

## What is the Present Value of Money? And Why Must I Understand It?

Any of you who have discussed settlement with our firm's co-founder, Todd Oxner, has heard the following attempt at answering that question:

“Pretend” says Todd “that I’m going to pay you \$1,000 per year for ten years. At the end of the ten years you will have \$10,000. But there are two reasons you would take less than that today. First, you might have something in mind that you need to spend the money on now. So as a matter of *convenience* you would take less. Second, you know that you could put a certain amount of money in the bank, it would earn interest, and you could withdraw \$1,000 yearly for ten years. That certain amount would be the *mathematical* present value of money. Insurance companies calculate the present value of your future weekly payments, and base their settlement on that amount.”

Despite using the same example since 1994 no one has ever asked Todd what exactly that mathematical amount is. Assuming you could get a 6% annual rate of return it would take only \$7,360.09 in cash to make future payment of \$1,000 annually for ten years. Here’s how that would happen:

Year	Day 1	Plus Interest	Day 365	Payout	What's Left
One	\$7,360.09	\$441.61	\$7,801.70	-\$1,000.00	\$6,801.70
Two	\$6,801.70	\$408.10	\$7,209.80	-\$1,000.00	\$6,209.80
Three	\$6,209.80	\$372.59	\$6,582.38	-\$1,000.00	\$5,582.38
Four	\$5,582.38	\$334.94	\$5,917.33	-\$1,000.00	\$4,917.33
Five	\$4,917.33	\$295.04	\$5,212.37	-\$1,000.00	\$4,212.37
Six	\$4,212.37	\$252.74	\$4,465.11	-\$1,000.00	\$3,465.11
Seven	\$3,465.11	\$207.91	\$3,673.02	-\$1,000.00	\$2,673.02
Eight	\$2,673.02	\$160.38	\$2,833.40	-\$1,000.00	\$1,833.40
Nine	\$1,833.40	\$110.00	\$1,943.40	-\$1,000.00	\$943.40
Ten	\$943.40	\$56.60	\$1,000.01	-\$1,000.00	\$0.01

It is clear that the higher the interest rate (and thus the more money earned as interest) the lower the amount necessary to fund the obligation. That’s why we are at a distinct disadvantage to the insurance companies which, with their tens of millions of dollars in investments, have access to opportunities that are beyond anything we could hope for. As a result of their professional money management, insurance companies generally have returns of 8% or more. That means while it would take us \$7,360.09 to pay out the example it would only cost an insurance company \$6,710.08.

How would this apply to a workers compensation case? If we claim that you are never able to return to work again we would argue that you should be paid for the rest of your life – not just until age 65 or your retirement age. Of course none of us knows how long we’re going to live. Despite that the State of North Carolina has made its best estimate in what is known as a mortality table. Let’s say that you are 40 years old and your compensation rate is \$375.00 weekly. According to the mortality table you are expected to live another 38.3 years. The total payout on this example would be \$746,850.00. (38.3 years x 52 weeks x 375.00 weekly = 746,850.00) But at

8% interest the insurance company can meet this obligation with only \$239,904.79 invested today at that interest rate.

Averages can be misleading and that is never truer than when it comes to evaluating a workers compensation claim. The mortality tables say that a 40-year-old will live, on average, another 38.3 years. For every person who lives five years beyond that point someone else is expected to die five years sooner. Here the insurance companies get a boost from the laws of mathematics. If we convince the insurance company that you'll beat the odds and live an extra five years (you know, everyone in your family lives to 97) that additional \$97,500 in paid out benefits will only add \$4,243.02 to the present value. That is because extra money will be earning interest for 38.3 years before it begins to be paid out. On the other hand, if you're diabetic, a smoker, or have some other health concern which could statistically shorten your life span the insurance company may well assume that you're going to die 5 years early. The insurance companies employ scores of experts, called actuaries, who do nothing but calculate the statistics like how long you will probably live. If they conclude that you will live 33.3 years instead of 38.3 the present value drops by \$6,234.35.

What's the significance of that? Only that in this scenario the insurance company's risk of your outliving your life expectancy was \$1,991.33 less than what it stood to save if you were to die early. With odds like that the insurance company is going to bet on your not beating the odds yourself. While it would be a little harsh to say that the insurance companies are looking for your untimely passing, we have to repeat what we have often said before. The insurance industry is based on making mathematically-based estimates.

Why is this so important? Because the North Carolina Industrial Commission does not have the authority to order a lump-sum payment of lifetime benefits. Thus the only way you'll get that large settlement is to negotiate it with the insurance company. In these negotiations, as with any it is essential to know how the opponent thinks. This should give an insight into how the insurance industry looks at lifetime claims. It also underscores why any significant settlement must be based in large part on a carefully documented need for future medical care, attendant care, or any other benefit which would not be reduced to present value.