

WORKING PAPER

Executive Summary

FEBRUARY 2007, WP# 2007-2

CENTER FOR
RETIREMENT
RESEARCH
AT BOSTON COLLEGE

SAVING AND DEMOGRAPHIC CHANGE: THE GLOBAL DIMENSION

BY BARRY BOSWORTH AND GABRIEL CHODOROW-REICH

Falling long-term interest rates worldwide have led some policy-makers to speculate on the emergence of a glut of global saving (Bernanke, 2005). The global trend contrasts markedly with that of the United States, where the public discussion has focused on an ongoing decline of private saving and the re-emergence of large budget deficits. The absence of saving in the United States, in conjunction with strong domestic investment opportunities, has created a current account deficit of unprecedented size — \$800 billion in 2005, which has been matched by surpluses in every other region of the world. Thus, there are two perspectives on the global saving imbalance: Why is there a large saving shortfall in the United States, and why is there such a large excess in the rest of the world? In this paper we attempt to link the global imbalances to the impact of demography on national saving and investment rates.

A simple macroeconomic overview of global trends reveals that both saving and investment have played a role in creating the current situation. In the United States the saving rate has declined since the early 1980s (with a short-lived increase driven by government surpluses during the 1990s boom), while investment has remained at around 20 percent of national income since 1960. Other industrial countries have experienced long-term declines in both saving and investment, with the drop in investment slightly more pronounced probably due to the weak growth in both Europe and Japan. The large surpluses offsetting the rising U.S. deficit, however, have been concentrated in oil-producing countries and in the emerging market economies of Asia. Given the rise of oil prices, the surge of saving within the oil-producing regions is not a surprise. In Asia investment fell sharply following the 1997 financial crisis and has recovered only modestly, whereas saving fell much less and has taken off again in recent years.

Economists have long believed that the age composition of a country's population should affect its saving and investment behavior. Countries with high worker to population ratios should see increases in both categories, as workers save for retirement and an expanding labor force generates higher growth and new investment opportunities. Conversely, regions with large numbers of children or retirees should experience the opposite effect. If countries exhibit disparate patterns of aging and global capital markets are available, then demography can in principle explain the emergence of global imbalances. Indeed, Bernanke hypothesized that demographic change in other industrialized countries, or more accurately the anticipation of future population aging and its attendant retirement costs, could explain the surplus of saving in the rest of the world.

To identify the influence of demographics on long-term trends in saving and investment we constructed a panel data set covering 85 countries over the period of 1960 to 2005. Our data set allows us to distinguish between public and private saving, and also to examine whether demography has a differential impact on distinct regions. We run a set of fixed-effect panel regressions of the various measures of saving and investment on the demographic age profile and current and lagged income growth.

We find strong evidence for the expected effect on national saving and investment rates in our 85 country sample. However, the large sample result obscures significant heterogeneity among country groupings. The relationship within industrial countries appears to be very weak, while the Asian countries (excluding Japan) exhibit a much larger demographic effect than any other region. All three groupings show a statistically significant impact on the government budget balance, but again the magnitude of the effect in Asia stands out. We were able to construct measures of government and private saving for twenty-two industrial and eighteen emerging market economies. The parameters are statistically significant for the overall group of 40 countries and the industrial economies, but they are insignificant for the emerging market group. On the other hand, the age effects for private saving are large and significant for the total sample and emerging markets; but, as with the original estimates of national saving, they are modest for the industrial countries.

We use our regression results to construct implied paths of saving and investment according to individual countries' demographic profiles. It is immediately apparent that for most industrial countries (Japan is a notable exception) the effects of the demographic transition lie almost wholly in the future. We find it very unlikely, therefore, that demographic trends can explain the current global imbalances.

A second notable feature that emerges from the analysis concerns the unusually strong demographic effect in the Asian countries. Explanations for the high rates of Asian saving have often emphasized the lack of a social safety net comparable to that in higher-income countries, and perhaps a greater role for dynastic saving and other cultural factors. We conduct some sensitivity tests on the results, and find that life-cycle saving may decline as the countries become richer and social safety nets improve. For example, Japan has exhibited significantly less variation in its long-term saving rate than the experiences of other Asian countries would predict.

Overall, the empirical analysis yields considerable evidence of significant demographic effects on rates of saving, investment and the current account. The influence of demographics is also evident in measures of both public and private saving. However, the quantitative magnitude of the effects is small for the industrial countries, particularly in contrast with the strong demographic influences that we found for the Asian economies. Contrary to the expectations expressed by Bernanke (2005), we do not find evidence that demographic change is currently exerting a significant positive effect on saving in the industrial countries. Finally, while we do find evidence that the age structure of the population is an important long-run determinant of national saving, it changes very slowly, and in the short run its effects are easily overwhelmed by other factors.

© 2007, by Barry Bosworth and Gabriel Chodorow-Reich. All rights reserved. The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement Research Consortium (RRC). The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the Federal Government, the Brookings Institution, or Boston College.

CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

Hovey House, 140 Commonwealth Avenue, Chestnut Hill, MA 02467-3808
phone 617.552.1762 fax 617.552.0191 crr@bc.edu www.bc.edu/crr