



Investment Section  
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# The Misconceptions of Retirement Risks

by Dimitry Mindlin

Financial theory suggests that a *cash flow should be discounted at a rate that is consistent with the cash flow's inherent riskiness*. This seemingly uncontroversial statement, when applied to pension plans, has raised a great deal of controversy in recent years.

There are good reasons to believe that the financial commitments of most pension plans are “low-risk.” However, the discount rates selected by most pension plans are higher than today’s “low-risk” rates. This disparity is especially pronounced for public pension plans. Most economists reportedly consider such selections as a violation of the principles of finance. The highest echelons of the economic hierarchy appear to wholeheartedly support this perspective:

*“While economists are famous for disagreeing with each other on virtually every other conceivable issue, when it comes to this one there is no professional disagreement: The only appropriate way to calculate the present value of a very-low-risk liability is to use a very-low-risk discount rate.”* Donald L. Kohn, Vice Chairman, Federal Reserve.

This perspective has profound consequences for pension management in general and pension investing in particular. Mindful of these consequences, many pension practitioners do not support the perspective despite the alleged consensus among economists. Overall, this perspective is in conflict with the current prevailing practices in the pension industry.

The purpose of this article is to demonstrate that this perspective is theoretically suspect and illuminate certain built-in misconceptions. These misconceptions include, but are not limited to, the five misconceptions outlined in the next section.

The key messages of this article are the following. The utilization of “low-risk” discount rates to discount “low-risk” financial commitments is a choice, not a requirement supported by a sound economic theory. The claim that there exists “the only appropriate way to calculate the present value” is little more than an attempt to apply certain principles of finance beyond the scope of their applicability.

## Five Misconceptions

### *Misconception #1: Plan Sponsor Risk vs. Plan Risk*

The primary risks embedded in bond pricing and actuarial valuations are fundamentally different. The financial health of the *bond issuer* is at the heart of bond pricing. In contrast, the financial health of *the pension plan* – not necessarily the plan sponsor – is at the heart of a typical actuarial valuation.

The primary risk embedded in bond pricing is that *the bond issuer* may not make all required payments. The primary risk embedded in actuarial valuations is that a *particular value of pension assets* may be insufficient to make all required payments.<sup>2</sup> These risks are clearly different and may require different discounting procedures. Those who believe that there is “the only appropriate way to calculate the present value” explicitly disregard a multitude of challenges and risks that may require different discounting procedures.

The perceived connection between “low-risk” pension commitments and “low-risk” discount rates is an example of a valid concept that becomes inapplicable when taken out of its proper context.

<sup>1</sup> The Economic Outlook, Vice Chairman Donald L. Kohn, Federal Reserve, the National Conference on Public Employee Retirement Systems Annual Conference, New Orleans, Louisiana, May 20, 2008, <http://www.federalreserve.gov/newsevents/speech/kohn20080520a.htm>

<sup>2</sup> The value of pension assets includes the existing assets and present value of future contributions.

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### *Misconception #2: Pricing vs. Funding*

The objective of a pension plan is to fund its benefits. The funding objective is much more expansive than the objective to price the “matching assets” for the plan’s accrued benefits. Most pension plans are sophisticated investors that utilize a broad variety of financial assets. “Matching assets” represent a small segment of the assets available for pension investing.

The price of an asset is relevant only if the asset is under consideration for investing. Pricing pension benefits is essentially an asset allocation decision, not a theoretical requirement. Forcing all pension plans to evaluate specific assets regardless of the plans’ policy portfolios makes little sense.

The uncritical application of the principles of bond pricing to pension funding is another example of a valid concept that becomes inapplicable when taken out of its proper context.

### *Misconception #3: Economic Foundation*

The suggestion that pension benefits must be priced similar to tradable bonds is based primarily on the Law of One Price. This law essentially states that identical assets should have identical prices. There are stringent conditions, however, that must be satisfied for this law to be valid. These conditions include the tradability of the assets – long and short. It is well-known that this law is not necessarily valid when these conditions are not satisfied.

Pension benefits are non-tradable and non-transferable, thus the Law of One Price is inapplicable. Moreover, even if we considered pension benefits as “assets held short,” then these illiquid “assets” and their liquid counterparts generally should have different valuations.

The economic foundation for the requirement that pension benefits must be priced similar to tradable assets is shaky at best and probably non-existent.

### *Misconception #4: \$100 of Stocks Is the Same as \$100 of Bonds*

The suggestion to discount pension benefits by “low-risk” rates is in part based on the notion that economic value of pension benefits does not depend on the manner these benefits are funded. This notion is often expressed as “\$100 of stocks is the same as \$100 of bonds.”

While an auditor may support the notion that \$100 of any asset is still \$100, the capabilities of \$100 of stocks and \$100 of bonds to fund a future cash flow are quite different. Moreover, the prices of otherwise identical derivative-based instruments for stocks and bonds are generally different as well. Therefore, even if we consider today’s asset prices only, *\$100 of stocks is not the same as \$100 of bonds.*

The notion of “*\$100 of stocks is the same as \$100 of bonds*” is yet another example of a valid concept that becomes inapplicable when taken out of its proper context.

### *Misconception #5: “The Only Appropriate Way”*

It is hard to find an object that has one measurement that is clearly superior to all other measurements. Virtually all objects have multiple attributes that require multiple measurements. Yet, the proponents of “the only appropriate way to calculate the present value” essentially have designated pension benefits as an object that is uniquely different.

Once again, this perspective is unsubstantiated. The claim that

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pension benefits allow only one “appropriate” measurement defies common sense.

### Conclusion

In recent years, many pension practitioners have been sharply criticized for not embracing the so-called “financial economics” perspective on pension plan management. The acceptance of this perspective would have dramatically changed the prevailing practices of pension management. There are reasons to believe that these changes would have negatively impacted the retirement security of numerous plan participants and put the DB system under additional pressure.

This criticism continues to this day. This author hopes that this article would be helpful to pension practitioners and bring some clarity in the ongoing debate regarding better pension management.

Finally, the following quote should serve as a reminder to those who believe that the alleged consensus among scientists is a valid scientific argument.

*“Science is not a democratic institution. Scientists do not resolve their disagreements by plebiscite, acclamation, voice vote, or any other democratic means. To a courteous scientific debate, scientists contribute books and scholarly articles, which gain recognition via the quality of their contents. In the presence of quality academic publications, any “consensus” declaration is needless. In the absence of quality academic publications, any “consensus” declaration is useless. Either way, the claim “every economist knows this” is an inconsequential line of reasoning as well as a clear sign of weakness of one’s arguments.”<sup>3</sup>*

It remains to be seen if the abovementioned consensus can withstand a close scrutiny. This author is exceedingly skeptical, thank you very much.



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<sup>3</sup> Mindlin, D. 2010. The “Financial Economics” Debate, CDI Advisors Research, April 2, 2010, <http://www.cdiadvisors.com/papers/CDIFinancialEconomicsDebate.pdf>.