



American Finance Association

Plasm: Pension Liability and Asset Simulation Model: Discussion

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a fund will be a year hence than worry about the accounting or actuarial values over the next twenty years if decisions never change. Such a view could facilitate the consideration of many more alternatives; in fact, an analytic model with formal optimization would be feasible. The question is not one of abstraction versus detail but, rather, that of the best choice among alternative abstractions.

One other issue deserves comment. Each paper contains information about the manner in which security returns are modelled. The PLASM approach is by far the most interesting. Indeed, the statements about asset returns made in the Winklevoss paper (based on work by Barr Rosenberg and Associates) are of major importance for many issues in finance, if they are correct. But all are made as assertions; no supporting evidence is given and there is not a single reference in the paper. While the competitive marketplace for proprietary products demands somewhat different standards for documentation than those appropriate for academic research, it seems unreasonable to expect us to accept these assertions until we have been given an opportunity to examine their bases. One hopes that papers providing at least some details of this important research will be forthcoming.

One also hopes that there will be many more sessions of this type. Academics have much to learn from consulting organizations, and this alone justifies such occasions. I have tried to show that consultants can also learn from academics. Yet another example of gains through trade.

DISCUSSION

IRWIN TEPPER*: The 70's brought with it a desire by major corporations to increase their understanding of their pension systems. The models described in the Wilshire and Winklevoss papers arose to meet the need to analyze pension decisions when little expertise had been developed by sponsors in-house. They integrate complex actuarial and investment phenomena to assist in both forecasting and policy analysis. The asset allocation decision was the initial motivation for their development, and the remainder of my remarks will be confined to this use of the models.

By linking the financial requirements of the pension plan with the outlook for inflation and security markets, the models show the sponsor how asset mix affects the plan's funding progress and its cost over a wide variety of economic scenarios. They also show how the picture changes over different time horizons. The models assume the risk/reward tradeoffs that most of us believe exist and that are supported by historical data. The formation of the assumptions about the economy and the security markets is often a controversial exercise, but there is even a more fundamental problem with the simulation approach to pension fund asset allocation.

Despite the sophistication of the models, they have not lived up to the expectations of sponsors as a decision-making tool. Rarely does the model produce an answer. More likely, the data shows that the sponsor can choose from a wide range of alternatives and the choice depends on the preference for risk. For many

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sponsors who do not have a feel for the sensitivity of pension finances to asset allocation, this is a useful piece of information. Yet, many of them respond negatively to the fact that the result of the study is to throw the ball back into their court.

More often than not, the judgmental process that follows once the simulation data is produced is hampered by the fact that answers to such basic questions as—what level of exposure to unfunded liability is tolerable, how aggressive should the company be in trying to reduce pension cost, what should be the length of the planning horizon,—have not been determined. When pressed to do so, the sponsor makes the judgment, but the value of the simulation exercise is mitigated by the lack of criteria upon which to base the decision.

Other sponsors reject the simulation approach and look for fundamental principles to guide them. One such principle is that the pension fund should be invested completely in equities. It is based on the assumption that stocks will (very likely) be the superior long term investment. In this view, pension liabilities are a long term commitment; and therefore, the sponsor need not be concerned with interim volatility. Further, it is pointed out that pension liabilities are indexed through inflation-related salary and benefit increases; and therefore, the pension fund should be invested in equities because they have the highest promise of being an inflation hedge.

On the other hand, papers by Fischer Black and myself, prescribed that the pension fund be fully invested in bonds. The results are based on tax arbitrage; they have nothing to do with risk tolerances, the nature of the liabilities or the outlook for the capital markets. The “all bonds” strategy has caused quite a controversy because it is so at odds with what is done. It has been criticized because it presumes an informationally efficient market that doesn’t apply to pension matters, because pension and company finance can not be integrated the way the theory assumes and because it is preoccupied with tax minimization to the exclusion of other equally important considerations. In favor of the theory is the fact that it is based on explicit integration of pension and corporate finance, a property not found in the other approaches.

Companies will continue to obtain a better understanding of their pension systems because of the magnitude of money that is involved. The accounting community has realized the importance of pensions to company finance and is pushing for more complete and meaningful pension disclosure. As this happens, management is certain to spend more time thinking about what they are trying to accomplish and how it relates to the rest of their business. It is not clear what role pension simulation methodology will play as the nature of the decision-making process changes.