

General Discussion: The Impact of Population Aging on Financial Markets

Chair: Lawrence H. Summers

Mr. Johnston: There are some very important and stimulating questions raised by these two interventions. I was recently reading a report of the Committee on Financial Markets in the OECD, which quotes Jim Poterba, but I'll focus on two issues they raise.

One is the asset meltdown. The fact is that in many countries, many family assets consist of real estate in principal residences. What is the impact going to be on housing markets across the OECD?

The other point made by Adair Turner also is that if the numbers we see are correct, there will not be a major source of migration that is going to come into our countries. I think Ralph Bryant made the point that maybe the south will start aging quicker than the north. We can look at some of those numbers perhaps tomorrow. That is also a possibility. It is hard to believe that there won't be some impact on that market at least.

The second question they raised is: What assets are available to provide the kind of long-term, fixed, high-quality instruments that the baby boomers in retirement will require? You referred or alluded to annuities. The question was made in the committee that market is very thin in most of our countries. The question is whether

governments will be required to come back in—there is talk of 30-year Treasury and so on with indexed instruments—to provide that kind of security.

Last but not least, we have not said a lot about private pensions. Another area of concern is the deficit we see that has been reduced somewhat with the recovery of equity markets of some \$1,000 billion estimated across the OECD countries in terms of mature corporations that have not had defined contribution schemes. Is that an issue today? Is that a problem? It also, obviously, is a fallout from the question of aging populations.

Mr. Dudley: In the United States there seems to be a bit of a mystery that we need to explain when we are looking at the impact of demographics. We observe a decline in the household savings rate over the last decade, even as the baby boomers have aged and supposedly entered their higher savings rate years. What does that tell us?

There seems to be two possibilities. One possibility is that cyclical factors are more important than demographic factors over the short to medium run. Another possibility is that the linkage between demographics and savings is more complex than suggested by some of these models.

For example, consider if the high financial asset returns, which led to the low savings rates that we observe currently, were driven by the decline in inflation. That is the reason why we have had very high financial asset returns in the 1980s and 1990s and why we have a low household savings rate.

Maybe that decline in inflation had a demographic factor. For example, we observe in the 1970s that we had to absorb a large number of baby boomers into the labor force, and that seemed to raise NAIRU and also resulted in lower productivity growth. That may have introduced an inflationary bias into the U.S. economy. Once we finished absorbing the baby boomers into the labor force,

productivity growth resumed at a higher rate. It may turn out that the fact that we observe a low household savings rate today actually has an important demographic element, even though it does not seem to be clear just looking at it on a bivariate basis.

If the demographics are more important than what might be shown by the linkage between the household savings currently in the baby boom generation, it might suggest that the decline in the household savings rate we are seeing right now is a disequilibrium that is likely to reverse fairly quickly over the next few years. Households might be confusing the high financial asset returns they received in the 1980s and 1990s with what is sustainable over the longer term. If that is the case, then household savings rates might start to rise quickly, as the demographic element started to exert itself. That, I would argue, could have significant macroeconomic implications for the United States over the next five, six, or seven years.

Mr. Weber: I would like to focus on one issue that has not been raised so far: unemployment. Unemployment actually aggravates some of the problems related to aging. In Germany for example, the legal retirement age is 65 and that was what was used in James Poterba's paper. But actually the effective retirement age is 60 because a lot of the labor market problems there have been solved by using early retirement programs. Part of what this has to do with is, in terms of raising the retirement age to solve some of these problems related to the funding of an ever-smaller growing workforce and an ever-larger retirement part of the population, we have to do two things. First, we have to realign the legal retirement age and the effective retirement age. In Germany, that is a big issue. It is five years and the current debate in Germany to raise the legal requirement age from 65 to 67 over the course of the next 24 years is actually not even sufficient to keep in line the increase in the age of the population because people grow older by 1.3 months a year every year. So, you need to go more than one month, and that is 24 months over the next 24 years. You need to have an ever-higher retirement age. You need to go way beyond 67 if you want to solve some of these problems. That

should have strong implications on the flows of income and also on the provisions for retirement. It is key to focus on some of these issues and not just take 65 as a face number that you measure everything up against that year. It is not quite in line with what you see if we have unemployment in the economy playing a large role.

Mr. Blinder: I had two questions. One picks up exactly where Axel Börsch-Supan was. If you view it as more or less a historical inevitability that the normal retirement age has to rise, maybe proportionately as Adair Turner said, it strikes me that there is a problem we often forget. There still is a minority of the population—I think Alan Greenspan suggested it was 25 percent—that does physical labor. And it gets harder as they age. What do you do about the minority of the population that does physical labor, who may not be able to keep doing it until they are 75? It is easy to be a professor at 75; it is not so easy to lift heavy objects.

Also, I want to draw Jim Poterba out a little bit more on one of those aspects of the parable that does not really work. The parable basically is that old people sell their assets to young people and we know that they do not. You showed the Survey of Consumer Finances as evidence, and there is other evidence. That old people do not accumulate wealth the way we think they should has been a puzzle for a long time. It strikes me that if you are either going to predict what is going on with asset prices or try to design policies, the reason why they don't accumulate wealth the way we think they should could be very important. Is it a bequest motive? Is there a "King Midas" effect, if you call it that, for rich people? You don't relinquish your power, so you don't want to relinquish your wealth. For low wealth holders in the United States, you might think about health uncertainties. Medicare, as you know, is a very expensive but not a very generous health insurance policy. Its shaky future finances are widely advertised. Low wealth holders may well be holding wealth until the deathbed for that reason. In any case, "why" must matter for all of these questions.

Mr. Summers: There seems to be a high-order issue that has not been focused on in this discussion, which makes the idea of an asset-price meltdown rather implausible. That is this rule 1 of thinking about speculative prices is that you can never predict discontinuous change in a speculative price. And speculative prices at a point in time reflect a set of future expectations, and that movements in speculative prices reflect unexpected information and don't reflect developments that are already expected.

So, how does that play out with respect to Jim Poterba's little parable? In Jim's little parable, if you have a big generation retiring and a little generation coming along, then everybody expects the price to fall. If you compute the interest rate in that economy, the interest rate in that economy would be negative.

One thing we actually can observe here in our economy is what the interest rate is. Indexed bond yields are less than they were two years ago, but probably not for reasons related to demography. It seems to me that the right way to think about the determinants of the stock market going forward over the next 30 years is that abnormal returns in the stock market will have to do with news to investors about all of this, not simply the playing out of what we can all forecast from now. It seems to be fundamentally naive to suppose that it would be the completely forecastable implications of demography that would be the driving determinant of asset prices.

Mr. Ip: I was really struck by the observation in Jim Poterba's paper that there is a weak relationship between demographics and asset returns, but a significant relationship between demographics and P/E ratios. I was just curious if a possible explanation might be that, at least theoretically, if you had a one off demographically driven increase in the P/E ratio, you would observe, as you move to that higher P/E ratio, a period of outsized returns, then once you reached it a period of subpar returns, which is more or less what we are experiencing right now. The extraordinary double-digit asset returns we had from 1982 to 1990, about half of it could be explained by a rise

in the P/E ratio. Now the consensus is that we will have a prolonged period of very poor returns. I would be curious as to whether one can extricate those effects and if that might be part of the explanation for this puzzle.

Mr. Dugger: Looking at the other end of the discussion, it seems to me that much of what we talk about in terms of aging is also a discussion about the increase in value of youth human capital. Jim, I am wondering and don't mean to disagree with your daughter, but if we were to look at the stroller as an investment in youth human capital, in the scenarios that we are talking about, would we not see increases in the return on youth human capital and therefore probably its financing demands? If the accumulated evidence is correct—that the return on investments in youth human capital is highest the earlier they are made—then we have stretched the time between the investment and the realization of the return to at least 15 and possibly 20 years. If this demographic concern is accurate, it seems to me it is suggesting that though the class of financial assets used to finance early childhood investments is not developed yet, it will be very much a part of our future. I wonder if you would comment on that.

Mr. Fischer: Two small points on the preceding discussion: First, on the forecastability of asset prices, Jim Poterba is really talking about the forecastability of real interest rates. Real interest rates can be forecastable without creating arbitrage opportunities. However, the forecastable part may not account for a large share of the total variation in real rates.

Secondly, based on three examples of family members, I am convinced that the answer to Alan Blinder's question is that the fear of dying destitute, unable to pay for medical bills, is the prime motive for holding assets in old age.

The real question that I have is: What does the integration of global capital markets imply for the dynamic adjustments that you foresee

for the industrialized countries? Is it the case that if the demographic transition is later in developing countries, and if their capital markets are improving and global capital market integration is taking place, that the adjustment to the aging of the population in the industrialized countries can in effect be significantly delayed?

Mr. Eisenbeis: I would like to push on another dimension of a point that Jim made about the distribution of the asset holdings. We are about to embark on a big transfer of wealth to the baby boomers from their parents and then subsequently from the baby boomers to a smaller cohort of people, their children. If, in fact, the boomers are not consuming those financial assets or the capital associated with it, then this has further implications for the savings rate and the spending behaviors of that smaller cohort going forward. It is hard for me to believe—to take a parable here—that Bill Gates is going to consume all of his accumulated wealth to provide for his health at the time of his passing.

Mr. Summers: I can't resist a comment. There is a substantial amount of reflection going on on the very wealthy as to whether they are better off setting up foundations that will last in perpetuity, that in perpetuity may or may not carry out their will. Or they are better off fulfilling their purposes during their lifetimes when they can maintain some degree of control, which does go very much to the question of a decumulation pattern?

Ms. Schmidt Bies: I find one of the interesting things on the discussion has been talking about wealth and assets, but not the impact of changes in debt practices. I would like your comment on how important the financial institution changes and financial market changes have been in the last couple of decades. Lower income people who in the past would never have gotten credit now have access to credit and loan to value ratios have risen significantly, allowing people to acquire assets earlier in life than they had before. What difference does that make to asset demand and asset prices? Again, looking at some of the charts that Adair Turner mentioned, if you think about rational

behavior of an individual in the United States, for example, we are at 40-year lows on mortgage interest rates. Thus, it makes perfect sense for people to be more leveraged in borrowing and buying houses at this time to lock in long rates and push up housing prices temporarily to access lower interest rates, the debt side of asset prices has been very influential. I would like to get your observations at how it affects your decisionmaking in your model.

Mr. Poterba: Thank you all for a tremendously stimulating, very helpful set of comments and questions. Let me try to say a few things in response, maybe working in reverse order starting with Governor Bies' comment.

The pattern I showed you on mortgage indebtedness by age plays into your concern that things may be changing. I share that concern. The historical pattern was that at age 65, about 85 percent of the households would have a fully paid-off home, and that was an important source of financial resources if need be in retirement. That pattern is changing, given the later dates of refinancing, the more aggressive use of home-equity lines and related things, and we have yet to see the consequences of that for the amount of real estate equity that is available in retirement.

Stan Fischer asked about the integration of global capital markets, which draws out the point I was trying to explain. There are two critical factors here. One is the correlation of the demographic changes that are taking place across countries. If the United States, the UK, and Canada in some sense have open capital markets, that does not do a whole lot in terms of changing the nature of the story here. The bigger issue involves integration of developing country capital markets and comes in over the longer haul. There, one has to think about questions like the development of investable savings in places like China, India, and other fast-growing economies. The question is whether these countries will have savings they will want to invest in the United States. It is not clear how this will play out.

Greg Ip asked a question about returns versus price levels. These are not independent. The returns in some sense are mostly the difference between the price levels from one period to the next. Greg's analysis, which suggested that you can have a one-time run-up followed by nothing much afterward, explains some of what we see.

Several people asked about whether a decline in asset prices was predictable and if this was inconsistent with market efficiency. When people build simulation models with many overlapping generations and crank through a changing demographic structure, there are no anticipatable changes in asset prices that give you arbitrage opportunities going forward. Nevertheless, the equilibrium real rate of return does vary in those models in response to changes in the demographic structure. The equilibrium rate of return changes because there is a need to accumulate or decumulate capital as the effective labor force varies.

There was a question about human capital and accumulating human capital with very high rates of return. The observation that there may be high returns is correct. I am not sure, however, that there will be financial products in the future that help finance preschool and early childhood education. My impression is that when there have been attempts in the past to use financial market products to finance human capital investment, finding a way of making sure the loan is repaid has been remarkably difficult.

Alan Blinder asked why we do not see decumulation. It is a great question and I am sad to say I do not have a great answer for it. The reason matters, particularly with respect to things like precautionary demand for nursing home and medical care, because there is a lot of interaction with public policies. For examples, changes in Medicare might lead to changes in the equilibrium size of the asset stock people want to hold in old age.

Bill Dudley asked a question about the change in household saving rates during the 1990s. I have always suspected that the decline in the

saving rate was in part a result of the way we measure it, given what happened in asset markets. Asset values were rising and households had more wealth than they would have otherwise. When organizations like the Congressional Budget Office and others have recently tried to compare the retirement wealth accumulation of current near-retirees to those in past cohorts, they find it about a wash. Low savings rates roughly offset high rates of asset appreciation in the recent past.

Last, I want to address Don Johnston's comments about real estate and assets for long-term retirement planning. As many of you know, economists touch the area of house price forecasting with great trepidation. Greg Mankiw and David Weil in the late 1980s forecast that real house prices would fall 47 percent by 2005. They have one more year to be right. But the betting so far is that their prediction it is not looking too good. I have always thought that they have gotten a bit of a bum rap in this regard, in this sense that if anyone had told them that in 1987 when the Dow was at 2,000, that the Dow would cross 10,000 over their forecast period, and that interest rates would do what they have done, they might have thought better of their predicted 47 percent real price decrease. Nonetheless, I do think that going forward real estate issues are important. Real estate can shrink. It depreciates, houses can run down, and the housing stock can contract over decade-long intervals. But the open capital markets we have talked about as a solution for selling off the financial assets of the baby boom cohort do not work nearly as well for selling off the large owner-occupied homes that people may accumulate in some places.

Finally, let me respond to questions about financial products for retirement, such as annuities. The limited size of most annuity markets is another great challenge to the economics profession. Simple models predict that when people reach retirement, they are not sure how long they are going to live, so they should take all their money and put it in an annuity. In fact, almost nobody does. The annuity market in the United States amounts to a few billion dollars of purchases a year, just a tiny amount by comparison to the total

stock of wealth of retirement savers. One of the standard explanations is that there is adverse selection. People who buy annuities tend to live significantly longer than the population at large, therefore if you are just part of the population at large, you should not buy an annuity because of the unattractive rates of return. It is true that annuitants live significantly longer than the people who do not buy annuities. Their mortality rates in the early years after annuity purchase are often about half those of the population at large. This does not imply that adverse selection explains why individuals do not buy annuities. In other words, the insurance value we calculate, given longevity risk, is great enough that even at a significant premium relative to actuarial fairness, most people should still buy an annuity. The explanation has a lot to do with psychology. People are very, very concerned that if they buy a genuine life annuity that pays them until they die and tomorrow morning they have a heart attack then all those financial assets are gone. It just seems like a really bad deal to potential buyers.

Mr. Turner: Four points. First of all, on the housing market: This is a very interesting issue for at least three reasons. First of all, housing equity is very big. In the UK, we have about £3 trillion of residential housing equity. Even after mortgage debt it is £2.2 trillion and that compares with about £1.3 trillion in all our pension funds. Even if I then add all the financial assets not in pension funds, that adds about another trillion. So housing equity as a source of personal-sector wealth is equal to everything else combined, and it is 50 percent more important than everything in pension funds.

The second point to say about housing wealth is you could imagine a funded pension system, which worked entirely through the purchase and sale of houses. You could imagine people accumulating houses and then slowly decumulating them. You could do that either with people decumulating them during retirement or you could imagine a model in which most people buy a house by the time they retire, do not decumulate it in retirement, but just about when they are retiring at 60 or 65, they inherit a part of the house of their parents who are then just about dying. You can construct in

various ways logical pension systems that work entirely through housing equity. The third thing to say about housing markets, though, is that we clearly do see here that demographic factors affect house prices.

I own a house in the southeast of England, and I also own a small share of a family house on the west coast of Scotland. Now, the southeast of England has high population growth and the real value of my southeast of England house has soared. My house in the west coast of Scotland is static or falling in real value for the very simple reason that the place is depopulating. When you do not have enough people around who want to buy a house, you have to sell a house for a rather small amount of money. You can see this in the price of houses in rural France in the 1950s and 1960s. House prices actually give us very clear examples of the impact of demography on asset prices.

So what that says is people can plan to use houses as retirement assets, but they need to be very careful about the price risks, both the general price risks across their whole country and the very specific price risks of their specific location of their house.

The fourth point to make is we do need to be careful here of not trying to grab a free lunch. By that I mean we need to think through everything that is going on. One of the things that we are noticing in the UK—and in the UK we probably have a different situation from some other countries—is we have a relatively limited supply of land and housing and therefore a high and growing price of houses. Second, one of the things that we are also noticing is that people are entering the housing market later. The average age of buying a house is getting older, simply because it is getting so expensive to buy a house. Third, when they buy a house, people are often and to an increasing extent relying on their parents to give them a deposit so they can get into the housing market. And fourth, they are paying off their mortgages more slowly because, although nominal mortgage rates are at an all-time low, the value of the mortgages is not being eroded by inflation. Therefore, while we can construct a model

whereby these 60-year-olds are going to be well-provided in retirement by these inherited housing assets, actually an increasing number of them when they get to 60 still have an outstanding mortgage debt and also have children who expect them to give some of that money to get into the housing market. It illustrates the fact that we really have to think through everything that is going on, and avoid “free lunch” fallacies.

A point on annuities: At least in the UK, pensioners at retirement have to buy annuities. We are legally required to buy annuities by our pension system. And we have an increasing number of people in defined contribution schemes. We therefore have a major issue about the capacity of the financial markets to provide a supply of instruments to equal the demand for long-term bonds, and in particular, long-term indexed linked bonds. And, we have major issues about the adequacy of the capital of the insurance companies to support the risks involved in selling large amounts of annuities. One of my charts showed the very significant fall in the rate of return on real indexed bonds, which has recently occurred in the UK. We don't know the precise reason for this, and there may be some very technical factors, but one of the things that is going on is that we have a very thin market in government real index-linked bonds and that we have a very high level of demand.

One final comment on the issue of bequest. It is important in analyzing the U.S. data to look at the point that Marty Feldstein made earlier and also the point about the concentration of financial wealth in the United States. The non-pension financial wealth is heavily concentrated in a group of people who do not decumulate it during retirement. People in general however are decumulating other assets: in particular, the implicit value of their social security rights. What that implies is if you pursue a policy of moving social security onto a funded basis, it would be highly likely that people's behavior in relation to the decumulation of the incremental financial assets arising from that policy change would be significantly different from the decumulation behavior that exists at the moment to assets held in

addition to social security assets. At least in the UK at the median level, though not at the mean where it is heavily affected by the concentration of wealth among the top ten percent, we do see very significant decumulation of financial assets during retirement.