safest investments." Id., at 491. Once it is assumed that the injured worker would definitely have worked for a specific term of years, he is entitled to a risk-free stream of future income to replace his lost wages; therefore, the discount rate should not reflect the market's premium for investors who are willing to accept some risk of default.

This has generally been interpreted by Damages Experts ("DE's") as a constraint that effectively limits the investment instruments used for discounting to "risk-free" government securities such as U.S. Treasury Bills, Notes and Bonds. Those are the

investments that appear to most closely conform the "best and safest" criterion (originally defined in *Chesapeake & Ohio v. Kelly*, as cited in *Jones/Laughlin*), with no added premium for the risk of default.

The above passage in *Jones/Laughlin* also implies that the process of projecting future amounts of income loss is separate and distinct from the process of reducing those future amounts to present value. Thus, we apply a discount rate free from default risk in discounting future lost income streams only after "it is assumed that the injured worker would definitely have worked for a specific term of years." The underlying implication is that elements of uncertainty with respect to future losses should be addressed when we project those losses, and not absorbed into the discount rate that we apply against those future losses.

Jones/Laughlin is clear on the issue of default risk in discounting future losses, but the court left a broad degree of latitude regarding the issue of inflation risk. The court cited several acceptable approaches used by economists to deal with inflation in discounting future loss amounts. Two primary approaches are described in the following passage from *Jones/Laughlin*, concluding with the court not establishing any preference of one method over the other:

> On the one hand, it might be assumed that at the time of the award the worker will invest in a mixture of safe short-term, medium-term, and long-term bonds, with one scheduled to mature each year of his expected worklife. In that event, by purchasing bonds immediately after judgment, the worker can be ensured whatever future stream of nominal income is predicted. Since all relevant effects of inflation on the market interest rate will have occurred at that time, future changes in the rate of price inflation will have no effect on the stream of income he receives. For recent commentaries on how an appropriate discount rate should be chosen under this assumption, see Jarrell & Pulsinelli, Obtaining the Ideal Discount Rate in Wrongful Death and Injury Litigation, 32 Defense L. J. 191 (1983); Fulmer & Geraghty, The Appropriate Discount Rate to Use in Estimating Financial Loss, 32 Federation Ins. Counsel Q. 263 (1982). See also Doca v. Marina Mercante Nicaraguense, S. A., 634 F. 2d 30, 37, n. 8 (CA2 1980). On the other hand, it might be assumed that the worker will invest exclusively in safe short-term notes, reinvesting them at the new market rate whenever they mature. Future market rates would be quite important to such a worker. Predictions of what they will be would therefore also be relevant to the choice of an appropriate discount rate, in much the same way that they are always relevant to the first stage of the calculation. For a commentary choosing a discount rate on the basis of this assumption, see Sherman, Projection of Economic Loss: Inflation v. Present Value, 14 Creighton L. Rev. 723 (1981) (hereafter Sherman). We perceive no intrinsic reason to prefer one assumption over the other.

It should be noted that *Jones/Laughlin* preceded the introduction of Treasury Inflation Protected Securities ("TIPS"), first issued in 1997. Some economists have speculated that a discounting approach relying on TIPS yields might be appropriate (Strangways, 2014), although the majority of DE's appear to prefer the use of yields on more

traditional investments in deriving discount rates for their loss calculations (Slesnick, Brookshire, and Luthy, 2013).[1] Accordingly, this article focuses primarily on the specific approaches mentioned in *Jones/Laughlin* (traditional short-term versus long-term Treasury yields), rather than a TIPS-based approach, and primarily on the inflation and market risks associated with the duration of the instruments selected to derive the discount rate. There is a brief discussion at the end of this article addressing the potential use of TIPS securities, rather than traditional short-term or long-term bonds, to derive the discount rate to be applied in discounting future losses to present value.

The conclusions reached in this article are based upon two key inferences regarding the underlying intent expressed by the Supreme Court in the above passages from *Jones/Laughlin*:

1. Uncertainties with respect to the magnitude and duration of future losses should be addressed in calculating the expected future value of those losses, and not absorbed into the subsequent process of discounting those future amounts to present value.

2. Uncertainties with respect to future changes in inflation may be incorporated into the selection of the instrument on which the discount rate is based. The selection of the most appropriate investment instrument to use for discounting is primarily the responsibility of the DE performing the analysis.

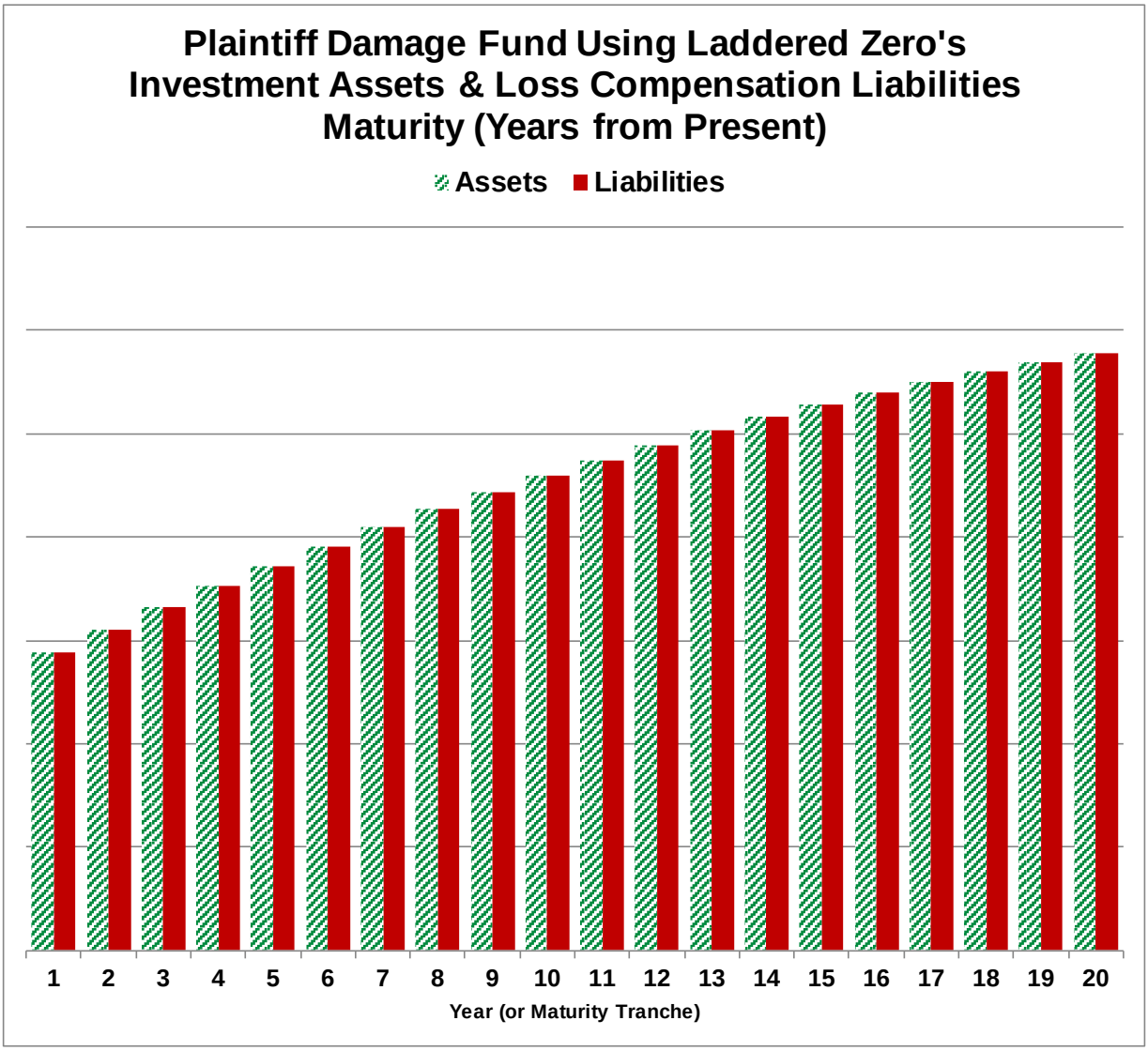
The discussion in this article addresses the consideration of inflation and market risk in selecting the appropriate investment instrument on which to base the discount rate, and the degree to which the market dynamics of the different instruments correlate with the inflation risk of the underlying losses that the damage award is intended to offset. There will also be an examination of the premise in *Jones/Laughlin* that expected future losses should be discounted in a risk-free manner, even though there are many uncertainties with respect to the ultimate timing, duration and magnitude of those losses.

"Dedicated Portfolio" versus "Short Term Rollover" Discounting Methods

The two primary discounting approaches mentioned above (in *Jones/Laughlin*) have been described as the "Dedicated Portfolio" and "Short Term Rollover" methods (Rosenberg, 2010).

The "Dedicated Portfolio" method involves the construction of a hypothetical damage fund portfolio with fixed term investments and maturities that match the future value and timing of the expected future compensable losses. The most precise representation of the "Dedicated Portfolio" approach has been referred to as the "laddered" zero coupon approach[2] (Rosenberg, 2010), illustrated in Figure 1.

Figure 1



DAMAGE FUND
Assets = Hypothetical Zero Coupon Bond Maturities
Liabilities = Expected Future Losses

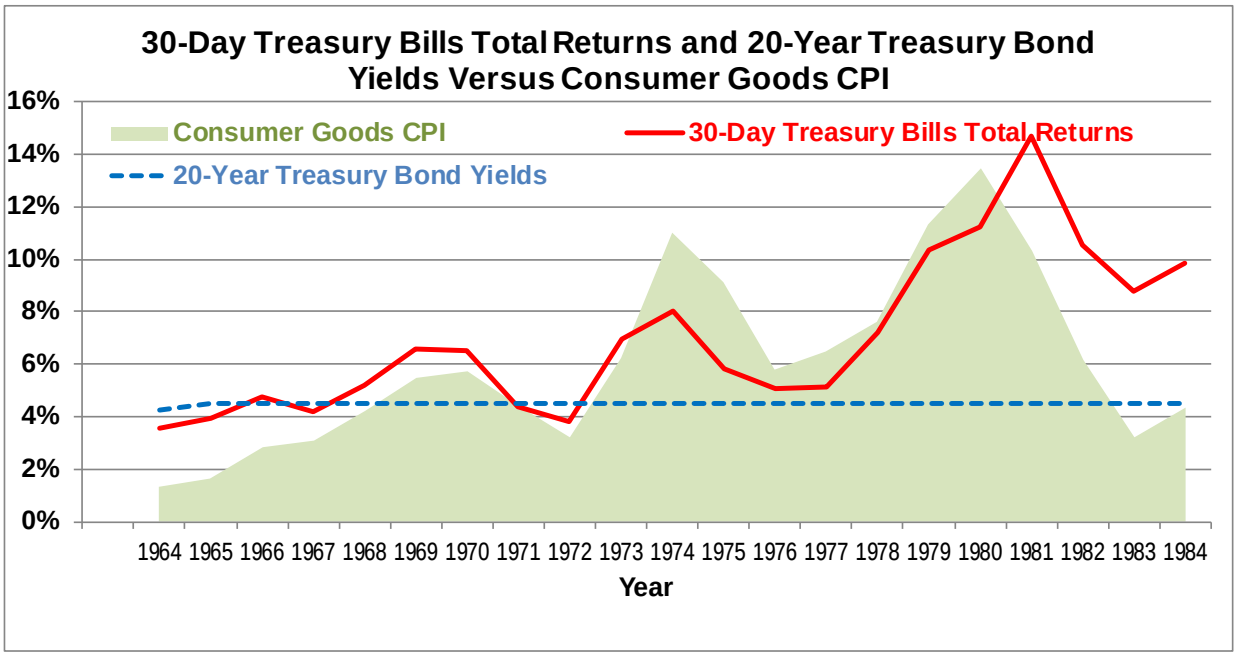
There are numerous variations of this approach. One involves a mix of short-term, medium-term and long-term maturity tranches with maturities that approximately match the timing and magnitude of expected future losses. Another is a simplified approach that applies a uniform discount rate against future expected losses based on the approximate average timing of those future expected losses (e.g., a 10-year rate might be applied uniformly against losses that extend over a horizon of 20 years).

The "Dedicated Portfolio" approach places a high degree of reliance on the Yield Curve (discussed in greater detail below) in assigning the appropriate discount rate to each

tranche of future losses, based on the expected timing of those future losses. It also places a high degree of reliance on the accuracy of the DE's projection of future inflation, because the nominal value of the future compensation is effectively "locked-in" at trial date while variances from these nominal amounts can be very significant as changes in inflation compound over a significant number of years. Variances between expected future rates of inflation and the subsequent actual rates can result in significant under-compensation or overcompensation to the Plaintiff.

The "Short Term Rollover" approach also involves the construction of a hypothetical portfolio to compensate the Plaintiff for future expected losses. Discounting under this method, however, is applied under the assumption that all damage funds will be invested only in short-term "risk-free" obligations (such as U.S. Treasury bills), with the investment balance "rolled-over" into new short-term investments at current market rates whenever the existing investments mature. This approach places a high degree of reliance on the DE's ability to forecast the future spread between the rate of inflation and short-term yields. Proponents of this approach may assert that this method is more appropriate for the discounting of future loss claims, since variations from the expected rates of future inflation will likely be offset, at least in part, by corresponding variances in future short-term yields (due to the positive correlation between changes in inflation and changes in interest rates). Figure 2 provides an illustration of the self-adjusting nature of a "Short Term Rollover Portfolio" versus a "Dedicated Portfolio" when covering an inflation-sensitive loss (as shown for a hypothetical loss occurring in 1965, with subsequent actual inflation shown in the shaded area of the graph).

Figure 2



Example comparing the "Dedicated Portfolio" Approach versus the "Short-Term Rollover" Approach. This illiustrates the comparative yield on a portfolio of short term (30-day) Treasury Bills versus a "dedicated" 20-year Treasury Bond for a 1985 income loss forecasted on a 1965 trial date. The short-term portfolio allows the Plaintiff to adjust to unexpected post-trial inflationary pressures, while the yield on the 20-year "dedicated" bond does not change, regardless of post-trial changes in the economy.

Sources:

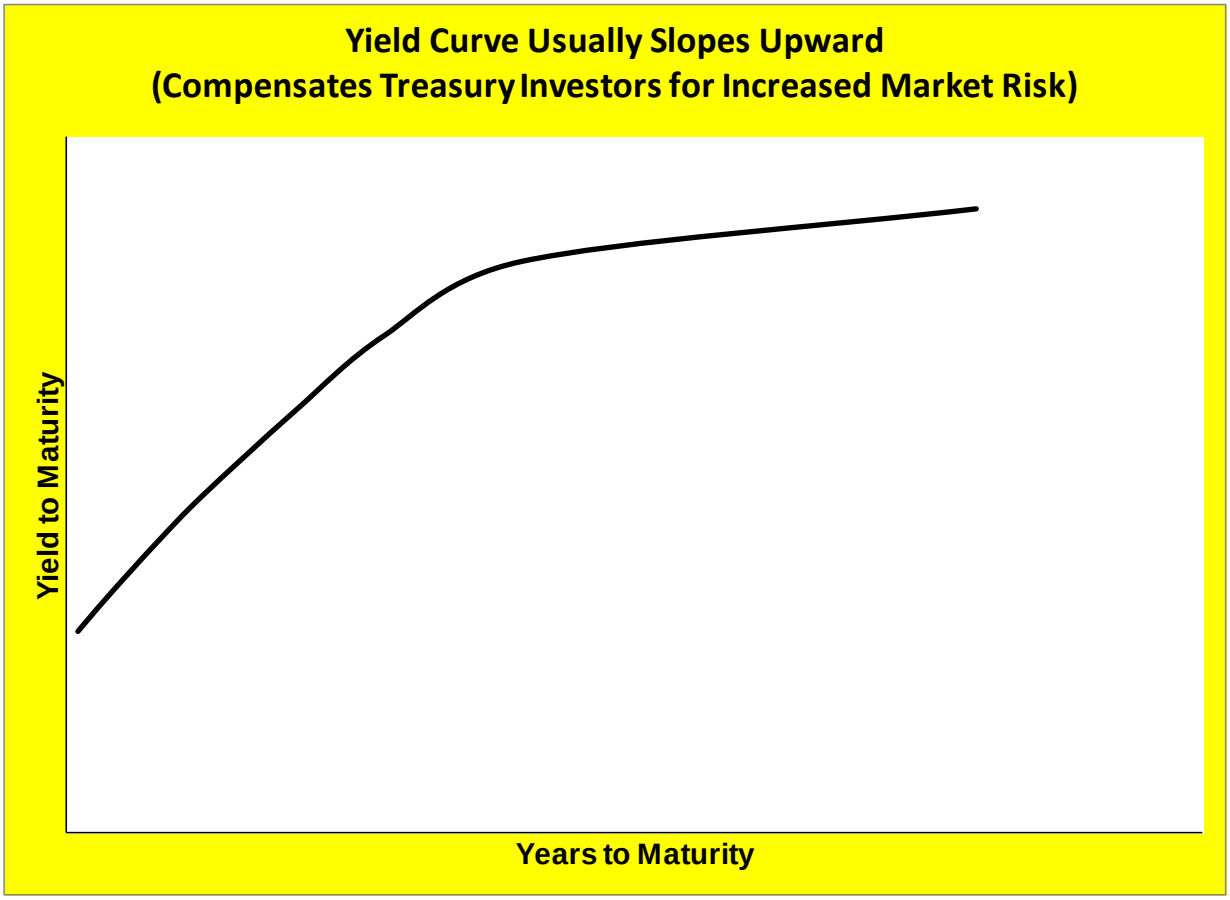
Inflation	All Items: Series #CUUR0000SA0 (1913 - Present)
Base	Ibbotson SBBI 2011 Classic Yearbook, Table A-14
Subject	Ibbotson SBBI 2011 Classic Yearbook, Table A-9

Understanding of the Yield Curve Used in the "Dedicated Portfolio" Approach

It is important to understand the market dynamics of the bond yield curve if one is to use the curve in discounting future losses, as done under the "Dedicated Portfolio" approach. Figure 3 is an illustration of a typical Treasury securities yield curve. The "normal" yield curve for U.S. Treasury securities is upward-sloping, with the yield to maturity "normally" increasing as the duration of the investment increases. The curve under certain market conditions, however, is occasionally "inverted" (downward-sloping), and there are other times when the curve is unusually steep. This is an apparent reflection of the respective roles that market risk and interest rate expectations play in the Treasury markets. The "normal" upward slope reflects the ongoing market risk that one takes when purchasing long-term bonds, while changes in interest rate expectations cause the deviations from that "normal" slope. Default risk is generally not considered a significant factor in the shape of the yield curve for Treasury securities, since the U.S. Treasury has no history of default.

Figure 3:

"Normal" Yield Curve for U.S. Treasury Securities



Market risk is generally cited as the primary reason for the "normal" upward slope of the Treasury Yield Curve ("TYC"). The TYC shifts as market conditions change. The value of existing Treasury securities bears an inverse relationship with shifts in the TYC: their value increases when interest rates fall, and decreases when interest rates rise. The risk of an upward shift in the yield curve grows progressively as one goes farther into the future, so long-term Treasury bonds carry a greater risk of unfavorable shifts in the TYC than short-term Treasury bills and notes. The value of long-term bonds is also more sensitive to general changes in interest rates than short-term securities, because the effect of those changes compounds over a greater number of periods. Thus, the "normal" upward slope of the TYC reflects the greater level of compensation that purchasers of long-term securities demand for assuming the additional level of market risk associated with those riskier securities on the right end of the TYC (as shown on Figure 3).

Some refer to this market risk as "liquidity risk," but it is important to understand that Treasury securities are fully transparent, with a well-established and highly efficient secondary market. Treasury securities are highly liquid, regardless of the maturity date of the underlying bond. The risk of capital loss associated with pre-maturity liquidation

of Treasury bonds arises strictly from changes in market value, as expressed by shifts in the TYC. It is not the result of inefficiencies in the Treasury market or any barriers to the sale of these securities. The added compensation for long-term Treasury bond investors in a "normal" upwardly-sloping yield curve (sometimes referred to as the "horizon premium") reflects the increased risk for those investors to potential unfavorable shifts in the TYC. The Treasury market requires increased yields for longer maturities in order to entice buyers to purchase riskier long-term bonds in a risk-averse society.

However, as noted above, the TYC is not always upward-sloping. Long-term interest rate expectations also impact the shape of the TYC. An "inverted" (downward-sloping) yield curve can occur when there is a strong consensus that interest rates will fall, as is the case when there are recessionary expectations, or when the economy is emerging from periods of unusually high inflation and interest rates. The market risk premium for long-term bonds still exists, but the premium during these periods is more than offset by the market expectation of declining future rates. Conversely, a steep upward-sloping TYC can result when there is a strong consensus that interest rates will rise. The "normal" upward slope of the TYC is likely a reflection of the role that market risk plays in the Treasury market, but the occasional presence of "inverted" and steep yield curves shows that interest rate expectations also play a significant role in the shape of the TYC at any given time.

"Treasury Curve Valuation Paradox"

Damages Experts using the "Dedicated Portfolio" approach must rely heavily on the TYC when determining the discount rates to apply to future losses in a damage claim. Figure 4 illustrates a phenomenon that might be described as the "Treasury Curve Valuation Paradox." This phenomenon can be very problematic for those that use a "Dedicated Portfolio" approach, such as the "Zero Coupon Laddered Approach," in discounting future losses. Figure 4 illustrates how an event (or series of events) that heighten inflation risk can shift the TYC upward, as bond investors require additional compensation, in the form of higher yields, to purchase those riskier bonds. The higher yields properly compensate Treasury bond purchasers for the additional inflation risk that they take if they purchase the bonds.

Use of that upwardly-shifted TYC in discounting loss claims, however, effectively awards that inflation risk compensation (sometimes referred to as the "Horizon Premium") to the wrong party. The use of the increased long-term Treasury Bond yields to discount long-term losses, as done under the laddered approach, will apply the upwardly shifted yield curve in valuing those losses, resulting in a greater discount rate and a further reduction in the calculated present value of the loss. The Plaintiff will thus incur a reduction in his/her compensation for a loss claim that also carries an increased level of inflation risk. The Defendant thus receives the market compensation for the increased risk that will actually be borne by the Plaintiff. The compensation for the increased inflation risk is effectively paid to the wrong party under the laddered approach.

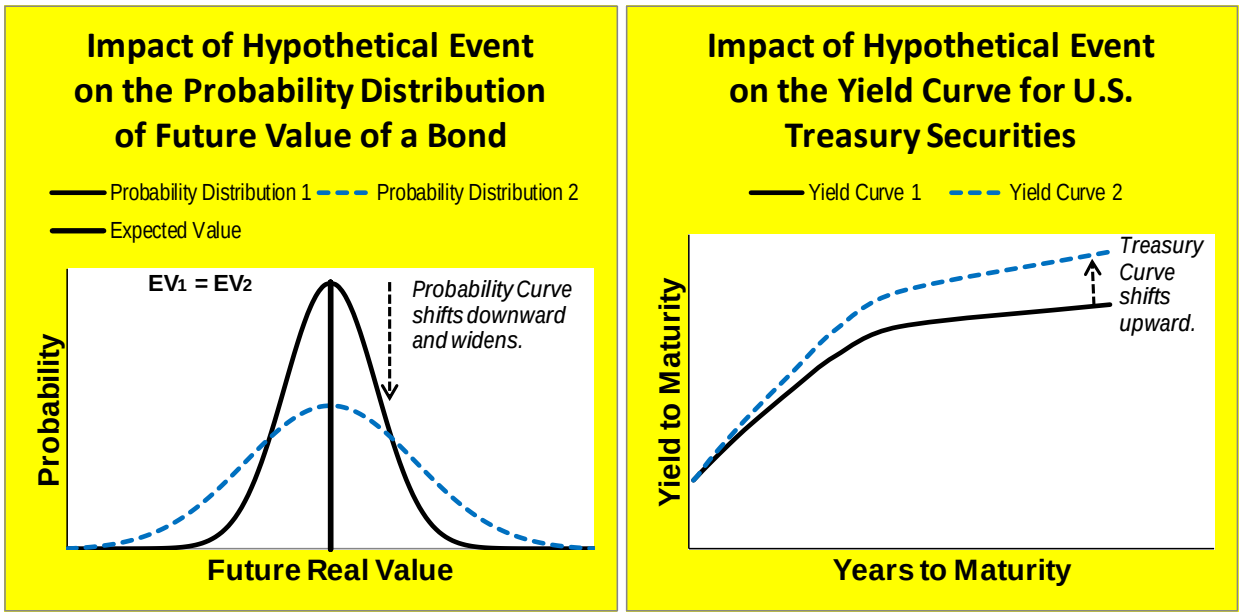
This phenomenon calls into question the entire approach of using the TYC to discount future losses, as done in the "Dedicated Portfolio" approach. It makes little sense, for example, that future long-term losses carrying a greater degree of inflation risk should be discounted more heavily than short-term losses, for which inflation and other factors are more certain and predictable. The only plausible rationale for discounting long-term claims at a higher rate is that the Plaintiff also eliminates some of the uncertainties inherent in an income loss claim. *Jones/Laughlin*, however, effectively segregates the projection of losses from the discounting process, as noted above.

Figure 4:

Treasury Curve Valuation Paradox

Impact of Hypothetical Event that Increases Inflation Uncertainty

(Assume Expected Future Value Remains Unchanged, but Probability Distribution widens)



Probability curve widens, but expected value remains unchanged.

Yield increases to entice bond buyers to purchase riskier bonds.

Impact of Hypothetical Event on Treasury Bond Transaction:

Treasury Securities Buyer ← Cash / **← Inflation Risk** / ← Inflation Risk Compensation → **Treasury Securities Seller**

1) Uncertainty event flattens the future value distribution curve, thereby increasing inflation risk.
2) Treasury Curve shifts upward, enticing the Treasury Buyers to purchase the riskier bond.
3) Amount paid by Treasury Buyer is reduced at a higher discount rate to compensate for the added level of inflation risk.

Impact of Hypothetical Event on the Reduction to Judgment in a Loss Claim:

(When Treasury Curve is used to value long-term future losses)

Defendant ← Cash / **Inflation Risk →** / ← Inflation Risk Compensation → **Plaintiff**

1) Uncertainty event flattens the future value distribution curve, thereby increasing inflation risk.
2) Treasury Curve shifts upward, enticing Treasury Buyers to purchase the riskier bond.
3) Amount paid by Defendant (to the Plaintiff) is reduced at a higher discount rate, based on the Treasury Curve.
4) **Inflation risk compensation is effectively paid to the wrong party.**

Duration of Dedicated Portfolio Investments versus Future Losses

The Macaulay Duration of a financial asset or liability is a measure of the average time period to maturity of that investment (Lacey, 1990). The sensitivity of the value of financial instruments to changes in market interest rates is greater when the duration of the instruments is longer, since the interest rate variance will compound over a greater number of periods. A traditional 20-year Treasury bond with semi-annual interest coupons (for example) has a duration of less than 20 years, since each of the first 39 semi-annual coupons "matures" in less than 20 years. A 20-year Zero Coupon Treasury bond, however, has a duration of exactly 20 years, since there are no interest coupons associated with that bond. The market value of a 20-year Zero Coupon Treasury bond is thus more sensitive to changes in interest rates than the value of a traditional Treasury bond with semi-annual coupon payments.

Matching of the duration of assets and liabilities is particularly important to financial institutions. A significant mismatch can make a financial institution highly vulnerable to changes in the economy. The Savings and Loan industry, for example, historically placed high reliance on the traditional positive spread between the interest income that it earned on its assets (primarily long-term loans) and the interest expense that it incurred on its liabilities (primarily short-term demand deposits, savings accounts and certificates of deposit). Many of the industry's assets had long durations (e.g., 30-year fixed rate mortgages), and many of industry's liabilities had very short durations.

This mismatch created a crisis in the 1970's, when interest rates throughout the economy increased dramatically. The interest rates paid on liabilities increased, as the short-term deposits and accounts turned over very quickly at the new market rates. The interest rates received on assets, however, grew very slowly, as old mortgages continued to sit on the books. The result was an industry that suddenly experienced a negative spread between the interest income earned on its (old) loans and interest expense paid on its (new) deposits. This mismatch in the duration of assets and liabilities was one of the root causes of the 1970's Savings and Loan Crisis. Surviving financial institutions addressed this duration mismatch by emphasizing other types of assets, such as adjustable-rate mortgages and floating-rate consumer debt, to reduce the functional duration of their assets, while performing similar counter-measures to increase the functional duration of their liabilities.

A Plaintiff with a Zero Coupon Treasury portfolio "matched" against future losses is in a very similar position as the pre-crisis Savings and Loan industry. The duration of a 20-year Zero Coupon bond is 20 years. Its nominal future value on the maturity date will not change regardless of changes in the economy over the ensuing 20 years. The expected value of a future loss occurring 20 years after the trial date, however, will change constantly. A 20-year expected loss calculated one month, one year, ten years or 20 years after the trial would have a different value than that calculated on the trial date. The re-pricing duration of a loss occurring 20 years after the trial is effectively zero, since its expected value is constantly re-pricing. The duration of a 20-year Zero Coupon bond "matched" against that loss, however, is 20 years. Thus, a 20-year Zero Coupon bond is actually a very poor "match" against a loss occurring 20 years after the trial date.

The re-pricing duration of the Zero Coupon bond in a hypothetical "Dedicated Portfolio" is 20 years, while the re-pricing duration of the corresponding loss is effectively zero. A "Short-Term Rollover" portfolio, on the other hand, carries a re-pricing duration very similar to that of the underlying loss.

Relevance of Likely Use of Damage Funds

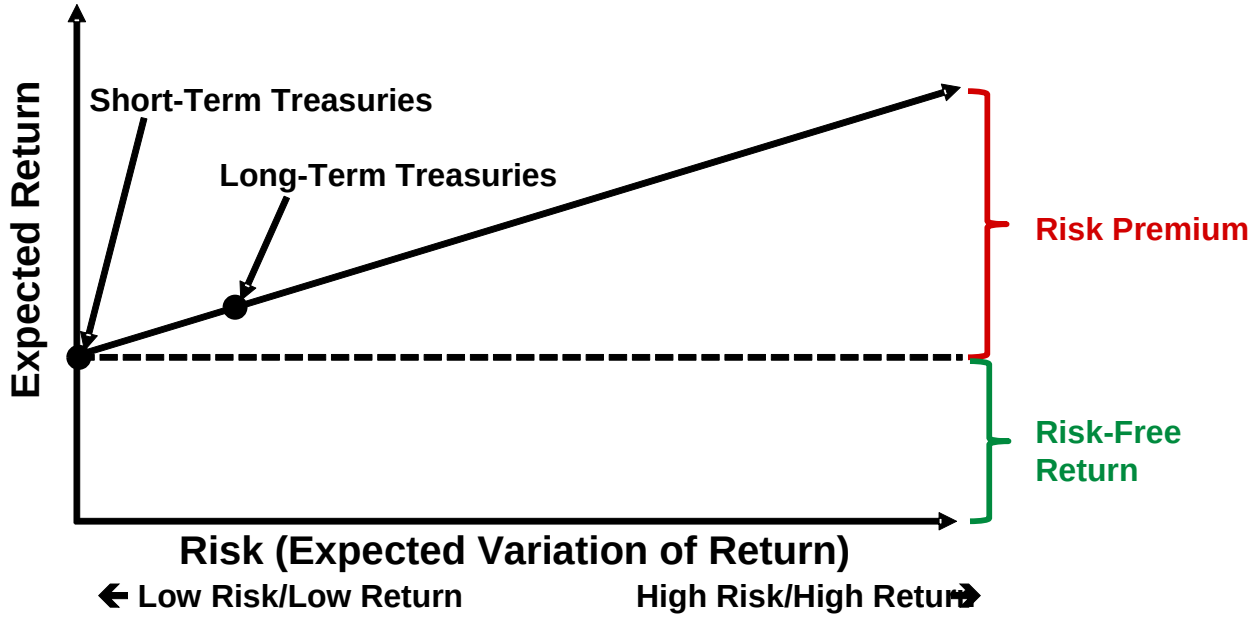
The Damages Expert has no influence over the ultimate disposition of the funds awarded to the Plaintiff. The DE can, however, focus on a hypothetical award structure that best replicates the inflation risk of the underlying loss that the fund is intended to offset. The Capital Allocation Line ("CAL") on Figure 5 illustrates the trade-off between risk and return of available investments. Items on the left end of the "CAL" line (closest to the Y-axis) represent investments that carry the minimum level of risk and return. Investors must assume greater levels of risk if they seek to gain higher levels of return. Figure 5 is a variation of the traditional version of CAL, which ordinarily classifies all Treasury Securities as "risk-free." Figure 5 places Long-Term Treasuries along CAL to the right of Short-Term Treasuries because those securities "normally" carry a higher yield, and they also carry a greater degree of market risk related, at least to some extent, to uncertainties in the future rate of inflation and interest rates.

The DE has the responsibility to design a valuation structure that best matches the inflation risk of the hypothetical compensation fund (in his/her loss calculation) with the inflation risk of the underlying loss. The Plaintiff's ultimate decision on whether to assume additional risk cannot be anticipated without engaging in speculation. In any case, it isn't relevant in the DE's mission to match the risks of the hypothetical award structure with the underlying loss. The income streams replaced by the damage fund would have reflected the changing inflationary conditions in the economy. Life care costs included in the damage award will likewise be subject to changing inflationary pressures within the economy. The re-pricing duration of a "Short-Term Rollover Portfolio," reflected on the left end of "CAL" in Figure 5, provides a better match to the re-pricing duration of the underlying losses than the riskier, higher yielding long-term securities as one moves rightward along the Capital Allocation Line. The higher yields on those long-term securities are a direct reflection of the higher levels of inflation risk and market risk associated with those long-term securities.

Figure 5

Capital Allocation Line ("CAL"): Risk versus Return

(With Interest Rate Risk Included)



Long-term Treasury securities carry more risk that short-term Treasuries when interest rate/inflation risk is taken into consideration .

The DE's job is to discount the losses based on the safest investments that carry a similar inflation risk to the underlying loss. A potential subsequent decision by the Plaintiff to "move up" on CAL should not influence the DE's calculation.

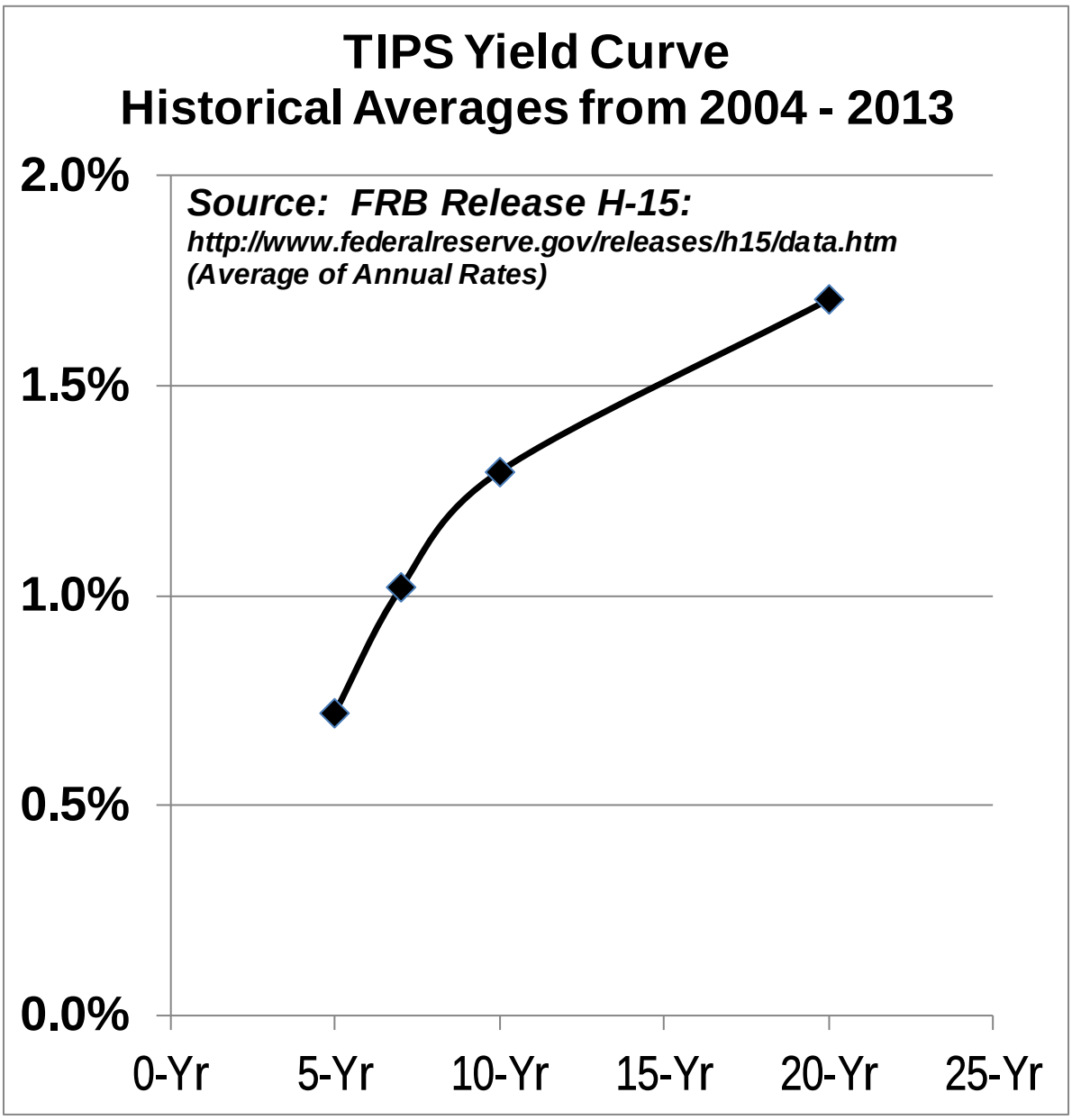
Alternative Method: Discounting Based on Treasury Inflation Protected Securities ("TIPS")

An alternative discounting method not available when *Jones/Laughlin* was issued is the use of yields on Treasury Inflation Protected Securities ("TIPS") as the basis for the discount rate. TIPS were first introduced on the financial markets in 1997, approximately 14 years after *Jones/Laughlin*. Discounting based on TIPS yields would potentially provide some recognition of the inflation risk that a Plaintiff has to manage in administering his/her damage fund. The payment mechanics of TIPS securities are similar to those of traditional Treasury Bonds, except for an annual adjustment that is

made to the principal balance of the bond, based on changes in the Consumer Price index.

TIPS securities still carry a significant level of market risk, however, as shown in the TIPS yield Curve on Figure 8. The upward slope of the average yield curve indicates that there is a significant level of non-inflation-induced market risk implicit in TIPS yields, in spite of the inflation protection provided by the annual principal adjustments.

Figure 8:



TIPS yields also reflect an added premium to compensate buyers of those securities against the unfavorable tax consequences of those securities. The annual principal adjustment is treated as current taxable income in the year that the adjustment is made, even though the added principal is not actually paid to the bond holder until maturity of the bond. Thus, Long-Term TIPS yields reflect a market premium to the bond investor to compensate him/her for those unfavorable tax consequences (note: yields on Zero Coupon Treasury bonds reflect a similar market premium for the unfavorable tax treatment of the annual discount accretion on those bonds, not actually "received" by the bondholders until maturity of the bonds). Use of the TIPS yield curve as the basis for discounting loss claims has a similar effect as the use of the Zero Coupon Treasury Yield Curve on the discounted compensation to the Plaintiff. The economic burden of the market risk and the unfavorable tax consequences implicit in these yields is improperly assessed against the Plaintiff when future losses are discounted at those higher rates (i.e., the Plaintiff assumes those risks while the Defendant effectively receives the market compensation for those risks implicit in the discount rate). This is further exacerbated by the fact that inflation will impact the Plaintiff's losses immediately, while the inflation adjustments to the TIPS principal will not be received by the Plaintiff until the securities ultimately mature.

The upward slope of the normal TIPS yield curve underscores the significant level of non-inflation-related market risk inherent in long-term Treasury bonds. The value of Treasury bonds fluctuates for a variety of reasons, many of which are unrelated to changes in the domestic rate of inflation. Monetary policy for example, administered by the Federal Reserve Bank and other Central Banks, can significantly impact the demand for Treasury securities. The "flight to safety" during turbulent economic times can increase the demand for Treasury securities, and the subsequent easing of economic turbulence can, in turn, reverse the "flight to safety" and reduce demand for Treasuries. Fiscal policy of U.S. and other governmental entities can impact the supply of Treasuries on the market, as well as the supply of other high-grade securities that compete in the "risk-free" financial markets. A Plaintiff with a damage fund invested heavily in long-term Treasury securities will sustain significant exposure to market risk, regardless of whether the long-term investments are held in traditional or TIPS securities. Market risk becomes very problematic whenever there is a mismatch between the timing of investment maturities and the losses that the investment proceeds are intended to cover. Any mismatch in the timing of investment maturities versus the timing of the underlying losses causes a significant exposure to the risk of capital gains and losses. A Damages Expert that attempts to use a laddered TIPS approach in discounting future losses must be able to show how this approach can be managed in a manner that minimizes such market risks.

Conclusion

The "Short-Term Rollover Method" of calculating the net present value of future losses provides a more appropriate "transfer price" for income loss and life care cost claims than the "Dedicated Portfolio Method." It provides a hypothetical portfolio with changing yields that correlate with the changing pricing dynamics of the underlying

losses. The "Dedicated Portfolio Method," on the other hand, provides a hypothetical portfolio that leaves the Plaintiff with a static series of cash inflows to offset a dynamic series of future losses. Moreover, the "Dedicated Portfolio Method" employs discount rates that are designed to reward risk-takers in the bond market, and it applies those rates against future losses in a manner that improperly rewards the risk-liquidator (the Defendant) at the expense of the risk-taker (the Plaintiff, who has to bear the burden of uncertainty for his/her future losses).

End Notes

[1] The article surveyed 583 members of the National Association of Forensic Economics regarding the procedures used in their analysis of economic losses. Only 14.4% of the respondents to Question 25 on that survey indicated that they use TIPS in developing an estimate of the interest rate or discount rate in their calculations.

[2] Zero-Coupon Treasury securities are derivatives of standard Treasury securities with the interest coupons detached from the principal portion of the bond. A 20-year Treasury security with semi-annual interest coupons can thus be split into a set of "Zero Coupon" bonds, with the principal balance serving as a single 20-year "Zero Coupon" bond, and the remaining coupons becoming "Zero Coupon" bonds with maturities on the effective payment date for each respective coupon. A "Zero-Coupon" laddered structure allows a Plaintiff to schedule future nominal inflows to offset his/her projected nominal future losses by buying "Zero Coupon" bonds with maturity dates and nominal cash flows that match the underlying projected losses.

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