

General Discussion: Cross-Border Macroeconomic Implications of Demographic Change

Chair: Lawrence H. Summers

Mr. Sinai: Not much attention has been paid so far to the demographics of immigration and its effects on the economy and therefore on economic policy. I wonder if Ralph Bryant or others could comment in general or specifically. I have an anecdotal observation, which I am sure others share. It is pronounced. It is very striking in the United States on immigration, and the question having to do with economic effects on demand, on the labor force, on new business, on jobs, on who mans what jobs, on immigrants in universities, and what is increasingly in the globalization of the world an important U.S. export—education. There are also demands from immigration on budgets and the role on budget deficits—both regional and federal, effects on competition, productivity, a whole list of potential implications of what, in absolute numbers anecdotally looks like a wave of huge immigration to the United States. It may just be where I hang out. But in the UK also and in some countries in Europe lately, and then there are other countries where—Japan, for example—my impression is there is almost no immigration. That is a demographic issue. What are your comments? Are the effects of this phenomenon small? Did you just not cover it in the paper for various reasons? Is my anecdotal reaction too extreme? What is your reaction to these questions?

Mr. Meltzer: One of the demographic events, of course, that many of these papers point out is the lower birth rates leading to greater female participation in the labor force. Is there going to be a reverse effect? Is it going to be important? The dependency ratio in all of these papers is going up for the people—the nonagenarians, centenarians, and so on. They are going to require care. That care has to come from either people being employed in those industries, which presumably have low-productivity growth, or from people withdrawing from the labor force to take care of them. Is that a big effect or is it just a kind of epiphenomenon?

Mr. Goldstein: I had a question for Ralph Bryant. In your paper, you identify several cross-border macro implications of asymmetric demographic changes, including effects on current accounts and exchange rates. But since these demographic changes take a long time—30 years, 50 years, 70 years, 100 years—much longer than we normally think of, my question is what determines the extent to which these get telescoped into the near term. For example, if you tell me that a model says that because of these demographic changes the dollar will change, appreciate, over a period of 50 or 70 years, my reaction would be “humm.” But I am not going to lose any sleep over that tonight. If you tell me that, on the other hand, people come to anticipate this, they understand it, and that has effects in five years that are considerable, well that is a different story. So, how should I think about the extent to which—through asset prices and other things—these longer-term things get telescoped in the shorter term to where they have an impact on public policy?

Mr. Mussa: I wanted to take up Allen Sinai’s point a little bit and the link, or lack thereof, between the first paper and the second paper. If you look at Chart 10 in the first paper, you see an enormous spike in immigration in terms of the age distribution in the range from basically 20 to 35 years of age. That means immigrants are bringing much of their human capital with them when they come. Moreover, it is very clear there is a big jump upward in moving somebody into

the U.S. economy and society in terms of the earnings they make, particularly when they come from less-developed countries.

So, there is an additional boost to the value of human capital resident in the United States associated with immigration. How big is that? Well, we take something like the present value of NNP and divide it by our population. The average American is worth in total, all things considered, \$800,000 to \$1 million per head. Take immigrants at half of that. We are talking about \$400,000 or \$500,000 per head. Net inward migration each year, legal and illegal, is 1 million per year. That is \$400-\$500 billion net inflow of human capital.

The current account deficit, about which we are all concerned, is running at roughly \$500 billion a year. The inflow of human capital is not a small thing in comparison with other international flows. Moreover, this counts only the immigrants themselves and not the longer-term consequences of the subsequent Americans who are produced by those immigrants. As Oscar Hanlin, the famous late Harvard historian, pointed out in his best-known book, we are, after all, a nation of immigrants.

Mr. Iwata: I want to make one comment from the Japanese perspective. Japan experienced a very rapid process of the aging population. We observed the household saving ratio dramatically decrease in the early 1970s. We had more than a 20 percent household saving ratio, but now we have a 6 percent household saving ratio. A simple lifecycle hypothesis predicts that our household saving ratio will become zero by the year 2010. And, at the same time, we observe the labor force growth is now declining by about 0.5 percent every year. And the working-age population share in the total population also peaked out in the mid-1990s.

We should also discuss the external balance of the Japanese economy during this process of aging. We maintained about the same magnitude of current account surplus, that is, about 3 percent. What is taking place? The household saving ratio is dramatically declining.

In addition, we have a widening budget deficit that implies government saving is decreasing at the same time. But we maintain largely the same current account surplus in terms of nominal GDP. I think the main reason is coming from the diminished demand for real capital stock, due to the decreasing labor force or the decreasing of working-age population. That implies the demand for real capital stock is also decreasing. So, the size of this adjustment on the savings side and investment is a very important implication for the current account surplus or deficit or the net international capital movement. During this process, we accumulated net foreign assets. We have about 20 percent of nominal GDP in net external assets.

In contrast, in the United States, you have the reverse sign. Therefore, one of the implications of the Japanese experience is that the aging process could be accompanied by a capital account surplus instead of a capital account deficit. One of the implications for the north/south capital movement may be in southern countries the saving ratio is rising, and in those northern countries the saving ratio is declining. But, at the same time, demand for capital stock in the southern countries that is also there, maybe the capital intensity increases in the southern countries. Then the implication is maybe the international capital flow will remain as it is. This is due to the different relative magnitude of demand for capital stock and the big adjustment on the saving side.

Mr. Barnes: I just wanted to follow up on Mike Mussa's point. There is a dark side to what he was arguing about human capital, because there is a loss of a lot of human capital to the developing world. I came across a bizarre fact awhile back that there were more nurses from Malawi working in Manchester, England, than there were working in Malawi. To the extent that we are concerned with inequalities between north and south, this flow of the best of the human capital from the developing world to the developed world must surely be a cause for concern.

Mr. Ferguson: My question is addressed to Ralph Bryant. On footnote 24, you bring up an important assumption about what you describe as spatially determined characteristics that make foreign versus home goods imperfect substitutes. Casual empiricism might suggest that in some of your examples—for example, Japanese electronics versus U.S. electronics—the goods are actually very good substitutes. There may be a preference, in that case, for rest-of-world goods versus home goods. Could you elaborate a little bit more on the importance of that assumption and push a little bit in case the assumption is not true in terms of the implications for your paper?

Mr. Bryant: Before I respond to the questions, I want to echo something Axel Börsch-Supan said. The role of public pension systems and their interactions with the demography is very important. I just didn't have time to try to summarize the section of my paper that discusses public pensions. But if you look at the paper, you'll see that I, of course, agree that these issues are very important and can have quite important consequences for macroeconomic outcomes.

A few words about immigration, responding to Allen Sinai and Mike Mussa and others. Immigration issues are undoubtedly important. They are not in my paper for a practical reason. I am working with an already very complex general equilibrium macroeconomic model of two regions. I want to make it into a model that has a third region, where the third region has characteristics like developing countries; that amplification would enable me to address the issue of North-South capital flows. In principle I would also like to incorporate immigration in the model. But to do that correctly, one would have to deal with all the issues that Mike Mussa and others have raised. With immigration included, there should be effects on the region from which the people leave as well as the region to which they go; there should be transfers of human capital, and there should be consistent output, consumption, saving effects in all the regions. I have not yet tried to introduce those complexities; frankly speaking, I've had to walk before I can run.

The next stages in analysis will do a lot more about immigration, but it is a very hard thing to do properly. So far, our macroeconomic models don't deal with this successfully. The few people who have tackled the immigration issue have immigration exogenously coming into the model, but there is no consistency about the immigration flows for the world as a whole.

Morris Goldstein asked an important and hard question about the long-term effects of demographic changes and whether they can get telescoped into the short run by anticipations. In the model that I am using, which underlies the paper, expectations are forward-looking and model-consistent. Expectations do bring things forward, not perhaps as much as you might think for some of these demographic changes, yet those effects are there. Do I really believe that model-consistent expectations are an accurate characterization of the world? No, I don't. But that assumption is a benchmark place to start analysis. Many hard and unresolved questions exist about the treatment of expectations and anticipations. My model in this dimension is no better or worse than the current generation of best-practice macroeconomic models. The profession has lots more research to do on this subject. I don't suggest you lose a lot of sleep tonight worrying about expectations and the degree to which they anticipate long-run demographic transitions. Although the effects of the demographic changes will persist over a very long-run period—30, 50, and 70 years—it is true that the effects will start sooner over the next decade. So, maybe you should lose a little bit of sleep about our uncertain treatment of forward-looking expectations.

Finally, let me address Roger Ferguson's question. For those of you who have looked at the paper, footnote 24 identifies a deep issue in open-economy macroeconomic modeling that is not resolved. The traditional standard approach to cross-border trade transactions we all use in macroeconomic models is to presume that preferences for home-produced goods versus foreign-produced goods are given and do not change. The reason I get the exchange-rate movements in my model is, in part, that demographic changes cause the size of output

in one region to shrink or expand relative to the size of output in the other region. The standard assumption of unchanged goods preferences then requires a change in relative prices and hence produces a terms-of-trade change and exchange-rate change.

Now, can we be sure that the standard approach to goods preferences and international trade is really the way the world works? As I make clear in the footnote, I am not confident we can answer yes. I am guessing the effects that result from my model are an overestimate of what exchange-rate effects would occur. I am skeptical, on the other hand, that we plausibly go so far as to reverse the sign of the exchange-rate effects by treating goods preferences very differently. This issue is, as my footnote stresses, a piece of dirty linen that hasn't gotten washed yet. There is lots more work to be done before we can really be sure what is the appropriate way to deal with this issue. When demographic shocks occur asymmetrically across countries, this issue arises in an especially dramatic way. Economists are going to be forced to look at this question more carefully than we have so far.

Mr. Börsch-Supan: I have one comment on anticipation. There is actually some evidence. There are some regressions, which essentially regress current savings investment capital flows on future demography. Those turn out to be significant. There is some evidence, whatever you make out of it.

The big point that I want to make is on immigration. The second one is on savings. On immigration: Germany has 80 million inhabitants; the United States has 240 million. Multiply all my numbers by three and you get the American numbers. We now have 20 million pensioners. There will be about 30 million pensioners. Try to offset 30 million pensions by immigration. There is no way, just no way. The numbers do not work out this way. Immigration may help, but not in any substantive way. We would have to have an immigration rate which is substantially over the rate of the United States through-

out the next 20-30 years. No way will immigration solve problems in terms of aging.

There is a similar thing for the female labor force participation. Actually, the young cohorts have a fairly high labor force participation. There is not more you can do. So, that is not a policy issue either.

A little remark on the Malawi nurses: I don't know, but if they sent remittances to home, they may be larger, considerably larger, than what they would earn in Malawi. Maybe they do some good for both countries.

My third point is on Japan. You see that in Italy as well. So, you have two really old countries and the savings rate has plummeted. Is there some evidence? Certainly you could regress one on the other one and we find something. But that is definitely not what happens. There is a huge change in capital markets over the last 20-30 years. If you throw in there some of these regression exercises—we throw in all kinds of variables, including pension systems and future demography—and you put in the measure of liquidity or borrowing constraints, the borrowing constraints come out the strongest. There may be a story because they definitely changed, at least in Italy. So, I would not take this as a signal of doom for Japan or for Italy.

The other point you raised was the demand for capital will go down. I very much disagree. The demand for capital will go up—just the opposite. Why? Because you need to replace physical labor by more machines and you substitute the more costly and more scarce labor by more machines. In a quickly aging economy, the demand for real capital will go up.