



WILL CHINA EAT OUR LUNCH OR TAKE US TO DINNER?— SIMULATING THE TRANSITION PATHS OF THE U.S., E.U., JAPAN, AND CHINA

HANS FEHR, SABINE JOKISCH, AND LAURENCE J. KOTLIKOFF

OUR PAST RESEARCH SUGGESTED AN UNFAVORABLE MACROECONOMIC RESPONSE TO NATIONAL AGING ARISING FROM A GROWING SHORTAGE OF PHYSICAL CAPITAL RELATIVE TO HUMAN CAPITAL. HOWEVER, WHEN WE ACCOUNT FOR GOVERNMENT INVESTMENT THAT CONTRIBUTES TO A NATION'S PRODUCTIVITY AND INCLUDE CHINA IN THE MODEL, THERE IS LESS EVIDENCE OF SEVERE CAPITAL SHORTAGE. CHINA EVENTUALLY BECOMES THE WORLD'S SAVER AND, THEREBY, THE DEVELOPED WORLD'S SAVIOR WITH RESPECT TO ITS LONG-RUN SUPPLY OF CAPITAL.

China, Japan, the U.S., and the EU are all entering a period of rapid and significant aging that will require major fiscal adjustments. Understanding how national aging and the fiscal reaction to national aging will affect the macro economies of these regions is important. If the macroeconomic response is favorable, governments can do less and take more time to deal with what's coming. If the opposite is true, governments must do more and do it more quickly. This brief summarizes a study which develops a dynamic, life-cycle, general equilibrium model to study the interdependent demographic, fiscal, and economic transition paths of China, Japan, the U.S., and the EU. Our past research suggested an unfavorable macroeconomic response to national aging arising from a growing shortage of physical capital relative to human capital. But our earlier studies omitted two issues. Both of these issues are taken up here, and both militate against a severe capital shortage.

Government Investment

The first is government investment. In our prior studies we treated all government purchases as government spending rather than investment. There is some logic for doing so, since many so-called government investment goods (e.g., tanks, office buildings to House bureaucrats, space vehicles) may make little or no contribution to the nation's output and productivity and, indeed, may do the opposite. On the other hand, the lion's share of government investment, be it in constructing roads, erecting schools, building research labs, does seem to be productive. Treating what governments call investment as investment in the model doesn't entirely eliminate the predicted long-term capital shortage, but it does significantly mitigate it.

The Role of China

The second omission is China. As everyone knows, China is already a major producer of world output. Its

GDP now equals roughly one ninth of U.S. output. China is also absorbing Western and Japanese technology at a rapid clip. This acquisition of technology, in combination with improved education, holds the prospect for ongoing real income growth in China. But, given China's exceptionally high saving rate, more income growth in China means more Chinese saving that can be invested in the developed world as well as in China.

The fact that China, like Japan and the West, is aging and faces significant fiscal obligations associated with that process suggests that China's inclusion in our model would make little difference to the model's unpleasant prediction of a looming capital shortage. But because of China's much higher rates of growth and saving and because its population is so large, adding China can, as this study documents, transform a capital shortage into a capital glut. Whether or not this occurs depends on how China's fiscal policy and saving behavior evolve.

If, over the course of the next 50 years, China adopts fiscal arrangements and saving propensities that are similar to those of developing nations, China will make only a modest contribution to the world's supply of capital, leaving real wages per unit of human capital at the end of this century only about 4 percent higher than they are today. If, on the other hand, China limits growth in public expenditures and the Chinese people continue to eschew consumption, China will save enough for its own capital needs as well as those of the developed world, leaving real wages per unit of human capital at the end of this century roughly 60 percent above the current level. Thus, the model's long run looks much brighter. China eventually becomes the world's saver and, thereby, the developed world's savior with respect to its long-run supply of capital and long-run general equilibrium prospects.

Even if the Chinese saving behavior gradually approaches that of Americans, developed world real wages per unit of human capital are roughly 17 percent higher in 2030 and 4 percent higher at the end of the century. Without China they'd be only 2 percent higher in 2030 and, as mentioned, 4 percent lower at Century's end.

Moreover, the major short-run outflow of the developed world's capital to China predicted by our model does not come at the cost of lower wages in the developed world. The reason is that the knowledge that their future wages will be higher (thanks to China's future capital accumulation) leads our model's workers to cut back on their current labor supply. So the short-run outflow of capital to China is met with a commensurate short-run reduction in developed world labor supply, leaving the short-run ratio of physical capital to human capital, on which wages positively depend, actually somewhat higher than would otherwise be the case.

Other Scenarios

In addition to examining China's role in world economic development and

incorporating government investment, this study entertains a variety of demographic and fiscal scenarios. Our demographic scenarios, which we apply to all four regions simultaneously, are a) maintaining fertility rates at their current generally very low levels for much longer than governments now project, b) increasing longevity at faster than projected rates, and c) immediately and permanently doubling rates of immigration. Each of these demographic changes has very little impact on the overall macroeconomic situation, but each makes a non-trivial difference to where payroll tax rates end up. For example, Japan's payroll tax rate ends up 25 percent higher at the end of the century if its fertility rate fails to rise to the now-projected 2050 level; the European Union (EU)'s payroll tax rate ends 5 percentage points higher in 2030 if EU life expectancy rises by 3 years more by 2050 than now expected; and the U.S. payroll tax rate is reduced by 1 percent in 2050 if it doubles its rate of immigration.

Our policy simulations raised the rate of growth of health expenditures over the next quarter century, switched to income-tax finance of government pension benefits, financed future increases in aggregate pension benefits via increases in income taxes rather than payroll taxes, and privatized state pension systems by paying off accrued pension benefits with a consumption tax. Each of these policies has important impacts on the macro economy. But the one with the biggest impact is the privatization of state pensions, which more than doubles long-run ratios of physical capital per unit of human capital and raises long-run real wages by roughly a quarter. The policy delivers major benefits to future generations, both because of the higher wages they earn and the dramatically lower payroll tax rates that they face.

Conclusion

To conclude, there is no reason to believe that China is currently eating our lunch or will do so in the near

future. On the contrary, there is good reason to believe that China is in the process of taking us to dinner by slowly but surely becoming the world's biggest saver and the developed world's major supplier of capital. On the other hand, our findings about the developed world's fiscal condition are quite troubling. Even under the most favorable macroeconomic scenario, tax rates will rise dramatically over time in the developed world to pay baby boomers their government-promised pension and health benefits. As Argentina has so recently shown, countries can grow quite well for years even with unsustainable fiscal policies. But if they wait too long to address those policies, the financial markets will do it for them, with often quite ruinous consequences.

About the Researchers

Hans Fehr is professor of Economics at the University of Würzburg.

Sabine Jokisch is with the Centre for European Economic Research.

Laurence Kotlikoff is professor of Economics at Boston University.

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Center Information

The University of Michigan
Retirement Research Center
P.O. Box 1248
Ann Arbor, MI 48104
ph: 734 615-0422
fax: 734 615-2180
mrrc@isr.umich.edu
www.mrrc.isr.umich.edu

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