© *The Journal of Risk and Insurance*, 2008, Vol. 75, No. 1, 249-252

BOOK REVIEWS

The Fisher Model and Financial Markets, by Richard D. MacMinn, 2006, Singapore: World Scientific Publ. Co., xi + 108 pages

Reviewer: Roland Eisen, Goethe University, Germany

This small book starts quite simply with the two-period decision model of Irving Fisher with certainty. Using formulae and graphics, the author shows convincingly the most important result of the book, the "separation rule" that demonstrates how "the roles of proprietor (investor) and consumer can be separated" (p. 9). In Chapter 2, uncertainty à la Hirshleifer is introduced, albeit in a very complex fashion. Here, the investor's portfolio problem is constructed, when the basis stock is defined as state claims or "Arrow securities." In Chapter 3, financial values for equity, debt and options are defined, while more such values (e.g., put options, convertible bonds) are introduced in Chapter 5.

In Chapter 4 the Fisher Separation Theorem is proved under uncertainty in different cases. Interestingly, one case shows that if the manager is paid partly by a salary and by stock options (and not corporate stock), the manager maximizes the value of the stock option package, and this "is easily shown to be inconsistent with maximizing net present value" (p. 28). In other words, the "manager paid in stock options takes on more risk than the manager paid in stock" (p. 35). Some of the classic theorems in corporate finance are considered in Chapter 6: the 1958 Modigliani-Miller (MM) theorem, the 1961 Miller-Modogliani theorem, the 1963 MM theorem, the 1977 Miller, and the 1980 DeAngelo-Masulis theorem assuming perfect competitive financial markets and different tax treatments.

Building on the first six chapters, the remaining portion of the book examines a variety of issues in corporate finance. In Chapter 7, two classic agency problems are considered: the asset substitution problem where the investors do not know whether the firm invests in the riskier project or not, and the underinvestment problem, where the conflict between shareholders and bondholders results from the sharing of the benefits of a new project, even when this is appropriately valued in financial markets. While these two examples reflect asymmetric information attributable to "hidden action," Chapter 8 examines the asymmetric information problem related to "hidden knowledge." Here some market agents know more than others (called insiders and outsiders), and this information cannot (or will not) be revealed by the action or choice. MacMinn then asks what "impact does hidden knowledge have on the choice of investment level and on the capital structure?" (p. 68). It is interesting to note that in both cases, with equity and bond issues, a Fisher separation result can be established. In both cases an underinvestment problem results if the marginal agency cost is positive. These costs exists because the firm cannot credibly commit to select the better project. However, the agency cost can be eliminated by using convertible bond contract or an appropriately structured insurance contract. In other words, the agency costs due to hidden actions or hidden knowledge can be avoided if the risks are managed appropriately. Therefore, in Chapter 9, corporate risk management is discussed. MacMinn starts with some examples of a generalized 1958 MM theorem about hedges in financial markets, property insurance (with a deductible) and (first risk) liability insurance. He shows convincingly that risk management is all about the creation or preservation of value.

I enjoyed reading this book and I highly recommend it, particularly because every chapter closes with "suggested problems" to invite the reader to proof corollaries and theorems and to apply the learned material.

Social Security and the Stock Market: How the Pursuit of Market Magic Shapes the System, edited by A. H. Munnell and S. A. Sass, 2006, Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, ix + 171 pages

Reviewer: Roland Eisen, Goethe University, Germany

This is a timely and most interesting book about Social Security reform strategies, discussed in the mid-1990s when the 1994–1996 Social Security Advisory Council (SSAC) attempted to fix the problem of closing the funding deficit in the United States. At that time, the SSAC was caught in a trilemma. Should it attempt to restore balance by raising taxes and / or cutting benefits only, or by resorting to a new source of revenue, the higher expected return on equity investment?

In the Introduction, the authors very clearly state the focus of their book: to examine how the use of equities may help solve the Social Security financing problem, while being aware of "a host of new and difficult challenges" which "could dramatically change the structure of Social Security in the United States" (p. 2).

The second chapter provides a short history of the creation of modern retirement income systems, pointing to the difference between the Bismarckian programs of the nations on the European continent[1] and the "Anglo-Saxon" models. It is clear from the beginning that the book deals with reform strategies for these latter models, even when it is obvious that all nations face the common challenge of "how best to maintain the poverty reduction and income smoothing achievements of current system(s) while minimizing burdens on the active population" (p. 40).

The third chapter describes the evolution of the U.S. public and employer-sponsored retirement system since 1980, the reforms undertaken since that time, and the problems still ahead. The authors mention the three primary options for reforming the U.S. Social Security program, as put on the table by the SSAC: investing a portion of trust fund assets in equities, adopting "add-on" individual accounts invested in equities, and using "carve-out" individual accounts invested in equities, redirecting

[1] One can question whether this dichotimization is overly simplistic. As a researcher of the European continent, I am very much aware that there are also great differences in programs across the continent, in particular with respect to the "Southern European countries."

a significant portion of current payroll taxes while sharply reducing the guaranteed social insurance benefit (cf. p. 63).

In addition to political considerations (i.e., which political group prefers which options), practical considerations should also influence the equity decision, for example, how an increased role for equities may shape the current retirement income system, how incorporating equities may affect the cost of administering programs, and how to deal with the increased risk in equity investment. The authors stress, correctly in my opinion, the risk management side. "As the experience of employer defined-benefit pension plans clearly shows, the risk that comes with equity investment can radically upset a retirement income program" (p. 64). Furthermore, the radical shift from defined-benefit to defined-contribution plans (in the sense of 401(k)s) also has placed more risk on the shoulders of individual employees.

To shed more light on the equity proposals noted above, in the next three chapters the authors "explore the experience of (three) countries that have systems like that of the United States and have introduced equities into their public pension system in each of these three ways" (p. 128). They examine the United Kingdom's use of "carving-out" individual accounts; Australia's mandated "add-on" individual account approach; and Canada's introduction of equity investments using the "trust fund investment" approach.

The authors note that "Britain's decision to sharply cut out social insurance programs and increase reliance on individual initiatives has returned the nation to a welfare-based solution to the old-age income problem" (p. 88). Both the emerging British and the Australian retirement income systems are based on means-tested public benefits (called Basic State Pension and later Pension Credit and Age Pension) and mandated contributions to individual accounts. However, the "Australian example clearly illustrates the importance of size" (p. 103), particularly with respect to costs. For example, the authors state that the Superannuation Guarantee individual account program "had significant lower overhead costs than the British personal pensions because its larger contributions were mainly collected and managed through employers . . . Costs were also lower than U.S. 401(k) plans because the program is mandatory, which allowed for greater economies of scale and lowered marketing costs" (p. 104). This finding seems to be in stark contrast to the results reported by Bateman, Kingston, and Piggott (2001).[2] Moreover, the interaction between the Age Pension and Superannuation Guarantee programs creates distortions with respect to the allocation of capital, creates a powerful incentive to early retirement, and generates a moral hazard by discouraging work and saving in favor of claiming a larger government pension.

Finally, the lessons from Canada show that "from a purely financial perspective . . . the Canadian trust fund approach seems best" (p. 123) with respect to economies of scale in investment management, to pooling and managing the risks in equities, to smoothing volatility over an infinite horizon, and to controlling costs (because there are no additional administrating expenses to maintain individual accounts, and it avoids significant marketing costs). The only problem louring is the political risk inherent in using the trust fund as a vehicle for introducing equities into the social

[2] Please see Chapter 7, in particular, Figure 7.2, p. 176.

security program. But the authors are optimistic that the institutional structure of the Canadian Pension Plan Investment Board is acting only "in the best interests of plan participants—both active and retired" (p. 117), and will not be misused by the government to support other goals.

The authors conclude that "on balance, it seems like investing a portion of the social security trust fund in equities is a feasible and desirable strategy" (p. 141). However, the "question is how much political turmoil would such a strategy create and whether the gains are worth it" (p. 141). This point does not need any further comment.

As mentioned already, the discussion is in principle restricted to the reforms of Anglo-Saxon type social security systems. This end is accomplished with great success, and always with a "practical solution" in mind. Therefore, this book is not only of interest for the U.S. debate but also for every country considering debate about social security's structural reforms.

REFERENCE

Bateman, H., G. Kingston, and J. Piggott, 2001, *Forced Saving: Mandating Private Retirement Incomes* (Cambridge: Cambridge University Press).