

Retirement Security and the Financial and Economic Crisis: An Overview

Raimond Maurer, Olivia S. Mitchell, and Mark Warshawsky

September 2011

PRC WP2011-06

Pension Research Council Working Paper

Pension Research Council

The Wharton School, University of Pennsylvania

3620 Locust Walk, 3000 SH-DH

Philadelphia, PA 19104-6302

Tel: 215.898.7620 Fax: 215.573.3418

Email: prc@wharton.upenn.edu

<http://www.pensionresearchcouncil.org>

Retirement Security and the Financial and Economic Crisis: An Overview

Abstract

This volume explores how retirement planning and long-term financial security have changed, following the crisis. This paper provides an overview of key lessons and conclusions.

Raimond Maurer

Goethe University

RMaurer@wiwi.uni-frankfurt.de

Olivia S. Mitchell

Pension Research Council

mitchelo@wharton.upenn.edu

Mark Warshawsky

Towers Watson

mark.warshawsky@towerwatson.com

Retirement Security and the Financial and Economic Crisis: An Overview

Raimond Maurer, Olivia S. Mitchell, and Mark Warshawsky

The global financial and economic crisis has brought about numerous changes in the outlook for retirement security. This volume summarizes the lessons learned by practitioners, academics, and policy analysts who explore how retirement planning and long-term financial security have changed, following the crisis. The global financial meltdown has had important repercussions for capital market returns, labor market earnings, household retirement and consumption patterns, old-age Social Security systems, and pension plan resilience. Both traditional defined benefit (DB) and defined contribution (DC) plans have been shaken by the recent economic shocks. Stakeholders have had to gain a new appreciation of the need to identify, mitigate, and finance risk faced by beneficiaries, plan sponsors, and other players in the retirement finance field including government. In the future, improved understanding of risk is essential – and as the financial and economic collapse now confirms, risk will always play a part in retirement planning.

How the crisis affected different groups

The financial and economic crisis of 2008-9 wiped out about a quarter of U.S. household net worth, an outcome that will have long-term impacts on retirement saving and economic behavior. As Julia Coronado and Karen Dynan (2012) note, one group heavily hit was the Baby Boomers, who, on the verge of retirement, had to alter consumption and retirement plans as a result of these unpleasant developments. Their behavior will have substantial macroeconomic repercussions, inasmuch as this group holds a dominant share of assets. Despite the fact that those age 55-64 represent only 17 percent of the population, they command one-third of stock

market assets and one-quarter of the nation's housing stock. So when household net worth as a percent of disposable income fell back to where it was in the early 1990s, 'this group was particularly vulnerable to the declines in stock and housing prices,' explains Dynan. 'They felt the brunt of it.'

Accordingly, it is hardly surprising that this age group also cut spending aggressively. Following the 2000 recession, the age 55-64 cohort had the highest increase in spending, up almost seven percent 2000-02. But from 2000 to 2009, this group also had the sharpest drop in spending, eight percent. Further, after-tax income for those age 55-64 rose seven percent after the 2000 downturn, but it fell four percent, recently. These declines were even more pronounced for the age 65+ group which experienced a 14 percent increase in after-tax income following the prior recession, but a four percent drop in 2007-09. What people are consuming has also changed: younger persons cut spending on credit-related items, particularly vehicles, whereas the 55-64-year-olds made drastic cuts across-the-board. Most notably, they cut food expenditures almost seven percent compared to the prior economic cycle, whereas all other age groups (except those age 25-34) increased food spending, even during the crisis. Expenditures for apparel for those age 55-64 also declined 21 percent, the most for any age group during the crisis. Continuing to work has also been a form of adjustment for those who lost significant savings during the crisis and could not afford to wait for an economic rebound to recoup those losses before retirement.

Meanwhile, saving rates are rising, up from 1-2 percent in the years leading up to the crisis, now at six percent – similar to saving rates prior to the stock market run-up of the 1990s. Moreover, households along the age continuum are also borrowing less: cash-in mortgage refinancing is now outpacing cash-out transactions, whereas heading into the crisis in 2007,

cash-out deals made up nearly 90 percent of refinancing transactions. Households are also taking a more conservative approach to financial investments.

These patterns are broadly echoed in a simulation analysis by Barbara Butrica, Richard Johnson, and Karen Smith (2012), who point out that almost nine million jobs were lost between December 2007-February 2010, sending U.S. unemployment to its highest level since World War II. Of those who lost jobs, 43 percent were out of work for more than six months, making it difficult for them to get new jobs as skills depreciated and job networks grew cold. Men, youth, and African Americans were more likely than others to become unemployed, and three-quarters of those unemployed in 2010 believe that joblessness will have a major impact on their lives. Of those out of work more than seven months, 70 percent dipped into savings, 56 percent borrowed from family or friends, and 24 percent skipped mortgage or rent payments. Meanwhile, wages stagnated, wealth declined for three-fifths of Americans, and overall poverty increased 17 percent.

To estimate the potential long-term impacts of the recession on retirement compared to what would have been expected before the downturn, the researchers undertake a microsimulation effort. Their projections indicate that incomes at age 70 will shrink by four percent, for those age 55-64 by about one percent, and for the younger workers (age 25-34 in 2008) by about five percent. Social Security benefits depend on labor market earnings, and these too are projected to decline by about five percent for those age 25-34. Overall, wealthier people will suffer greater losses to their expected retirement income in absolute terms, because they have more to lose. Johnson also notes that ‘this recession could be worse than previous ones, and the long-term impact could be worse,’ due to longer-term scarring effects of unemployment on older workers.

Michael Hurd and Susann Rohwedder (2012) are concerned that older people with less time to make up for lost saving will need to alter spending and consumption. Comparing the less volatile 2001-2007 period with the 2007-9 period, they show that post-crisis, spending dropped dramatically for older people. Spending falls anyway with age, but the effect was eight times larger for persons age 51-64; for those age 65+, the spending decline was about half again as large, post-crisis. Their data are underscored by responses to an Internet survey where 85 percent of respondents who cut spending said they are worried about the economic future.

‘Even people not affected directly by the stock market or housing are worried about the economy,’ Hurd reports. One reason is that people are very pessimistic about housing values: only one-third of the respondents expect their home to be worth more in a year. Stock market expectations are also dismal: pre-crisis, more than half the respondents said markets would improve the following year but a year later, in 2009, the figure dropped to just 20 percent. While this is not rational based on 20-year historical returns, Hurd believes that ‘people have momentum expectations influenced strongly by what has happened recently.’ Even those with income and assets sufficient to insulate them are still concerned about how their children will fare. Mean anticipated bequests dropped from \$535,000 in 2008 to \$436,000 in 2009. Even though the National Bureau of Economic Research has determined the recession to be over, Hurd adds, ‘It is certainly not over from the viewpoint of our respondents.’

Social Security comprises a major source of income for retirees, a topic examined by Jason Fichtner, John W.R. Phillips, and Barbara Smith (2012). In particular, they investigate how peoples’ benefit claiming patterns are changing, using birth cohort data to isolate trends. The age of first-time Social Security claims had been declining since 1997, and the percentage of beneficiaries claiming at the earliest opportunity hit a trough in 2007, with 34 percent of men

eligible for Social Security payments signing up to collect their benefits. But the trend turned around at the peak of the crisis in 2008, when the percentage rose to 35 percent; a year later it was up again, to 36 percent. The researchers also find a correlation between state unemployment rates and the number of beneficiaries opting to take benefits early.

Defined contribution plans during the downturn

The economic downturn severely affected defined contribution plan participants. Going into the crisis, David Wray (2012) observes that DC plans were enjoying momentum: the 2006 PPA made permanent several favorable changes that first went into effect in 2001, and it cleared the way for auto-enrollment in DC plans. In his view, DC plans were quite resilient over the period 2006-10: no DC plans were terminated except those at companies that went out of business. Moreover, three-quarters of all plans maintained employer contribution levels; only 15 percent suspended contributions; while four percent reduced and five percent boosted payments in 2009. The following year, these figures shifted to 78 percent, nine, four, and nine percent, respectively. The number of plans offering immediate eligibility to new hires and automatic enrollment also rose steadily throughout the crisis and many plans added investment allocation support. The share of plans offering target-date funds (TDFs) rose from 43 percent to 79 percent over 2006-10, representing extremely rapid change in the normally slow-to-evolve pension world.

Wray also points out that DC participants stayed the course; in 2006, plans experienced a 2.5 percent resignation rate, rising to 3.1 percent in 2008, dropping back to two percent in 2010. Participants with loans against their 401 (k) holdings declined slightly during the crisis, from 24 percent in 2006 to 23 percent in 2009. DC plan assets also responded to the crisis: in 2006, DC

assets stood at \$3.6 trillion, fell to \$2.7 trillion in 2008, and recovered back to \$3.9 trillion, a record high. ‘Clearly there was no massive flight from the system by participants,’ Wray observes. Yet the volatility experienced during this period appears to have had an impact on asset allocation. DC participants had 73 percent of their investments in equities and 27 percent in fixed income investment in 2006, which shifted to 68 and 32 percent in 2010. Rather than finding that DC retirement saving vehicles failed, he argues that the DC plan passed its stress test.’

To gain more insight into DC participant behavior during the crisis, Ning Tang, Olivia S. Mitchell, and Steve Utkus (2012) examine how trading patterns changed in 401 (k) plans. Drawing on Vanguard data, the authors point out that only 2.5 percent of plan participants traded between January 2006 and March 2009. Nevertheless, trading did rise 23 percent in the second half of the period, beginning in September 2008 at the height of the crisis. They also find a strong shift away from equities: flows to stock declined almost four percent, down one percent from the pre-crisis phase, and 11 percent after the shock hit. They also examine characteristics of people who traded, and they conclude that the average plan trader was a 46-year-old male who had accumulated \$115,000 in assets during 10 years in the plan. During the crisis, however, more women with lower total wealth and trading experience began to trade.

The researchers also focus on trader motivation and discover that market volatility boosted investor awareness of the risk associated with equities. Prior to the crisis, many traders were apparently momentum-driven, but during the downturn they engaged in some contrarian behavior – ‘they were trying to buy on the dips,’ explains Tang. ‘This is a surprise.’ It also appears that when plan participants receive their quarterly statements this also shaped trading patterns. Nevertheless, they conclude that inertia dominated trading behavior in 401(k) plans, overall.

The long-term impacts of the financial and economic crisis on DC plan participants cannot yet be evaluated, so one group of analysts has modeled what these outcomes might be. Using a dynamic programming model, Jingjing Chai, Raimond Maurer, Ralph Rogalla, and Olivia S. Mitchell (2012) explore how people of different ages are likely to respond to the shocks they have experienced in consumption, employment, and retirement over their remaining lifetimes. The researchers focus on both short- and long-term ‘scarring’ effects on the young and the middle-aged, i.e. those age 20 and age 55 when the shock occurred. The model inputs data on labor and capital markets, work and retirement, and housing, to gauge the impact on consumption, leisure, asset allocation, retirement decisions, and annuitization. The authors predict that most workers will remain employed longer: for those currently in their 20’s and in their 50’s, the average retirement age is predicted to rise over a year.

Compared to what would have been expected in ‘normal’ periods, they also project both short- and long-term changes in asset allocation. For those currently age 20, equity investments will fall by nearly 20 percent initially and return to normal levels by age 30. Thereafter, when they are age 40-80, their equity weighting is predicted to rise by 5-10 percent and to 10 percent by age 80. For those currently age 55, the equity fraction is predicted to fall by nearly 10 percent right away, and then rise by age 60 and beyond. As for consumption, the model predicts a larger consumption loss for young people in the earlier years. Yet, explains Maurer, there is a substantial, persistent consumption loss for both age groups. The young compensate for consumption drop by enjoying more leisure, but the older group will consume less and have to work more.’

How defined benefit plans managed during the crisis

Many concerned with retirement security have been interested in how traditional DB retirement programs fared during the crisis. The downturn had a dramatic impact on defined benefit pensions, according to Mark Warshawsky's (2012) analysis of funding levels, contributions, and proposed reforms. Using Fortune 1000 data, he shows that aggregate funding rose to 106 percent in 2007, fell to 77 percent in 2008, and then edged slightly up to 83 percent in 2010. The improvement was due to a rise in asset values, but it was tempered by declines in the discount rate and the effect of that change on pension liabilities. And though funding levels are up, Warshawsky notes that there's still a long way to go.' He also compares asset allocation patterns in DB and DC plans through the crisis. Starting in the mid-1990s, both plan types began to increase equity holdings; by 2006, each had about 70 percent of assets in equities. In 2007, the paths diverged, with equities rising to more than 70 percent of DC assets while the fraction in stock dropped steadily for DB plans to under 50 percent by 2009. Equities rose again as a percentage of DC plan assets in 2009, along with share prices, illustrating that the decline for DB plans was a conscious choice by plan sponsors to de-risk their plans.

'We are still grappling with the issue of who should bear pension plan risk,' Warshawsky indicates. He suggests that DB plan contributions will need to be boosted in the future and notes that reform proposals include new types of plans that split the difference between the employer and employee, regarding where risks are borne. This is already happening, in light of the dramatic shift in plan type offered. In 1998, new hires were offered a traditional DB plan at 74 of the Fortune 100 companies. Today, only 17 offer a traditional DB plan (and 24 offer a hybrid plan). Meanwhile, the number of companies offering only a DC retirement program to new hires has increased from 26 to 59.

Multi-employer plans are the subject of an analysis by Judith F. Mazo and Eli Greenblum (2012) which examines how union plans used the Pension Protection Act (PPA) of 2006 to stabilize their finances. The authors identify three categories they call the red, yellow and green zones: plans with sound finances were deemed 'safe' and in the green zone; plans at least 80 percent funded and facing a deficit in seven years were classified as 'endangered' and in the yellow zone; and plans in 'critical' danger of being deficient, or insolvent, in four to five years fell into the red zone. Trustees of yellow and red zone plans had to establish rehabilitation plans. Of the more than four hundred plans examined, nine percent were in the red zone in 2008, rising to 29 percent in 2010; 80 percent were in the green zone in 2008, falling to just over half 53 in 2010; and 11 percent of the firms were in the yellow zone in 2008, with 18 percent now in this category. Nonetheless, of the plans in the red zone, the majority were progressing to recovery. Of those still facing insolvency, most were in dying industries or overwhelmed by large numbers of retirees. In order to move forward, many plans reduced benefits and asked employees to pay a greater share of contributions.

Hybrid plans blend characteristics of both DB and DC pensions, and they have become more popular following passage of the PPA, according to Robert Clark, Alan Glickstein, and Tomeka Hill (2012). The first U.S. hybrid pension plan was created in 1985 by Bank of America, and this plan type enjoyed a surge during the 1990s. Companies sought to convert to hybrid plans due to changes in accounting rules, employee preferences for more mobile pensions, compensation packages deemphasizing retirement, and some DB plan overfunding. Yet the trend was halted by lawsuits in the late 1990s arguing that these plans violated federal pension laws and statues regarding age discrimination. In 2006, with passage of the PPA, hybrid plans received safe harbor from age discrimination claims. The researchers contend that firms' DB

plans' funded status was not an important predictor of the conversion to hybrid plans. Instead, companies with a smaller market capitalization but large pension obligations and assets relative to capitalization were more likely to convert to a hybrid.

The financial crisis has also affected pensions in other countries. For instance in the Netherlands, it forced a profound reexamination of risk and guarantees in the country's occupational retirement plans. Theo Nijman and Lans Bovenberg (2012) explain that the Netherlands has a first-tier government pension to protect against poverty, on top of which occupational pension funds provide a second tier of retirement income linked to earnings. Dutch occupational pensions are of the DB variety, and they historically enjoyed high levels of funding with assets amounting to 130 percent of liabilities in 2000. During the crisis, however, pension funding ratios fell due, in part, to a drop in asset prices and also to a fall in nominal interest rates. As a result, occupational retirement pension funds reduced nominal benefits that many beneficiaries had thought were 'guaranteed.' In fact, as the authors point out, it has become clear that the participant is the ultimate risk-bearer.

The financial crisis has triggered reforms to preserve the Dutch DB style plans. Many of their pensions have asset buffers that enable risk-sharing across generations and smooth out fluctuations in financial markets. Nonetheless, these mechanisms also have problems in that they lack transparency and do not make clear who bears the burden of funding shortfalls. Inasmuch as reforms implemented in 2010 restricted raising premiums as a way to absorb risk, the authors note that 'participants will have to share in shocks to the system one way or another.'

Public sector pensions have also faltered in the wake of the crisis, as pointed out by Andrew Biggs (2012). His analysis asks whether public pension funds have altered their portfolios to adjust the risk assumed after losing nearly \$1 trillion in asset value during the crisis.

The debate is driven by the fact that public employee pensions were already underfunded going into the crisis and assets are roughly 25 percent below levels in 2007. Moreover, expected asset return levels are set by state legislatures, and if a legislature sets the discount rate at eight percent (typical in the public sector), plan administrators are driven to find a portfolio that can deliver that return – at the same time that projected asset returns have declined.

To determine how public plans reacted to the downturn, Biggs studies 30 major plans representing about half of all the public pension assets under management. To determine whether plans have ‘doubled down’ on risk in order to catch up on returns, reduced risk to preserve funding, or held steady, he looks at asset allocations pre-and post-crisis. In 2007, the plan portfolios were heavy on equities with a median target of 57 percent; U.S. bonds were 26 percent of assets; and alternative investments were about eight percent. In 2010, equities had declined to 52 percent, bonds were stable, and alternative investments rose significantly to 15 percent. In all, 14 of the plans under study boosted increased risk, five reduced risk, and 11 held steady. Mean returns rose from 6.35 percent in 2007 to 6.51 percent in 2010. Biggs concludes that higher risk may do little to help with public plan shortfalls.

Conclusion

There is little doubt but that the financial and economic crisis – and its continuing fallout –has deeply shaken the foundations of retirement security in America and around the world. When pressed to recommend reforms post-crisis, many would recommend enhancing financial advice for plan participants, emphasizing flexibility and the positive effect of working another one or two years to make up for investment losses in the downturn. Adding to this is the great and continuing need for financial education, essential as the retirement system moves increasingly toward personal account pensions.

But perhaps most important of all is the need for greater understanding of risk throughout the retirement security system, along with new approaches to reengineering retirement pensions. This includes revisiting asset allocation patterns and embedding rebalancing efforts, to better ensure retirement security. This volume outlines some successes, and some failures, along with the lessons learned.

References

- Biggs, A. G. (2012). 'How Have Public Sector Pensions Responded to the Financial Crisis?' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Bovenberg, L. and T. Nijman. (2012). 'Collective Pensions and the Global Financial Crisis: The Case of the Netherlands. In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Butrica, B., R. Johnson, and K. Smith. (2012). 'The Potential Impact of the Great Recession on Future Retirement Incomes.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Chai, J., R. Maurer, O.S. Mitchell and R. Rogalla. (2012). 'Lifecycle Impacts of the Financial Crisis on Optimal Consumption-Portfolio Choices and Labor Supply.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Clark, R. L., A. Glickstein and T. Hill. (2012). 'Adopting Hybrid Pension Plans: Effects of Economic Crisis and Regulatory Reform.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Coronado, J. and K. Dynan. (2012). 'Changing Retirement Behavior in the Wake of the Financial Crisis.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.

- Fichtner, J., and J.W.R. Phillips. (2012). 'Retirement Behavior and the Global Financial Crisis.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Hurd, M. and S. Rohwedder. (2012). 'Effects of the Economic Crisis on the Older Population: How Expectations, Consumption, Bequests and Retirement by the Older Population Responded to Market Shocks.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Mazo, J. F. and E. Greenblum. (2012). 'Multiemployer Pension Plans In the Financial Crisis.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Tang, N., O. S. Mitchell, and S. P. Utkus. (2012). 'Trading in 401(k) Plans during the Financial Crisis.' In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Warshawsky, M. J. (2012). 'Corporate Defined Benefit Pension Plans and the Financial Crisis: Impact and Sponsor and Government Reactions. In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.
- Wray, D. (2012). 'A Stress Test for the Private Employer Defined Contribution System. In R. Maurer, O. S. Mitchell, and M. Warshawsky, Editors, *Reshaping Retirement Security: Lessons from the Global Financial Crisis*. Oxford: Oxford University Press.