public sector pensions, these public sector workers may well be joining their private sector colleagues in lamenting the demise of defined benefit pensions.

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Risk-Based Supervision of Pension Funds: Emerging Practices and Challenges. Greg Brunner, Richard Hinz, and Roberto Rocha, eds. The World Bank, 2008, ISBN: 978-0-8213-7493-1, 215 pages. doi:10.1017/S1474747211000187

Pensions usually operate in a heavily regulated market, in view of their economic and social importance and impact on the population. Over time, pension system regulation has progressed from direct regulation regarding the types of investments permitted, to a less restrictive, more efficient, competitive, and reliable approach. In any event, there remains a need for a strong supervisory framework and efficient monitoring to promote healthy market development and protect pensioners' rights. This new volume from the World Bank presents the case for pension risk-based supervision (RBS) in four countries that have adopted this approach.

Though methodologies and years of experience differ from one to the next, the collection sheds light on this new form of pension regulation. The idea of RBS is that it focuses on minimum solvency requirements while boosting market and operational risk monitoring. Its aims are to ensure solvency, so that insurers have enough financial resources to meet their obligations to policyholders, and to protect the rights of active and retired participants taking into account fairness and transparency in the marketing process, as well as customer service. Risk-based supervisors emphasize building risk management procedures, making regulation flexible, putting in place an internationally-approved monitoring system, and focusing supervisory resources. In addition, they seek to manage risks in the context of an increasingly globalized financial world where transactions are faster and more volatile, as well as more correlated.

A key element of the RBS methodology is its focus on institutions which might pose the greatest potential danger. In Australia, the system uses the prudent-person approach in the context of its defined contribution system; its risk-scoring model is called PAIRS (Probability and Impact Rating System). The three pillar system includes a mean-tested benefit financed by general taxation; the second pillar is a mandatory employer-based superannuation fund system to finance pensions or lump-sum payments at retirement; and the third pillar involves voluntary saving. Australia has several thousand funds and employer-sponsored plans.

In the Netherlands, pension coverage is almost universal (90%) and assets are substantial, equivalent to 125% of GDP in about 800 funds. The RBS approach here encourages and requires that funds have capital sufficient to cover liabilities at the 97.5% level over a one-year horizon. Fund managers are required to maintain capital not only equivalent to their commitment, but also reserve additional capital solvency to provide a buffer. Here too the prudent person approach is applied.

The volume argues that in Denmark, RBS has reduced the assets/liability mismatch by changing asset allocation and encouraging greater use of derivatives. This has triggered a reduction in the expected rate of return but also a relaxation of quantitative limits on pension fund investments. There they use a 'traffic light' approach for stress testing pension fund solvency. If the sponsor is in the red light zone, it must analyze the impact of a 12% drop in stock prices. Those in the yellow zone stress test a 30% fall in the stock prices. Currency risk measurement is performed at the 99.5% Value at Risk (VaR) level for the yellow test and 99% VaR level test for red. Yellow test companies are reviewed more frequently (quarterly) in comparison with companies judged to have a green light. In the case of companies with a red light, the regulator sets time-bound requirements and sees them *in situ*. A key characteristic of the Danish system is its guaranteed minimum return on investment. Banks play an important

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role in the second-pillar plans in this country, covering 60% of total contributions. They confront one risk associated with investment policy, namely that they control 60% of Danish bonds, so maintaining capital and reserves requires attention to the risk they assume.

The book also covers Mexico's case, where fund companies are required to have two management committees: one is focused on operational risk, and the other on financial risk. The RBS effort requires calculating the VaR to limit exposure to downside risk on a daily basis, using a rolling 500-day period for asset pricing. The regulator has the ability to increase VaR limits if he believes fund administrators are taking excessive risks. One might critique this measure as it is usually used for short-run risk, whereas pension fund resources are essentially long-term investments. The idea is to closely monitor operational, credit, and market risk, and to require pension fund administrators (Afores) to hold reserves invested in each of the Siefores (funds) worth one percent of the assets managed. The regulator also requires the fund companies to have a board of directors of at least five members appointed by shareholders, and at least two independent directors (the same proportion would be required for larger boards). Afores are required to have independent risk units which report directly to the board of directors.

Challenges faced by the Mexican system include compliance with internal controls and collection of contributions. The Mexican pension system also must deal with the rather illiquid market for financial instruments. As in the other three countries considered here, assets are valued at market, and the regulatory authority requires information disclosure to encourage market discipline. The funds were initially required to invest only in fixed income instruments; after 2004, they were allowed to invest up to 20% of fund assets abroad, and from 2006, Afores have been allowed to invest in equity market indexes.

Given pension plans' role in retirees' quality of life and their impact on capital markets, an efficient monitoring system is needed to protect retirement payments. For this reason, this book is recommended to those seeking to learn from country experiences with RBS, particularly regulators needing to balance flexibility and risk in the supervisory function.

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Social Security Programs and Retirement around the World: The Relationship to Youth Employment. Jonathan Gruber and David A. Wise, eds. University of Chicago Press, 2010, ISBN 978-0-226-30948-4, 369 pages. doi:10.1017/S1474747211000199

One solution to fiscal imbalances in social security systems is to encourage workers to delay retirement, by either increasing minimum retirement ages, or reducing pension incentives to early retirement. A potential concern is the impact on youth unemployment, with some arguing that the number of jobs available in the economy is fixed, so that increases in labor force participation rates among the old must, of necessity, reduce participation rates among the young. I conducted an admittedly unscientific poll of my colleagues at the Center for Retirement Research, who all unhesitatingly dismissed such concerns as groundless. On the other hand, belief in the 'lump of labor' fallacy appears to be alive and well among non-economists.

Notwithstanding my colleagues' confidence that increases in labor force participation at older ages would not materially increase unemployment among the young, there is a surprising lack of rigorous academic research on the subject. This excellent book fills this gap. It contains a series of country studies, with each study carried out in a standard format. Although the conclusion of the research – that there is no offset – will surprise few economists, they provide useful ammunition to rebut the plausible but fallacious arguments of many non-economists.

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