"Funding Government Pensions and Risk Taking"

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Background

- Faculty member at Carnegie Mellon, 1979-
- Chaired Professor of Finance, Tepper School, Carnegie Mellon, 1996--
- Distinguished Visiting Prof at MIT, 2017-19
- Chief Economist, SEC, 2004-2007
- Co-Founder and 2nd Exec. Editor, *Review of Financial Studies*
- Member, Model Validation Council, Federal Reserve; 2012, 2013 and 2014
- Expert on Valuation, Portfolio Theory, Asset Pricing, Taxes & Regulation

What is Financial Market Risk?

- Systematic (aggregate) risk cannot be diversified away in forming portfolios
- Idiosyncratic risk is diversified in a portfolio
- Risk premium is associated with systematic, but not idiosyncratic, risk
- Payoffs valuable in weak economic states
- Risk is not simply about returns of 30% and zero every other year
- Instead, risks reflects a possibility of huge market losses (e.g., -40% on an economy-wide basis); permanent loss of wealth

Pension Liabilities and Risk

- Pension recipients anticipate that the pensions will be paid in all circumstances
- To the extent that this expectation is correct, then per financial theory the actuarial liabilities are riskless and should be discounted at risk-free rates (and NOT at equity-like returns)
- Underfunding equals liabilities discounted at risk-free (*not risky*) rates less the current value of assets.

Pension Liabilities & Risk (cont.)

- Is it reasonable to invest in equity?
  - If there is an expectation that the defined benefit plan will not pay off when the market does badly, then equity investment would reflect this payoff risk
  - Valuable to hedge pension risks correlated with the economy (Lucas and Zeldes, 2006)
- Who should bear the risk associated with inadequate market returns (e.g., 2008 w/o the subsequent recovery)?
  - Workers? Taxpayers? Which generations?

Underfunding and Transparency

- Is it ethical for politicians and union leaders to negotiate underfunded plans without being transparent and without resolving the risk-sharing issue?
- What was the “collective bargain”?
  --Should taxpayers or workers assume the risk?
- Politicians and union leaders are agents; future principals are not currently active
  - Agency conflict: Negotiators vs. principals
- Commission, Treasurer, and trustees could play an important role in transparency

Pension Assets & Equity Risks?

- A little bit of equity risk can be borne without moving the pension plan from risk neutrality; investors are locally risk neutral & earn risk premium
- To the extent that the economy has natural risks, these could be borne and spread out among available capital in the economy—equilibrium risk bearing

Pension Assets & Equity Risks?

- Equilibrium argument (demand = supply) suggests baseline demand reflects relative supplies of risky assets
- This leads to a form of the CAPM—demand for an efficient portfolio that is fully diversified along the risk-return frontier (“tangency portfolio”) should reflect the supplies of risky assets (“market portfolio”)

Pension Assets & Equity Risks?

- Another reason to bear equity risk is the possibility that poor absolute performance would create an opportunity to bargain away benefits due to the threat implied by limited funding (Detroit, Puerto Rico, etc.)
- This impact is strongest when the plan is most underfunded--Spatt (2005) discusses in a private pension plan setting.
- The broader argument undercuts PA's bargaining posture, suggesting PA not hold equity!

Leverage and Borrowing

- Leverage leads to greater systematic risk and potential for further underfunding
- Who bears those risks? Workers? Taxpayers?
- Concern about excess (inefficient) risk-taking
- Equilibrium analysis does *not* support generic use of leverage, except to potentially bargain away future benefits
- Costs are crucial with leverage

Illiquid Assets

- Illiquid assets have liquidity costs (and challenging to adjust and costly to manage); relatively unsophisticated investors don’t have comparative advantage in owning illiquid assets
- View projected returns skeptically
- Basic measurement problem with illiquid assets—riskiness is often understated since valuations are artificially smoothed
- Illiquid assets should be only modestly held as just slight role in market portfolio

Managers vs. Investors

- Berk and Green (*JPE*, 2004)—rents are earned by asset managers whose skills are scarce (investment capital is not scarce).
- Why would PA be able to capture such rents from scarce managerial skills?
- Costs are extremely important to consider in evaluating managers (Spatt, 2007, Harrisburg speech)