of direct cash benefits in Germany does not explain lower overall spending, instead it is aversion to institutional care.

Gori and colleagues, in a chapter related to the one by Campbell et al., discuss the trends in public financing over time in six countries (England, Germany, Italy, Japan, Sweden, and the United States). They find two main common themes across these countries that have pursued long-term care policy in different ways. One is expansion of coverage for community care, the other is greater intensity of institutional care. This chapter has numerous insights into the political and economic forces that have shaped public long-term care policies over the last several decades.

Da Roit, Le Bihan, and Österle describe cash-for-care benefits, one of the newest ideas to spread in long-term care, particularly in Europe. They provide a comprehensive overview of the motivation for cash-for-care, and then describe how such programs affect the recipients, their family, and other providers. The discussion of user satisfaction reveals that although one would expect most users to be happier with cash-for-care, and many evaluation studies show that, but there is heterogeneity in response. This chapter is an excellent overview of the theory and recent literature on this important topic.

Quality of care is nearly universally decried as being poor, yet considerable resources are spent trying to measure it and improve it. Malley, Trukeschitz, and Trigg explore the many dimensions of quality of care, but ultimately explain that the instruments used to try to improve it have generally not been successful. Indeed, many countries still focus on process measures instead of outcomes. And measuring and rewarding quality of informal care remains uncharted territory.

Colombo and Muir document the challenges of developing a workforce to care for persons with long-term care needs. Faced with expected increasing demand, some countries are recruiting workers from abroad. Other solutions may include improving wages and job conditions for this labor-intense activity.

Informal care is rarely directly supported by public policy, but is indirectly affected other policies that affect substitute and complementary care. Schneider and colleagues describe the many ways that public policy can support (or not support) informal care. Unfortunately, rigorous studies about the cost-effectiveness of informal care are both lacking, and would often change conclusions about cost-effectiveness of public policies.

Taking a broader view of the importance of institutions, the last two chapters discuss the role of government and organizations at different levels. Hixon focuses on how long-term care is often not integrated with the rest of the health care system, but should be. Long-term care is usually financed separately and provided separately, but taking a more global approach would likely improve cost and outcomes. Theobald and Ozanne discuss how different levels of government, from local to national, influence the type of care provided.

I highly recommend this book to anyone who wants a deeper understanding of the problems of financing and providing long-term care in developed countries, as well as ideas for feasible solutions.

Edward C. Norton
University of Michigan and NBER

King William's Tontine: Why the Retirement Annuity of the Future Should Resemble its Past. Moshe A. Milevsky. Cambridge University Press, 2015, ISBN 9781107076129, 257 pages. doi: 10.1017/CBO9781139879316
doi:10.1017/S1474747217000075

Retirement income products that guarantee payments for life are expensive due to the costs of the embedded protection against longevity risk. A growing academic literature develops alternative, less expensive product designs where longevity risk is not fully insured, but shared within

https://doi.org/10.1017/S1474747217000075 Published online by Cambridge University Press

a group of policyholders or investors. Moshe Milevsky's 12th book contributes to this literature a comprehensive review of historic longevity risk sharing arrangements and suggestions for a new tontine-type product. The book is full of colorful anecdotes, mostly nontechnical and an entertaining read; it will appeal to longevity risk management experts and novices alike.

Chapter 1 introduces the book's main character, "King William's tontine", which was issued by the English government in 1693 to finance the war of King William III against King Louis XIV of France. This scheme is interesting for two reasons: it was the first long-term public borrowing by the English government plus it had a classical tontine payout structure, where investors received dividend payments only if they (or another nominated person) were alive and where the payments shares of those who have died were redistributed among the remaining survivors in the pool. Milevsky argues convincingly that tontine-type retirement income products should be introduced in today's markets as they are potentially less expensive, fairer and more transparent than existing products.

Chapter 2 explains the economic origins of King William's tontine. Milevsky compares alternative funding options available to the English King in the 17th century, provides several numerical examples and concludes that tontines were mainly introduced to reduce the government's costs of borrowing. He then compares the stylized cash flow profiles of tontines and annuities, and discusses the impact of pool size on tontine payouts. He explains that longevity risk is relatively small in a tontine pool as the number of payments depends only on the age of the last survivor - which is expected to be high, but is relatively easy to predict.

Chapter 3 describes a private tontine scheme established by a wealthy English landowner in his will in 1581. Interestingly, historians believe that William Shakespeare was one of the scheme's beneficiaries. This chapter also provides the life story of Lorenzo de Tonti, the eponym of tontines, and details his 1653 proposal for how the government of Louis XIV could borrow money to finance its military using a tontine scheme.

Chapter 4 then discusses King William's tontine in detail, starting with an excursion into English history in the late 17th century. The tontine was established through the "Million Act" passed by the English Parliament in January 1693 with the intention to raise £1 million (less than £400,000 were actually raised). Interestingly, the Million Act included the option for investors to convert their tontine shares to a life annuity, and Milevsky conducts a detailed analysis of which investors used this switching option, identifying different degrees of financial literacy among the investors. The chapter concludes with a brief history of the Bank of England, which was established in 1694 as another attempt by King William III to raise funds for the war against King Louis XIV.

Chapter 5 provides a detailed analysis of the more than 1,000 nominees to King William's tontine and their survival rates based on detailed data provided in Appendix A. Contrary to the popular view that tontines inspire sinister motives among the pool members Milevsky finds no evidence of unnaturally higher mortality rates of tontine nominees. Instead, his analysis suggests that tontine nominees actually lived longer than the population average. He argues that this finding, which is supported by historical documents, can be explained by selection effects and fraud related to how nominees were declared alive. Chapter 5 also describes several successful tontines issued by the French Government between 1689 and the beginning of the French revolution in 1789 and the "Great British Tontine" issued in 1789.

Chapter 6 compares other tontines over time and around the world. Importantly, Milevsky summarizes the history of tontine insurance, which has been extremely popular in the United States (half of U.S. households owned a tontine insurance policy by the start of the 20th century). Milevsky explains how corruption and fraud resulted in the ban of tontine insurance in the United States and in most other developed countries. He argues that this ban would not apply to other tontine designs, including King William's tontine, and shows here and in Chapter 7 that tontine-style longevity risk sharing is actually applied in several pension plans in Israel, Sweden and the United States.

Chapter 7 develops a new tontine scheme based on lifecycle theory. Milevsky explains that historical tontine schemes had payouts that were expected to increase over time and were

https://doi.org/10.1017/S1474747217000075 Published online by Cambridge University Press

also increasingly uncertain—two features that are undesirable for expected utility-maximizing consumers. Based on this observation he develops a new tontine arrangement which gives constant payouts and thus allows investors to smooth consumption over time. This chapter also contains a valuable literature review of alternative longevity risk sharing mechanisms proposed in the literature such as group self-annuitization, pooled annuity funds, mortality-index annuities and participating life annuities, and provides references to several media reports on the topic. The chapter concludes with a description of the longevity risk sharing mechanism embedded in the U.S. Teachers Insurance and Annuity Association pension fund (TIAA, formerly TIAA-CREF).

The last chapter, Chapter 8, summarizes the evidence for why tontines should be introduced in today's markets and explains how this should be best done. Milevsky reviews problems of existing retirement income products (including conventional life annuities and variable annuities) and of alternative self-annuitization strategies such as the so-called 4% rule. He concludes that tontines would be a valuable addition to the menu of available financial and insurance products for retirement. The final pages provide suggestions for the design of these new tontines.

It was a pleasure to follow Milevsky on this vivid journey through the history of the tontine. Written in a personal, humorous tone and full of interesting facts, his book is both very informative and quite entertaining. I highly recommend this book to readers of the *Journal of Pension Economics and Finance*.

Katja Hanewald
Australian Research Council Centre of Excellence in Population Ageing Research
The University of New South Wales, Australia

Towards a New Pensions Settlement: The International Experience. Gregg McClymont and Andy Tarrant (eds). Rowman and Littlefield International, 2016, ISBN 978-1-78348-748-6, 84 pages. doi:10.1017/S1474747217000087

Population ageing and changing employment patterns are challenging the future of traditional unfunded social security systems around the world. Many countries have already reformed or are in the process of reforming their traditional pension system into a new retirement-saving system with reduced reliance on public income and increased self-funding in retirement. In this book, Gregg McClymont and Andy Tarrant have assembled an interesting collection of chapters that reflect on recent experiences of pension reforms in the United Kingdom and six other countries: Australia, Canada, Germany, the Netherlands, Poland and Sweden. As pointed out by the editors, the six countries have all been regarded as international pioneers in pension reform at different times in the last 15 years, and as such the developments in these countries offer important lessons for the United Kingdom in relation to its own current pension reform process.

The book focuses on reforming occupation or private pensions, and the role of government in limiting the risks which individuals face in saving for these pensions. In the introduction, the editors point to information asymmetries prevalent in these pensions as the main justification for government intervention in private pension markets. A reference is made to George Akerlof's paper "The Market for Lemons" published in 1970 in which the Nobel laureate showed that poor value cars - "lemons" - would drive out good quality cars as a result of asymmetries of information between sellers and buyers in the absence of any counteracting institutional guarantees of quality. To prevent such failure in private pensions, the editors outline key international "lessons learned" in relation to costs and charges, transparency, economies of scale, governance and the drawdown phase of private pension schemes.

The following chapters then provide further details on both the successes and in particular the failures of the recent reforms of occupational or private pensions in each of the aforementioned

https://doi.org/10.1017/S1474747217000075 Published online by Cambridge University Press