

## *Discussion*

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The paper by Todd Groome, and his co-authors, is a well-written survey of the main issues concerning ageing and financial markets. I would like to add a few that aren't mentioned. Then, based on the example of Italy, I will offer some views on how to deal with the problems posed by population ageing.

First, some issues that could have been mentioned in the paper are as follows.

The authors identify the increase in longevity and the decline in fertility rates as the main factors that characterise the impact of ageing on finance. The consequence is, other things equal, an increase in the dependency ratio. Another factor that should be considered is the long-term growth prospects of economies.

The authors make some use of projections, but they could be more precise on the following points. What do we know about future developments in longevity? Until now its increases have been consistently underestimated, but why should we keep making the same mistake? How likely is it that we will live much longer than we already do? There is a high degree of uncertainty on this issue. As for fertility rates, they seem to be sensitive to policy measures and not exogenous. Furthermore, the impact of immigration should be taken into account, even if only to say that it will be small. Finally, expectations regarding long-term growth should be made more explicit. All these points deserve papers of their own, but they should be acknowledged and maybe used to give a sense of the uncertainty that surrounds these issues and of how sensitive projections are to changes in the assumptions.

The authors could also have mentioned some of the reforms undertaken in the past few years in many countries, or described in some detail ones that they particularly liked, to give an idea of the extent of action that is needed. The problem with the policy measures needed is that they imply sizeable redistribution of disposable income and are therefore unpopular, the more so the older the current population; this political economy dimension is lacking in the paper.

A final point on what could have been said. Much attention is given to the second pillar of retirement income systems, particularly on whether pension funds are underfunded, whether they have the right incentives to manage their assets and liabilities properly, and whether the supervisory framework is sound. What is missing is a sense of the optimal asset-liability structure, and on what it depends. This of course has implications for the regulatory framework and the incentives that should be given to fund managers.

Now to some thoughts on the challenge posed by ageing.

It's probably fair to say that changes in the dependency ratio have two dimensions: one is its expected increase, the other is its variance. The increase in the mean is mainly the preserve of policy options, while the variance could, in principle, be dealt with by financial markets.

The increase in life expectancy is already being dealt with (if not adequately) by most countries, through the adoption of conceptually straightforward policy measures. Let's take the example of Italy. In the early nineties it faced a 'perfect pension storm': it had one of the most generous pension systems in terms of retirement age and benefits, funded on a pay-as-you-go basis, combined with one of the highest life expectancies in the world, one of the lowest fertility rates and one of the lowest rates of economic growth. The system was basically heading towards bankruptcy but, through an increase in retirement ages and contributions, the development of the second and third pillars and changes in the funding method (to notional defined contribution), the system is forecast to return to equilibrium (in net present value for newly retired individuals) by 2040.

In general, since there seems to be little room for increases in contributions, the favoured policy measures are: changes in the minimum retirement age and making households save more by pushing second- and third-pillar schemes; little is being done on the fertility side of the issue, probably because the effects would be uncertain and much delayed. So, after the reforms, households will face more of the traditional risks, including: inflation risk, investment risk and liquidity risk. These risks are well understood and can be hedged by appropriate financial instruments, such as inflation-indexed bonds and very long-term bonds.

But longevity risk is much harder to hedge, as there is no natural counterparty (the industries that would benefit from increases in longevity, such as pharmaceuticals and health care, are far too small to satisfy the forecast demand – witness the figures mentioned for longevity risk in the United Kingdom), so the issue here is really about risk sharing.

The authors recognise that annuities, which are the natural product for households to insure against longevity risk, are not as widespread as one would expect; there are many good reasons for this. First of all, households already have an annuity – their social security pension. Second, they might want to leave a bequest, or keep their financial wealth in a way that allows them to insure against liquidity shocks (such as unexpected health problems that require costly cures), or they might simply be myopic and underestimate the magnitude of the problem.

If one looks at Italian data, for households headed by a person aged between 65 and 80, three things are striking: (i) the share of disposable income derived from a pension is more than two-thirds for 75 per cent of them – in effect they are already annuitised to a large extent; (ii) even for the 25 per cent in the highest disposable income quartile, annuitisation of half of their financial wealth (a rule-of-thumb indication of how much they could annuitise) would only provide an income stream equivalent to around 20 per cent of their disposable income; and (iii) on the other hand, most 65–80 year old households have substantial wealth invested in real estate – more than 75 per cent own some property (55 per cent in the lowest quartile of the disposable income distribution), which, if converted to an annuity would yield at least 25 per cent of disposable income, even for the households in the lowest quartile. (It could be much more if one assumes that this real estate consists mainly of a home and that it is possible to extract its full equity value.)

Therefore, if we want households to contribute more towards sustaining themselves after retirement, we must think of ways to extract wealth from where it is: in real estate. Reverse mortgages are still rare, so a sound policy would be to remove whatever regulatory and tax impediments there are to buying and selling these products; in general on this issue I would defer to the paper by Olivia Mitchell and John Piggott. Making reverse mortgages possible, affordable and desirable would go a long way towards enabling households to insure against longevity risk.

Finally, as for pension funds, which also have to deal with longevity risk with little chance of hedging it, an interesting proposal was made by Boeri *et al* (2006).<sup>1</sup> They basically suggest that the younger the participant in the fund, the more junior his/her claim – that is, the less certain the amount he/she will receive after retiring. This would share longevity risk across generations and as people approach retirement it would stabilise their expectations about their pension.

## Reference

Boeri T, L Bovenberg, B Coeuré and A Roberts (2006), *Pension Funds: Dealing with the New Giants*, Geneva Reports on the World Economy, 8, Center for Economic Policy Research, The Brookings Institution, Washington DC.

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1. Longevity bonds seem out of the question for the moment, leaving the government as the insurer of last resort – but governments already have huge exposure, coming from social security systems.

## General Discussion

Discussion focused on the role of financial markets and governments in managing ageing-related risks, particularly longevity risk. While financial products like annuities and reverse mortgages assist households in managing longevity risk, participants observed that these markets are thin in most countries. Various explanations for this were debated, including whether myopia limits consumer demand, as well as whether supply is constrained by uncertainties about future mortality trends, and information asymmetries leading to moral hazard and adverse selection.

On the demand side, there was some debate about the extent of myopia and non-rational behaviour in household decision-making. Some participants agreed that weak demand for products like annuities may reflect myopia, and observed that households may not adequately prepare for retirement or may not be aware of the risks associated with their retirement incomes. Some participants suggested that this might usefully be addressed by financial literacy campaigns, already underway in some G-20 countries. Others noted that such campaigns would only really be effective if also combined with the simplification of existing retirement income systems, which had become so complex that even those with some level of expertise in the area had trouble fully understanding them. Along these same lines, another participant thought that any simplification should include eliminating differences in taxation across asset classes. Some participants argued that apparently short-sighted household behaviour may be rational on further examination; weak demand for annuities may reflect the fact that – in their current form – these products are generally not inflation-indexed, do not cover long-term care costs, and leave a purchaser exposed to the risk of default by the issuer. Also, the concentration of household wealth in housing may reflect a move to protect wealth in jurisdictions where owner-occupied property is exempt from eligibility tests for government assistance.

On the supply side, there was some debate as to whether annuity markets are thin because of adverse selection, requiring government intervention to support their development, or whether they are merely immature and would develop without intervention. In particular, several participants took issue with the assertion in Todd Groome's paper that there are no natural counterparts for longevity risk, which might support the development of such a market, citing examples such as investment in providers of long-term care services, consumer goods favoured by the elderly or even investment in human capital (given that in the presence of increasing longevity, the present value of human capital increases, as potential working lives are longer). However, a participant noted that this ignores the argument that the supply of natural hedges is also endogenous. Also, Todd Groome suggested that only explicit swaps will be recognised by regulators or rating agencies. More generally, to the extent that the development of annuity markets is impeded by adverse selection, participants suggested that policy responses could include improving information or compelling annuitisation. One participant suggested that governments should provide inflation-indexed annuities, where the price is linked to the survival of the cohort. However, other participants argued that, while government-mandated annuitisation would be useful, the private sector may be better placed to issue these annuities and invest the

proceeds. Similarly, numerous participants agreed that the development of reverse mortgage markets could be supported by improved house price information. One participant noted that in the United States the government serves as a re-insurer for reverse mortgages, through Fannie Mae and Freddie Mac.

Participants also discussed government exposure to longevity and other risks through the provision of age pensions and health care. One participant argued that public pension systems provide a safety net – which is necessary where the markets used to insure against age-related risks are missing – and provide a mechanism for age-related risks to be shared across generations. However, some participants suggested that the public sector and corporations providing defined benefit pension schemes had taken on excessive longevity risks, and that it is not clear if this was a useful thing to do. In particular, state pensions and defined benefit plans with retirement ages largely determined early on in a worker's life entail a large amount of longevity risk for the sponsor. This could be reduced by linking retirement ages to life expectancy. Another participant argued that it is important to distinguish between the type of longevity risk borne by governments and that borne by private insurance firms, as the state can renege on promises without becoming bankrupt. For example, the unfunded liabilities held by the state can change as the parameters of public pension schemes are modified. Against this background, one participant called for greater use of intergenerational accounting by governments, to increase awareness of long-term fiscal risks associated with public pension plans.

There was some discussion of methodological issues arising from Philip Davis' paper. One participant argued that when estimating the contemporaneous link between financial market structure and characteristics like GDP per capita, to the extent that financial market structure is pre-determined, it is necessary to control for lagged dependant variables. And, to the extent that development and increasing life expectancy are linked, it may be difficult to interpret demographic coefficients. Some participants also noted that the three age categories used by Philip Davis may be too broad. For example, a significant shift in saving behaviour may be observed within the 40–65 age bracket because in many countries children typically leave home when their parents are aged around 50.

Finally, Philip Davis' paper suggested that ageing is associated with a shift from investment in equities to investment in bonds. Some participants noted that, as well as reflecting changes in household demand for risk, this pattern is reinforced by regulations and accounting treatments affecting pension funds.