Jones & Laughlin Steel Corp. v. Pfeifer, 462 U.S. 523 (1983) cited in footnote 23 Professor Jerry Sherman's "Projection of Economic Loss: Inflation v. Present Value", 14 *Creighton L. Rev*. 723 (1981). We were curious whether Sherman's analysis is as valid near the historical trough of interest rates as it was near the peak of historical interest rates. Another motive was a second judicial citation of Sherman's work, a citation that seemed odd given the *Pfeifer* cite. The 8th Circuit Court of Appeals in *Mostly Media v. U.S. West*, 186 F.3d 864, (8th Cir. 1999) described Sherman's estimate of commercial damages with the appellation "mathematical alchemy".

Jones & Laughlin Steel Corp. v. Pfeifer presented two issues for decision by the U.S. Supreme Court. First, does the Longshoremen's and Harbor Worker' Compensation Act (LHWCA) allow for a federal cause of action for negligence against the ship owner when the ship owner acts as its own stevedore rather than, as is ordinary in the industry, retains an independent contractor for stevedore services? The answer is "yes". Second, are all federal courts required to use one method of addressing the impacts of inflation? More particularly, are the federal District Courts required to use the State's treatment of inflation? For example, in *Pfeifer* Pennsylvania used total offset? The answer is "no". The parties in *Pfeifer* primarily stipulated to multiple factors resulting from their expert's opinion, but neither party offered experts on the question of inflation.

Sherman's article was prompted by local judicial mandates to not allow expert opinion on inflation as well as the financial expert's appreciation of both the time value of money and the public's frequent underestimation of the power of compounding. The Nebraska State Supreme Court and an affirming 8th Circuit Court had categorized inflation forecasts are inherently speculative, and thus inflation solely was within the province of the trier of fact. Sherman explored whether ignoring inflation predictably disadvantage either the plaintiff or the defendant, and found that ignoring inflation did not.

Sherman wrote near the peak of inflation at a time when the financial services industry still was unwelcoming to retail investors. With minimal attention to productivity, Sherman compared average wage growth versus average yields on 3 and 5 year Treasuries in 1978, over 1969-1978, and over 1947-1978 and Sherman found that wages grew faster than Treasuries in each comparison. Similarly, Sherman compared inflation versus those Treasuries, finding inflation faster than bonds in the short term but bonds growing faster than inflation in the long term. Sherman particularly noted that only a 0.8 percent difference between inflation at 3.6 percent and bonds at 4.4 percent in the long term urged the conclusion that the plaintiff would receive full recovery even if the court ignored inflation. Sherman urged the use of a total offset because a plaintiff's award would not, predictably, be harmed by inflation.

The *Pfeifer* court rejected imposing a single federal method for handling inflation. One reason the Court rejected a single method is that the Court expressly acknowledged that the potential for alternative fact contexts (e.g., type of cause of action) creates the potential for different methods of addressing inflation to yield superior judicial results. The Court noted, of course, that the Congress was free to impose a single federal method for handling inflation. Total offset could be the best method in some contexts. When inflation is consistently low and the total value of awards are consistently low, then the speculative aspects of inflation forecasts exceed the potential benefits of those forecasts. However, as inflation increases and/or as award size increases the predictable error from ignoring inflation increases as well. At some combination of inflation and award size total offset becomes an inappropriate method. The speculative attributes of forecasting inflation spring from using a point estimate when the bandwidth of the forecast is large relative to the point estimate.

In *Pfeifer*, when addressing longitudinal growth of wages, the U.S. Supreme Court distinguished between individual factors (e.g., merit pay; union contracts with non-COLA pay progression scales) and societal factors (e.g., an industry's competitiveness; inflation). Versus Sherman's analysis of wage growth, the Court expanded the sources of wage growth that were permissible topics of expert opinion, and thus also reduced the relative remaining impact of an ignored variable (i.e., inflation) upon the award.

Another appropriate method for identifying the discount rate explored by the *Pfeifer* court was the use a stable real rate of return. The Court's focus is on reversible judicial error. Most low court errors are harmless errors (i.e., insufficiently erroneous to warrant reversal). Judicial efficiency is one factor considered by the judiciary when crafting due process rules. The Supreme Court acknowledged

substantial disagreement among economists on the topic of real rate of return (i.e., whether it is sufficiently stable to justify the name). Implicitly, that acknowledgement also serves as a justification for excluding expert opinion as speculative. The Court concluded that reversible error would not exist if a trier of fact chose a real rate of return between 1% and 3%. Recall that Sherman reported a 0.8% difference between inflation and long term average return on 3 year and 5 year Treasuries.

The heart of the *Pfeifer* court's decision is that expert opinion is admissible on the topic of inflation; subject to [a] the dictates of Congress, [b] the discretion of the trial judge, and [c] context of the lawsuit. Total offset can be appropriate or can be reversible error. Upon fact finding a trial court's use of a real rate of return between 1% and 3% is not a reversible error. Finally, the trial court must be attentive to the unavoidable speculative attributes of inflation forecasting.

The authors have prepared Table 1 and 2 so as to illustrate a problem that neither Sherman nor the *Pfeifer* court addressed.

Both Sherman and the Court considered, largely in passing, two approaches to obtaining a risk free rate. Their two approaches were [1] investing in 90 day T-bills with continual reinvestment; and [2] a laddered portfolio of 90 day, 3 year, and 5 year Treasuries with continual reinvestment. Both Sherman and the Court focused on average returns as stable.

Table 1 presents the rates on those securities as well as CPI-U. Those rates peaked in the year of publication of Sherman's article (i.e., 1981) and recently reached a trough in 2003. Inflation somewhat matches that pattern, but with its relevant peak and trough occurring (quite roughly) a year earlier. Both the rates and inflation are not stable in the short term.

Table 2 presents three scenarios of "identical" 7.405% returns: [a] constant 7.405% returns; [b] 3% in the first halve of the duration followed by 12% in the second halve; and [c] the reverse of [b]. Focusing on the boxed cells on the left, it is obvious that the pattern of returns material alters the end of duration situation for the plaintiff. The plaintiff clearly benefits from scenario [c]. Sherman wrote from the perspective of scenario [c]. Today, in scenario [b], however, Sherman's total offset advice will disadvantage the plaintiff. The Court's opinion still might be one of no reversal error.

Footnote 23 of *Jones & Laughlin Steel Corp. v. Pfeifer* reads, in total:

"The effect of price inflation on the discount rate may be less speculative than its effect on the lost stream of future income. The latter effect always requires a prediction of the future, for the existence of a contractual cost-of-living adjustment gives no guidance about how big that adjustment will be in some future year. However, whether the discount rate also turns on predictions of the future depends on how it is assumed that the worker will invest his award."

"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, but most "offset" analyses seem to adopt the latter. See n. 26, infra."

Example 3

Scenairo 3: $100,000, spending $14,505.61 each year given a 3% rate of return for the first 5 years and 12% rate of return for the second 5 years

Year	Principle	Interest Rate %	$ Annual Interest	Principle & Interest	End of Year Spending
0	$100,000.00	3.00	$3,000.00	$103,000.00	-$14,505.61
1	$88,494.39	3.00	$2,654.83	$91,149.22	-$14,505.61
2	$76,643.61	3.00	$2,299.31	$78,942.92	-$14,505.61
3	$64,437.31	3.00	$1,933.12	$66,370.43	-$14,505.61
4	$51,864.82	3.00	$1,555.94	$53,420.76	-$14,505.61
5	$38,915.15	12.00	$4,669.82	$43,584.97	-$14,505.61
6	$29,079.36	12.00	$3,489.52	$32,568.89	-$14,505.61
7	$18,063.28	12.00	$2,167.59	$20,230.87	-$14,505.61
8	$5,725.26	12.00	$687.03	$6,412.29	-$14,505.61
9	-$8,093.32	12.00	-$971.20	-$9,064.52	-$14,505.61
10	-$23,570.13		$0.00	$0.00	$0.00

Interest Factors:

Interest Factors (IF)Years 1-5	3%	1.1592
Interest FactorsYears 6-10	12%	1.7623
Total Interest Factors (3% IF times 12% IF)		2.0430
Annual Percentage Return:		7.405%

Example 2

Scenairo 2: $100,000, spending $14,505.61 each year given a 12% rate of return for the first 5 years and 3% rate of return for the second 5 years

Year	Principle	Interest Rate %	$ Annual Interest	Principle & Interest	End of Year Spending
0	$100,000.00	12.00	$12,000.00	$112,000.00	-$14,505.61
1	$97,494.39	12.00	$11,699.33	$109,193.72	-$14,505.61
2	$94,688.11	12.00	$11,362.57	$106,050.68	-$14,505.61
3	$91,545.07	12.00	$10,985.41	$102,530.48	-$14,505.61
4	$88,024.87	12.00	$10,562.98	$98,587.85	-$14,505.61
5	$84,082.24	3.00	$2,522.47	$86,604.71	-$14,505.61
6	$72,099.10	3.00	$2,162.97	$74,262.07	-$14,505.61
7	$59,756.46	3.00	$1,792.69	$61,549.16	-$14,505.61
8	$47,043.55	3.00	$1,411.31	$48,454.85	-$14,505.61
9	$33,949.24	3.00	$1,018.48	$34,967.72	-$14,505.61
10	$20,462.11		$0.00	$0.00	$0.00

Interest Factors:

Interest Factors (IF)Years 1-5	12%	1.7623
Interest FactorsYears 6-10	3%	1.1592
Total Interest Factors (3% IF times 12% IF)		2.0430
Annual Percentage Return:		7.405%

Scenairo 1: $100,000, spending $14,505.61 each year given the derived annual percentage return for both scenairo 1 and 2, **7.405%**

Example 1

Year	Principle	Interest Rate %	$ Annual Interest	Principle & Interest	End of Year Spending
0	$100,000.00	7.4050	$7,405.00	$107,405.00	-$14,505.50
1	$92,899.50	7.4050	$6,879.21	$99,778.71	-$14,505.50
2	$85,273.21	7.4050	$6,314.48	$91,587.69	-$14,505.50
3	$77,082.19	7.4050	$5,707.94	$82,790.13	-$14,505.50
4	$68,284.63	7.4050	$5,056.48	$73,341.10	-$14,505.50
5	$58,835.60	7.4050	$4,356.78	$63,192.38	-$14,505.50
6	$48,686.88	7.4050	$3,605.26	$52,292.14	-$14,505.50
7	$37,786.64	7.4050	$2,798.10	$40,584.74	-$14,505.50
8	$26,079.24	7.4050	$1,931.17	$28,010.41	-$14,505.50
9	$13,504.91	7.4050	$1,000.04	$14,504.95	-$14,505.50
10	$0.00		$0.00	$0.00	$0.00

Interest Factors:

Present Value, year 0	$100,000
FutureValue, year 10	$204,303.70
Interest Factor	2.04303
Annual Interest Rate	7.40%