Chester Spatt's Statement on "Funding Government Pensions and Risk Taking," for the Public Pension Management and Asset Investment Review Commission, July 30, 2018

I am pleased and honored to have the opportunity to present my views to the Commission at its hearing today. I am the Pamela R. and Kenneth B. Dunn Professor of Finance at the Tepper School of Business at Carnegie Mellon University, where I have been a faculty member since 1979 and also am currently serving as the Golub Distinguished Visiting Professor of Finance at the Massachusetts Institute of Technology. I also served as the Chief Economist of the U.S. Securities and Exchange Commission in Washington, D.C. from July 2004 until July 2007. I was co-founder and the second Executive Editor of the *Review of Financial Studies*, which quickly emerged as one of the preeminent journals in financial economics, as well as a Past President and Program Chair of the Western Finance Association. I have served as a member of several federal advisory committees, including the Federal Reserve Bank's Model Validation Council, which provided feedback to the Federal Reserve Bank on its validation of the first several rounds of stress tests under the Dodd-Frank Act. My expertise as a faculty member includes such areas as valuation, portfolio theory, asset pricing, taxes and financial regulation.

I'll begin the substance of my presentation by defining financial market risks. It is helpful to classify these risks into two categories, systematic or aggregate risk—which because of the commonality in the risk cannot be diversified away by forming a portfolio of assets--and idiosyncratic risk—which is largely eliminated by forming a diversified portfolio. Risk premium is earned by bearing systematic risk, but not idiosyncratic risk. To shed more light on the nature of risk I note that payoffs are especially valuable in weak states of the economy (e.g., after low market returns). For example, risk is not simply about the variability in returns in individual assets, such as when these have returns of 30% and 0% every other year. Instead, risk and especially priced risk reflect the possibility of huge in overall wealth losses (e.g., about 40% after the financial crisis) and a permanent loss of wealth.

Pension recipients anticipate that pensions will be paid in all states of the economy and that the plan sponsor will not default on these payments. To the extent that this perspective is correct, then the actuarial liabilities would be riskless and according to financial theory these liabilities should be discounted at risk-free rates (and not at equity- like returns as suggested by accounting). We would then measure underfunding as the liabilities discounted at risk-free rates less the current value of the plan's assets.

One important rationale for equity investment in pension plans is if it is valuable to hedge pension risks that are correlated with the economy (e.g., if the collective pension obligation of the plan is correlated sufficiently with the market return and the economy as in the case where that determines the individual benefit or the number of beneficiaries), see Lucas and Zeldes (2006). Of course, if the defined-benefit pension plan invests in equity, it is still obligated to make its payments even in the states of nature in which the returns fall short. However, if the plan does not fulfill its obligations, then there could be significant risk to the liabilities—which is important for the beneficiaries and plan sponsor to acknowledge. This raises an important issue: Who should bear the risks associated with inadequate market returns (e.g., 2008 without the subsequent recovery)? Workers/Beneficiaries? Taxpayers? Which generations?

The potential for underfunding of public pension plans highlights the importance of transparency and raises a number of ethical issues and challenges. Is it ethical for politicians and union leaders to negotiate underfunded plans without being transparent and without resolving the risk-sharing issues when the return on investments falls short? How did "collective bargaining" address this? Should taxpayers or workers assume this risk? Both politicians and union leaders are agents negotiating for others—taxpayers and workers. However, unlike standard

"agency problems," arguably many of the important "principals," future taxpayers and workers, are not currently active. I do think that the Commission, the Treasurer and, going forward, the pension trustees could all play an important role in facilitating transparency in such contexts.

On the broad question of whether pensions should bear equity risks, I am not a "hawk" who asserts absolutely not. I view traditional portfolio theory as suggesting some scope for pension plans to hold some equity. Indeed, a small amount of equity can be held without moving the pension plan from risk neutrality; if the investors hold little risk they are locally risk neutral and able to earn risk premium without taking on material risk. More fundamentally, to the extent that the economy has natural risks, these should be borne and spread out among capital in the economy—that is the essence of equilibrium risk sharing. The formal equilibrium analysis under which Demand = Supply suggests that baseline relative demands should reflect relative asset supplies. This leads to a form of the "Capital Asset Pricing Model" in which the demand for an efficient portfolio that is fully diversified along the risk-return frontier ("tangency portfolio") should equal the supplies of risky assets ("market portfolio").

Another reason that both private and public pension plans would desire to bear equity risk is the possibility that poor absolute performance would create an opportunity to bargain away previously granted pension benefits due to the threat implied by limited funding. The potential for this in the public arena is illustrated by such situations as Detroit and Puerto Rico. This impact would be greatest when the pension plan is the most underfunded. For example, in my lecture at Georgetown (Spatt (2005)) I discussed this in a private pension plan setting in which the threat of bankruptcy and plan termination were important. Even in the public pension case without a formal bankruptcy process, there still is a fundamental moral hazard problem that remains and that leaves open the possibility of future renegotiation between the pension beneficiaries and the taxpayers and is tied to underfunding and excess risk-taking (the taxpayers have a strong incentive to push this given the possibility that funding collapses). More broadly, the implications of underfunding (due to low contributions or inadequate returns from past risk taking) in driving excess risk taking are important. Indeed, the deeper point remains that the potential for this underfunding undercuts Pennsylvania's collective bargaining posture, suggesting Pennsylvania being forced to not hold excessive equity!

The Pennsylvania pension plan appears to have considerable leverage in recent years. Leverage leads to greater systematic risk and potential for further underfunding. Again this leaves open the question of who bears the risks? Workers and beneficiaries or taxpayers? Leverage raises concern about excess (inefficient) risk-taking; unlike basic risk-taking, equilibrium considerations do not support the generic use of leverage, except as a way for Pennsylvania to try to bargain away some future benefits when risk taking performs badly (and that should be costly in making current bargaining more problematic). An additional confounding issue with leverage is that the cost of management increases artificially.

Illiquid assets have liquidity costs, though this may be only a limited disadvantage in a pension plan context. Still such positions are challenging to adjust and costly to manage. Relatively unsophisticated investors do not have a comparative advantage in owning such assets. The lack of frequent asset marking (valuation) and lack of market liquidity suggests the need for viewing projected and historically returns skeptically. For example, historical (and projected) returns may be overstated and indeed, riskiness is often understated since valuations are artificially smoothed. Both of these suggest that portfolio models will produce excessive holdings of illiquid assets. Indeed, this is consistent with the observation that the holdings of illiquid assets in some portfolios are disproportionate; instead, their role should be modest as they only have a slight weight in the capital markets.

One additional point to highlight is that rents are earned by asset managers with scarce skills (Berk and Green (2004)); this does not imply that the rents flow through to investment capital that is not scarce (all investors would be happy to earn excess returns, if these were available). I would not expect Pennsylvania to capture the rents from those with scarce managerial skills. Costs are extremely important to consider in evaluating managers (e.g., Spatt, 2007, Harrisburg) and potentially even in evaluating asset allocation and the presence of leverage.

References

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