REFERENCE LIST — March 2009

Social security

"**Social protection and social inclusion 2008: EU indicators**", European Commission (2009), http://bookshop.europa.eu/eubookshop/download.action?fileName=KE8108422ENC_002.pdf&eubphfUid=10032800&catalogNbr=KE-81-08-422-EN-C
Summary: Provides an overview of social cohesion in the EU and its interaction with economic and employment trends, focussing on monetary poverty and income inequalities, on the impact of growth and jobs on poverty and social cohesion, and on educational outcomes. There are separate chapters on each of progress towards the EU social inclusion objectives and the pension objectives, plus a further chapter on health, health care and long term care. The URL is for the English version but it is available in all EU languages.

"**Regional dimensions of the ageing situation**", United Nations Economic and Social Affairs (2008), http://www.un.org/esa/socdev/ageing/documents/publications/cp-regional-dimension.pdf
Summary: Assesses progress on the *Madrid International Plan of Action on Ageing*, an outcome of the 2002 Second World Assembly on Ageing convened in Spain. It discusses the Madrid Plan, provides a regional overview, and then goes into detail of ageing trends in each of the five UN regions.

"**Older Americans 2008: Key Indicators of Well-Being**", US. Federal Interagency Forum on Aging-Related Statistics (2008), http://www.agingstats.gov/agingstatsdotnet/Main_Site/Data/Data_2008.aspx
Summary: This report provides the latest data on the 38 key indicators selected by the Forum to portray aspects of the lives of older Americans and their families. It is divided into five subject areas: population, economics, health status, health risks and behaviors, and health care.

"**The Canadian Safety Net for the Elderly**", Wiseman, M. and Martynas Ycas (2008), US Social Security Bulletin, Vol. 68, No. 2,
Summary: The Canadian social assistance system is applauded for reducing poverty among the elderly. This paper profiles the Canadian system, compares the system to the U.S. Supplemental Security Income program, reviews the consequences for elderly poverty rates, assesses system costs, and then comments on pertinence of the Canadian experience to SSI policy. The Canadian Guaranteed Income Supplement (GIS), a near-universal minimum income guarantee, is a major factor in poverty effect. The total cost to Canada of providing income support for elderly persons receiving GIS in 2004 was approximately C$13.3 billion, slightly more than 1 percent of GDP and almost fourteen times the U.S. allocation SSI and food stamps for elderly SSI recipients. The Canadian example suggests U.S. policy makers consider better integration of SSI with basic Social Security benefits, experimenting with alternatives to restricting SSI eligibility to individuals with very few assets, and reducing barriers to program access.

Pension systems reform

"**Reforming retirement-income systems: lessons from the recent experiences of OECD countries**", Martin, John P. and E. R. Whitehouse (2008), OECD Social Employment and Migration Working Papers, No. 66, http://www.oecd.org/dataoecd/58/3/40962388.pdf
Summary: The purpose of this paper is to summarise the recent major reforms in 16 OECD countries and highlight the main lessons. Section 1 looks at which countries reformed their pensions systems and which did not. It also examines the fiscal challenges posed by public pensions. Section 2 describes the measures in the reforms themselves. These include, among other things, increases in pension age, changes in the way benefits are calculated and smaller pension increases in retirement than in the past. Section 3 explores the impact of these reforms on future pension entitlements of today's retirees, showing a clear trend to a lower pension promise for today's workers than for past generations. This means that people will need to save more for their own retirement via private pension schemes, an issue examined in Section 4. This is followed in Section 5 by a review of the main outstanding challenges facing pension systems in OECD countries.

"**Filling the Pension Gap: Coverage and Value of Voluntary Retirement Savings**", Antolín, P. and E. R. Whitehouse (2009), OECD Social Employment and Migration Working Papers, No. 69, http://puck.sourceoecd.org/vl=4042264/cl=15/nw=1/rpsv/cgi-bin/wppdf?file=5ksnx3dd90hg.pdf
Summary: The current generation of workers can expect lower pension benefits in retirement than the current generation of pensioners. Private, voluntary pension savings will therefore play a greater role in providing for old age. This paper calculates the size of the "pension gap": the difference between the benefits from mandatory retirement-income provision and a target pension level. It then computes the amount that people would need to save to achieve the target.

Data on coverage of private, voluntary pension schemes in a range of OECD countries are then presented. The paper also shows how coverage varies with age and earnings. The results show significant gaps in coverage, particularly among low earners and younger workers. The effect could be a resurgence of old-age poverty when these generations reach retirement. Data on contributions to private pensions show that these are, on average, at a level likely to fill the pension gap. Expanding coverage rather than raising contribution rates should therefore be the policy priority.

Five policy options for increasing coverage are assessed: (i) mandating private pensions; (ii) "soft compulsion", which is automatic enrolment in private pensions but with an opt-out; (iii) facilitating access to the means for saving for retirement; (iv) preferential tax treatment of retirement savings; and (v), improving financial awareness.

"**Socio-economic differences in mortality: implications for pensions policy**", Whitehouse, E. R.and Asghar Zaidi (2008), OECD Social Employment and Migration Working Papers No. 71, http://puck.sourceoecd.org/vl=4042264/cl=15/nw=1/rpsv/cgi-bin/wppdf?file=5kz82v2fjrhg.pdf
Summary: The analyses included in the report show that there are big socio-economic differences in mortality, especially for men, and they appear to have become bigger over time. The report discusses implications of mortality differentials for five major areas of pension policy: the progressivity of the pension system, the pension eligibility age, the retirement incentives, future pension expenditures and private pensions. The empirical work shows that the mortality differentials reduce progressivity in pension systems. Moreover, there is empirical evidence that raising retirement age is not more unfair to socio-economic groups with lower life expectancy.

"**Pensions, purchasing-power risk, inflation and indexation**", Edward Whitehouse (2009), OECD Social Employment And Migration Working Papers, No. 77,
http://www.olis.oecd.org/olis/2009doc.nsf/LinkTo/NT00000A3E/$FILE/JT03258853.PDF
Summary: The rapid rise in inflation in 2006-07 has attracted attention – once again – both to how pensions systems should react to changes in prices, and to how they do so in practice. Although inflation is now falling as a result of lower commodity prices and weakening demand, this brings with it the risk of deflation – falling prices – which also raises questions as to how pension systems should react.

Most OECD countries have a legislated commitment to indexation of pensions in payment. However, the empirical evidence in this paper shows that these rules have frequently been over-ridden. Furthermore, because indexation to price inflation rather than wage inflation is much more common – and wages can be expected to rise more rapidly than prices – the effect of following legislated indexation rules will be to reduce pensioner incomes compared with those of the working-age population. However, indexation to prices is less costly, allowing a larger initial pension than under earnings indexation for a given budget constraint.

This paper sets out current, national indexation policies and historical data on how pensions have been adjusted in practice. It examines different indexation policies: to prices, earnings or a mix of the two; the choice of the price index and progressive indexation (where smaller pensions are increased more rapidly than larger).

"**Pension Markets in Focus**", OECD December 2008, Issue 5,
http://www.oecd.org/dataoecd/42/19/41770561.pdf
Summary: has a special feature on the impact of the 2008 turmoil on private pensions, as well as a discussion of main private pension trends over 2001-2007. The document contains "Statlinks" which give direct access to Excel spreadsheets.

"**The under-pensioned: disabled people & people from ethnic minorities**", Steventon, A. and Carlos Sanchez, Pensions Policy Institute Briefing Note 50,
http://www.pensionspolicyinstitute.org.uk/news.asp?p=325&s=6&a=0
Summary: This research was commissioned by the Equality and Human Rights Commission (EHRC) to examine the likely future pension incomes of disabled people and people from ethnic minorities. Overall, it finds that disabled people and people from ethnic minorities have many of the 'alarm bell' characteristics that are associated with lower pension incomes. If current trends continue, they are likely to have lower pension incomes in future than the traditionally-employed median-earning male.

Other: The UK Pensions Policy Institute has recently published a couple of submissions; one to the UK Parliament Work & Pensions Select Committee inquiry into tackling pensioner poverty in Great Britain, and one to the Personal Accounts Delivery Authority's consultation, *Building personal accounts: Securing a retirement income*. See
http://www.pensionspolicyinstitute.org.uk/news.asp?p=187&s=5&a=0

Regulation

"Regulatory reform : integrating paradigms", de la Torre, Augusto and Alain Ize (2009), World Bank Policy Research Working Paper, WPS4842
http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2009/02/23/000158349_20090223103756/Rendered/PDF/WPS4842.pdf

Summary: The Subprime crisis largely resulted from failures to internalize systemic risk evenly across financial intermediaries and recognize the implications of Knightian uncertainty and mood swings. A successful reform of prudential regulation will need to integrate more harmoniously the three paradigms of moral hazard, externalities, and uncertainty. This is a tall order because each paradigm leads to different and often inconsistent regulatory implications. Moreover, efforts to address the central problem under one paradigm can make the problems under the others worse. To avoid regulatory arbitrage and ensure that externalities are uniformly internalized, all prudentially regulated intermediaries should be subjected to the same capital adequacy requirements, and unregulated intermediaries should be financed only by regulated intermediaries. Reflecting the importance of uncertainty, the new regulatory architecture will also need to rely less on markets and more on "holistic" supervision, and incorporate countercyclical norms that can be adjusted in light of changing circumstances.

"**An Unreal Number: How Company Pension Accounting Fosters an Illusion of Certainty**", Blake, David P., Zaki Khorasanee, John Pickles, and David Tyrrall (2008), The Pensions Institute, Cass Business School, http://ssrn.com/abstract=1344313

Summary: This research paper, funded by the ICAEW's charitable trusts, is intended to be a 'state of the art' review of the ways in which companies account for their pension obligations. It explains how pension accounting has evolved both to reflect changing views of the nature of the pension promise and to help fulfil the accounting objectives of stewardship and decision-usefulness. The paper contends that the most useful information that accounts can provide about a defined benefit plan's funded status is the market, or fair, value of its assets and the amounts, timing and uncertainty of its projected pension payments. By reducing this information to a single number, pension accounting standards create an 'illusion of certainty' which supplementary cash flow projections and sensitivity analyses do not dispel.

In the UK the Board for Actuarial Standards has issued an Exposure Draft in respect of reporting actuarial information. It would seem likely to be of interest more widely than just the UK, although the subject matter is also wider than just pensions. To quote: *"The important question will no longer be whether a single document checks all the boxes, but whether users have sufficient high quality actuarial information to make their decisions."* See:
http://www.frc.org.uk/bas/publications/pub1883.html

Retirement savings

"**Are Baby Boomers Saving Enough for Their Retirement?**", Rudolph G. Penner (2008),The Urban Institute, US, Discussion Paper 08-05,
http://www.urban.org/UploadedPDF/411794_baby_boomers_saving.pdf
Summary: This paper estimates the ratio of post- to pre-retirement consumption to explore how well boomers are prepared for retirement. It shows that some of the poorest households are best prepared because they can maintain consumption by relying almost solely on Social Security while many of the most affluent households are poorly prepared because they will experience a decline in consumption upon retiring. Nonetheless, affluent households will be able to maintain a consumption level many times that of poor households. The paper discusses whether equalization of pre- and post-retirement consumption provides a useful adequacy yardstick at all income levels.

"**Are All Americans Saving 'Optimally' for Retirement?**", Scholz, John Karl and Ananth Seshadri (2008), Michigan Retirement Research Center Research Paper No. 2008-189,
http://ssrn.com/abstract=1337653
Summary: Many people fear that Americans are preparing poorly for retirement. But developing rigorous evidence on this issue is difficult. In this paper we briefly discuss evidence on the adequacy of retirement wealth accumulation. We conclude that existing descriptive evidence does not seem consistent with dire assessments of poor financial preparation. We then extend the straightforward, but computationally complex dynamic programming approach used in our earlier work to assess the adequacy of retirement wealth preparation of Americans born before 1954. We find only 4 percent of HRS households have net worth below their optimal targets in 2004, though this percentage is somewhat higher for more recent HRS cohorts. While our work is preliminary, we find little evidence that Americans born before 1954 have prepared poorly for retirement.

"Dynamic Lifecycle Strategies for Target Date Retirement Funds", Basu, Anup K., Byrne, Alistair and Michael E. Drew (2009), http://ssrn.com/abstract=1302586
Summary: Lifecycle funds offered to retirement plan participants gradually reduce their exposure to stocks as they approach the target date of retirement. We show that such deterministic switching rules produce inferior wealth outcomes for the investor compared to strategies that dynamically alter the allocation between growth and conservative assets based on cumulative portfolio performance relative to a set target. The dynamic allocation strategies proposed in this paper exhibit almost stochastic dominance (ASD) over strategies that switch assets unidirectionally without consideration of portfolio performance.

"Emigration and the Age Profile of Retirement among Immigrants", Cobb-Clark. Deborah, and Steven Stillman (2008), The Institute for the Study of Labor, Bonn, IZA DP No. 3874,
http://ftp.iza.org/dp3874.pdf
Summary This paper analyzes the relationship between immigrants' retirement status and the prevalence of return migration from the host country to their country of origin. We develop a simple theoretical model to illustrate that under reasonable conditions the probability of return migration is maximized at retirement. Reduced-form models of retirement status which control for the rate of return migration are then estimated using unique data on emigration rates matched to individual-level data for Australia. We find that immigrants, particularly immigrant women, are more likely to be retired than are native-born men and women with the same demographic, human capital, and family characteristics. Moreover, within the immigrant population, there is a negative relationship between the propensity to be retired and the return migration rate of one's fellow countrymen, particularly amongst men. This link is strongest for those individuals who are at (or near) retirement age and among those! with the highest cost of return

migration. These results suggest that the fiscal pressures associated with aging immigrant populations vary substantially across origin countries.

"**Retirement Wealth Across Cohorts: The Role of Earnings Inequality and Pension Changes**", Ann Huff Stevens (2008), Michigan Retirement Research Center, Research Paper No. 2008-186, http://ssrn.com/abstract=1337664

Summary: Changes in labor markets over the past 30 years suggest upcoming changes in the distribution of wealth at retirement. Baby boom cohorts have spent the majority of their prime earnings years in a labor market with increased earnings inequality. This paper investigates how changes in lifetime earnings distributions affect the distribution of retirement wealth among cohorts retiring over the next decade. I use data from the Health and Retirement Study from 1992 to 2004 to estimate the relationship between lifetime earnings, pre-retirement private wealth and Social Security wealth. I show that changes in the lower half of the male earnings distribution explain a substantial portion of changes in the distribution of pre-retirement wealth. Growth in women's earnings across the cohorts do not offset these declines in wealth associated with male earnings. When pensions are added to the measure of wealth, the role of earnings is even larger, reflecting a strong correlation between changes in earnings across these cohorts and changes in the values of their employer-provided pensions. These pension changes do not appear to operate via changes in pension structures (defined benefit versus defined contribution). The present value of wealth from future Social Security benefits, in contrast, grows in real terms throughout most of the distribution. At the bottom of the male distribution of Social Security wealth, reductions in lifetime earnings limit this growth in real benefits, while at the top of the distribution earnings growth amplifies expected growth in Social Security wealth.

"**Comparing Strategies for Retirement Wealth Management: Mutual Funds and Annuities**", Pang, Gaobo and Mark J. Warshawsky (2009), http://ssrn.com/abstract=1289320

Summary: We compare wealth management strategies for individuals in retirement, focusing on trade-offs regarding wealth creation and income security. Systematic withdrawals from mutual funds generally give opportunities for greater wealth creation at the risk of large investment losses and income shortfalls. Fixed and variable life annuities forgo bequest considerations and distribute the highest incomes. A variable annuity with guaranteed minimum withdrawal benefit (VA GMWB) somewhat addresses both income need and wealth preservation. Mixes of mutual funds and fixed life annuities deliver solutions broadly similar to and even more flexible than a VA GMWB strategy.

"Calculating Savings Rates in Working Years Needed to Maintain Living Standards in Retirement", Pang, Gaobo and Mark J. Warshawsky (2008), http://ssrn.com/abstract=1316842

Summary: We establish an empirically based lifecycle model to gauge savings and replacement rates for maintaining a steady living standard over life. We consider a variety of scenarios and demonstrate that savings rates vary substantially with individuals' economic and demographic situations as well as retirement plan provisions. This result highlights that meaningful retirement planning must be specific to individuals or households and be based on a comprehensive knowledge of living means and needs.

"Financial Hardship Before and After Social Security's Early Eligibility Age", Johnson, Richard W. and Gordon B.T. Mermin (2009), Center for Retirement Research, Boston College, Working Paper #2009-8, http://crr.bc.edu/images/stories/Working_Papers/wp_2009-8.pdf

Summary: Although poverty rates for Americans ages 65 and older have plunged over the past half century, many people continue to fall into poverty in their late fifties and early sixties. This study examines financial hardship rates in the years before qualifying for Social Security retirement benefits at age 62 and investigates how the availability of Social Security improves economic well-being at later ages. The analysis follows a sample of adults from the 1937-39 birth cohort for 14 years, tracking their employment, disability status, and income as they age from their early 50s until their late 60s. It measures

the share of older adults who appear to have been forced into retirement by health or employment shocks and the apparent impact of involuntary retirement on low-income rates. The study also estimates models of the likelihood that older adults experience financial hardship before reaching Social Security's early eligibility age.

The results show that the likelihood of experiencing financial hardship increases significantly as people approach Social Security's early eligibility age. The increase in hardship rates is concentrated among workers with limited education and health problems. For example, among those who did not complete high school, hardship rates increase from 23 percent at ages 52 to 54 to 31 percent at ages 60 to 61, a relative increase of 36 percent. Hardship rates decline after age 62, when most people qualify for Social Security retirement benefits. These findings highlight the fragility of the income support system for Americans in their fifties and early sixties.

"Portfolio Choice in Retirement: Health Risk and the Demand for Annuities, Housing and Risky Assets", Motohiro Yogo (2009), Center for Retirement Research, Boston College, Working Paper #2009-3, http://crr.bc.edu/images/stories/Working_Papers/wp_2009-3.pdf

Summary This paper develops a consumption and portfolio-choice model of a retiree who allocates wealth among four assets: a riskless bond, a risky asset, a real annuity, and housing. Unlike previous studies that treat health expenditures as exogenous negative income shocks, this paper builds on the Grossman model to endogenize health expenditures as investments in health. I calibrate the model to explain the joint evolution of health status and the composition of wealth for retirees, aged 65 to 96, in the Health and Retirement Study. I use the calibrated model to assess the welfare gains of an actuarially fair annuity market. The welfare gain is less than 1% of wealth for the median-health retiree at age 65, and the welfare gain is about 10% of wealth for the healthiest.

"Sensitivity Analysis for a Dynamic Stochastic Accumulation Model for Optimal Pension Savings Management", Jakubik, Tibor, Melichercik, Igor and Sevcovic, Daniel (2009), http://ssrn.com/abstract=1348108

Summary: Since January 2005, pensions in Slovakia are operated by a three-pillar system. This paper concentrates on the mandatory, fully funded second pillar. We recall the dynamic stochastic accumulation model proposed in S. Kilianová, I. Melicherčík and D. Ševčovič, "Dynamic accumulation model for the second pillar of the Slovak pension system, Finance a úvěr" - Czech Journal Of Economics and Finance 56 (2006), 11-12. Pension asset managers are very cautious and hold low stocks proportions in the pension funds. We discuss the sensitivity of the level of savings with respect to the proportion of stocks in the portfolios. Furthermore, we perform the sensitivity analysis with respect to correlation between stock and bond returns and risk aversion. Finally, we prove linearity of the level of savings with respect to the contribution rate.

Longevity and life expectancy

"**Longevity risk and annuity pricing with the Lee-Carter model**", Richards, S. J. and I. D. Currie (2009), presented to the Faculty of Actuaries, 16 February 2009, http://www.actuaries.org.uk/data/assets/pdf_file/0004/146362/fac_sm20090216.pdf

Summary: Several important classes of liability are sensitive to the direction of future mortality trends, and this paper presents some recent developments in fitting smooth models to historical mortality-experience data. We demonstrate the impact these models have on mortality projections, and the resulting impact which these projections have on financial products. We base our work round the Lee-Carter family of models. We find that each model fit, while using the same data and staying within the Lee-Carter family, can change the direction of the mortality projections. The main focus of the paper is to demonstrate the impact of these projections on various financial calculations, and we provide a number of ways of quantifying, both graphically and numerically, the model risk in such calculations. We conclude that the impact of our modelling assumptions is financially material. In short, there is a need for awareness of model risk when assessing longevity-related liabilities, especially for annuities and pensions.

Other

A new book has been published recently on 100 years of State pension in the UK, two of the four authors of which are actuaries and one works for the UK Actuarial Profession. See: http://www.actuaries.org.uk/media_centre/news_stories/2009/march/pensions100