

THE IMPACT OF DEMOGRAPHIC CHANGE ON U.S. LABOR MARKETS: DISCUSSION

Axel H. Boersch-Supan*

I enjoyed reading this paper, particularly so because I was writing a paper on aging and its impacts on the German labor market at the very same time that Jane Little and Robert Triest were developing their paper. Their interesting, broad-based, and thoughtful analysis has a decidedly American point of view. My main duty as a discussant, therefore, is to compare their analysis and their projections with a European perspective.

Let me first stress that for both Europe and the United States, population aging is indeed a “dramatic change.” Dependency ratios will double on both sides of the Atlantic (and, by the way, the Pacific), and all sorts of adjustments will have to follow, from social policy institutions to macroeconomic aggregates. The levels from which the dependency ratios double, however, are rather different. And the institutional backgrounds, on which the adjustments have to work their way out, are remarkably different between Europe and the United States.

Today’s Germany has essentially the demographic structure that the United States will reach in a quarter of a century. The dependency ratio (the ratio of persons aged 65+ to those ages 20 to 59) is at 28 percent, and it will reach 75 percent in 2075, if we dare project that far. Almost one-fifth of the German population today are aged 65 and over. One-quarter are aged 60 and over, which is relevant because the average retirement age in Germany is 59.5 years. Thus, in this sense the United States is not “entering largely uncharted territory,” as Little and Triest state in their introduction. Rather, they can look to Europe—in particular to Germany and Italy—to see what will happen in the United States.

*Director, Institute of Economics and Statistics, University of Mannheim.

The sight is not entirely pretty, I am sorry to admit. Germany, with its mainly pay-as-you-go-financed pension and health care systems, has a social contribution rate of about 35 percent in addition to an average payroll tax of 25 percent (as percentages of total labor compensation). The negative incentive effects on labor demand and supply are a major—I like to argue *the main*—challenge to functioning labor markets. The number one policy priority must therefore be cost containment and, thus, benefit reduction in all branches of the social security system—Social Security, Medicare, and the smaller complementing branches.

Although this is less than a novel insight, I missed such a stress in Little and Triest's paper from the outset. The United States may be ahead of the large continental European countries in terms of social security reform, but it is still behind the United Kingdom, the Netherlands, and Switzerland in this respect, making the point still timely and still necessary. The indirect effects of social security reform are also very important in any assessment of how labor markets will look in the future. Capital deepening and productivity gains will depend quite dramatically on social security reform. International trade and capital flows have important feedbacks to the labor market, essentially through the mechanism of capital deepening.

All financing problems are easier with faster growth. Thus, policy priority number two is helping to increase productivity. This is the main theme of Little and Triest's paper, and I could not agree more. Let me take the opportunity to share some results of my companion paper on aging and the German labor market, as a thread along which to discuss some of Little and Triest's points.

Between the years 2000 and 2050, the German labor supply will go down dramatically. If you look at the support ratio, which is the number of workers per adult person, the decline amounts to about 0.5 percent per annum. The decline translates into one-third of the German rate of productivity growth, and that is the important number: One-third of productivity growth will be eaten up simply by demographic changes. By the same token, in order to offset these effects of aging, Germany (and similarly, the United States, although the numbers are not as large) must achieve productivity growth one-third higher than that of the past twenty years, and that will not be an easy task. So saying that this is a minor problem is not quite correct. Increasing productivity growth by one-third for a long stretch of time, twenty-five to thirty years, is quite a feat, and we will have to work hard for that.

Even more dramatic, of course, will be the change in the pension system's dependency ratio, which forecasts the number of pensioners divided by the number of workers. The ratio will double in Germany as in the United States, but the level in Germany will be one-to-one in twenty-five to thirty years: We will have as many retirees as workers. You

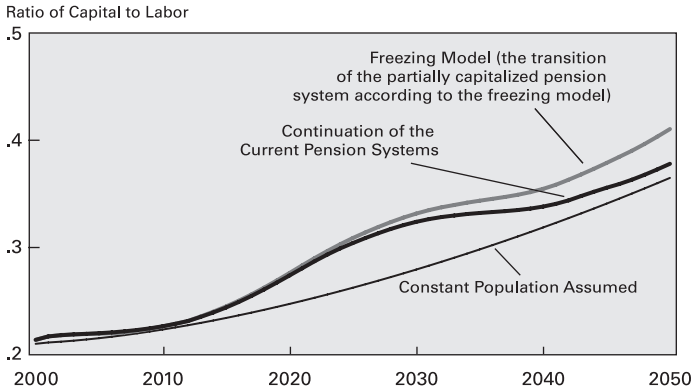
can imagine that this will just break the system. It will create huge incentive effects for the younger generations who have to pay the taxes, and these incentive effects are exacerbated, as David Weil has already said, by the tendency to go into retirement very early in Europe. The amazing thing is that people are aware of the problem and are actually willing to at least take some steps toward reform, yet reform still is not really moving forward in Germany, nor in Italy, nor in the United States. I think that is the main reason to put social security reform as the top priority, priority number one, when you talk about labor market problems generated by aging. The United States is advanced relative to Germany and Italy in terms of the distribution of pay-as-you-go funding, but it is way behind the Netherlands and Switzerland and the United Kingdom. A lot still remains to be done to reform Social Security in this country.

My second point looks a bit more at the issue of productivity, and I want to go beyond what Little and Triest call their “incredibly simple” regression analysis. I would rather look a little at the structure behind it. The age distribution of the workforce in Germany will change quite a bit between 2000 and 2050. The mean age will increase from 39 to 43.5 years, and the share of workers age 55 and over, now about 11 percent, will be one-quarter of the working population in 2050.

Now, if you look at age-specific productivity, essentially rough guesses about how productivity changes with age, the changes look very dramatic. Actually, if you project them onto the age distribution of the population, they turn out to be rather small, and that is an important point. The shift in age-specific productivity among workers will have some effects, but they will be relatively small in relation to the effect of the decline in the sheer number of workers. In the next thirty years in Germany we will lose about 3 to 4 percent of productivity through this aging mechanism, as compared to the 15 percent that we will lose through a lack of workers. So that aspect of aging can be put off the table.

The other factor I wish to mention is capital deepening. Modeling capital deepening is very difficult, and it requires a model that shows the feedback effects of both pension reform and international trade and capital flows; otherwise you mispredict quite heavily. (I am curious about what Jeffrey Williamson will tell us tomorrow.) In forecasting capital deepening, I used an overlapping generations model that models all major trade partners of Germany simultaneously, so it is really a feast of a model. (Actually, I did this for the German Bundesbank.) What you see from the solid black line in Figure 1 is that the amount of capital intensity will increase just because of the normal technical productivity curve, but then you see two additional curves. One shows the results if we have a major social security reform in Germany, the other the results if we just stick with a pay-as-you-go system. As you see, there will be no effect on

Figure 1
Development of Capital Intensity



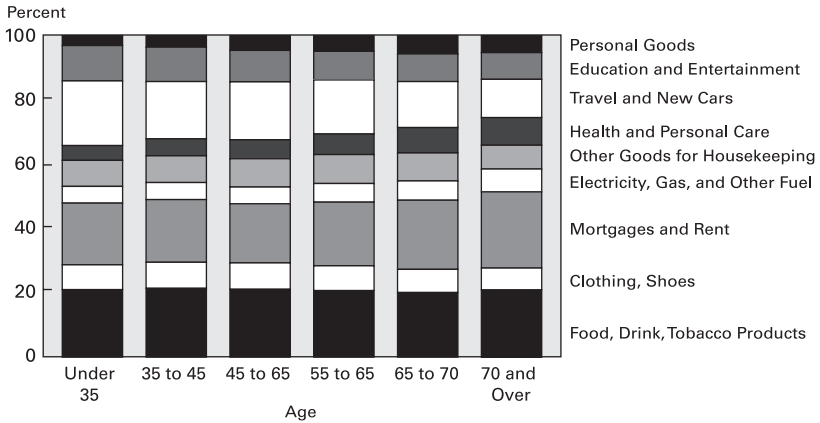
Source: Author's calculations, based on Boersch-Supan, Ludwig, and Winter (2001).

capital deepening, no increased capital intensity or related increases in labor productivity, if we stick with the current pay-as-you-go system. One needs a major pension reform to get the capital deepening effects going. If you translate these numbers into labor productivity, you see that in any case, some labor productivity gains will occur, but the real bang you get only for the huge buck of having pension reform first. That is the top line in Figure 1.

Another aspect, which may not be so relevant for labor markets in the United States but is very relevant for labor markets in Europe, is the quite large amount of additional sectoral fluctuation that will occur. Labor markets will look different just because of the changed composition of what will be produced twenty or twenty-five years from now. In a very rough kind of analysis, Figure 2 shows age-specific consumption patterns in Germany. The third category from the top is communications, particularly traffic and traveling, which goes down quite dramatically by age. The one below is out-of-pocket health costs and this category doubles, almost triples with age. It is easy to guess that the demand for health care will increase for the reasons of demographic change. But other structural change will be going on, for example, technical progress in health care, which comes in addition to that.

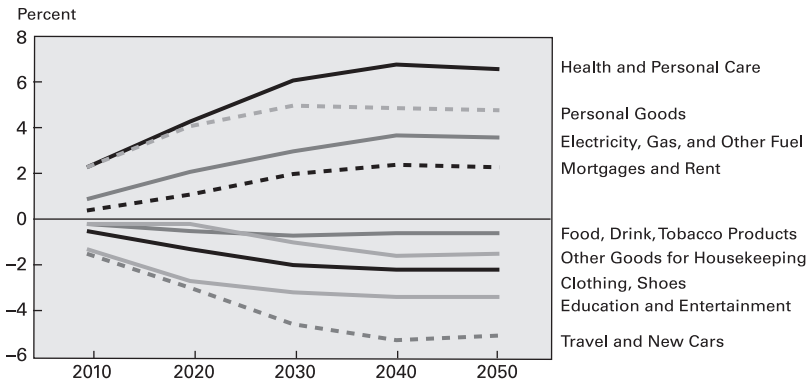
Applying sectoral-specific productivities here implies that about one-fifth of the German workforce will have to be shifted from one sector to another, simply because of population aging (Figure 3). In the United

Figure 2
Age-Specific Distribution of
Consumer Spending on Goods and Services



Source: Statistisches Bundesamt (Federal Statistical Office), Series 15, Book 5, EVS 1993.

Figure 3
Induced Sectoral Shifts in Demand for Labor



Source: Author's calculations on the basis of Figure 2, population growth from forecast B2, and the *Statistical Yearbook's* "Sales per Employee," by sector.

States, with its fairly flexible labor market, this may be easy. In Europe, with very inflexible labor markets, the shift will not be easy to achieve. In particular, most of the change will occur over a period of about ten years. The entire change will happen over thirty years, but most of the change in the age structure will occur in the ten-year period between 2010 and 2020. We have already experienced stretches of structural unemployment lasting longer than ten years. Structural changes in the market for goods will have a powerful impact on sectoral labor markets, and so I believe this is yet another thing the Europeans have to consider, if they are concerned with the implications of aging on labor markets.

Again, I think policy priority number one, and you all know this more or less, must be to clean up the social security systems, and I put an "s" in because I also include Medicare here and in Germany the health care system. It is an obvious point but it has to be said again and again, because of both the direct incentive effects and the indirect feedback effects, for example in capital deepening. Priority number two is increased productivity. I could not agree more with Little and Triest that education is the key here, and particularly education in the large underprivileged sectors of the population, for example, the Hispanic population.

Priority three, more relevant to Europe than to the United States, is to alleviate the current problems preventing secular mobility. That is a big task that Europe must face. I would put under questionable policies those of incentives for people to have more children or to attract more migrants to Germany. In considering such incentives, we are talking about the policies of the 1930s, and I am quite glad we are not talking about this right now in Germany, because we are happy to have put those times behind us. Immigration might help a little bit, but it will not solve the aging crisis: The numbers just do not work out. It is very important to say this because, as I mentioned earlier, some politicians think immigration will solve the problems and then we will not have to cut the social security system, which is obviously an unpopular prospect. But immigration will not solve the problem—that miracle just will not happen.

In summary, what do we learn from these tales of two countries? The United States, being in a much earlier stage of population aging than Germany, can still avoid many of the economic problems Germany is facing now, in particular the very high tax and contribution levels required because of too-often-postponed pension reform. As I pointed out before, policy priority number one must be to remove the pressure from the pay-as-you-go social security systems. This point is mentioned but underrated in the Little-Triest paper. Pension reform has also many indirect feedbacks to labor markets, for example, through capital deepening. The Kotlikoff-Smetters-Walliser argument is to be understood as a warning about what is likely to happen if no pension reform takes place

in the United States—by the same token, pension reform helps productivity through this channel.¹

Second, international relations are important also for labor markets. Again, the arguments are subtle: diversification advantages overcoming the Feldstein-Horioka barrier, but mainly the general advantages of trade if factors (here, labor) become differentially scarce in different countries. My multi-country overlapping-generations model delineates the welfare gains from trade from a German point of view. For Europe, this is a very important aspect, since the introduction of the euro removes all exchange rate risks. Because the timing and the extent of aging are quite different across the EU member states, the introduction of the euro changes the arena significantly, from a national economy to a EU-wide focus. Home country bias may be stronger in the United States—nonetheless, international capital flows are an important factor there as well in assessing capital deepening and its productivity implications.

Third, since population aging is slow and shallow in the United States relative to Europe, immigration might help more there than in Europe. No realistic immigration rates can compensate for aging in Europe. The skill question, so much in the foreground of Little and Triest's paper, takes on different facets in Europe. As we have shown, aging implies large additional shifts in labor demand by sector. Europe, with its inflexible sectoral structures and stress on skill specialization, will have a much harder time coping with that aspect of aging than will the United States. Hence, Europe must develop broad and general skills that make sectoral transitions easier.

¹ The welfare effects, however, are complicated because of the transition burden, and they depend on "second-order effects" such as labor and capital market efficiency gains other than the direct effects of capital deepening.