Is an Older Economy a Weaker Economy?

Since the Great Recession, many people have asked Federal Reserve officials if they are penalizing senior citizens by keeping interest rates low. Questioners are concerned about retirees living mainly off savings and earning low rates on those savings.

But Fed policymakers are not unconcerned about seniors. In fact, the notion of monetary policy penalizing or rewarding one group or another highlights a misconception about policy's objectives and reach. Monetary policy does not seek to pick economic winners and losers. It is, rather, a "blunt tool" designed to create an environment conducive to broad economic prosperity.

Channeling resources toward one or more groups based on demographics or other factors—what economists call the "distributional effect"—is the province of fiscal policy. Research, including this from the Philadelphia Fed (see philadelphiafed.org/research-and-data/publications/business-review/2015/q2/brQ215_the_redistributive_consequences_of_monetary_policy.pdf) finds that the distributional effects of monetary policy are complex and uncertain.

Former Fed Chairman Ben Bernanke explained in a March 2015 post on his Brookings Institution blog that raising interest rates too soon would hurt and not help seniors (see brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low). Such a premature move, Bernanke said, would likely slow the economy and lead to lower returns on capital investments for seniors and everyone else. (See the sidebar, "Graying of America Expected to Produce Slower Economic Growth.") "The slowing economy in turn would have forced the Fed to capitulate and reduce market interest rates again," Bernanke wrote. Several major central banks faced precisely that scenario in recent years.

The Federal Reserve concentrates on stable prices and low unemployment, the dual mandate handed down by the U.S. Congress. By law, the Fed sets policy for the economy as a whole, not to target particular economic sectors or to favor any demographic group, explains Atlanta Fed research economist Toni Braun.

A different question: Aging's impact on the environment in which policy is made

But what effect does an aging population have on the economic conditions in which monetary policy is formed? Many researchers have found, for example, that an aging population tends to put downward pressure on real interest rates, the rates of return after allowing for inflation.

Aging affects the real interest rate in a couple of basic ways. First, older people tend to be savers rather than borrowers. Younger people, by contrast, tend to be borrowers. Therefore, having relatively more savers and fewer borrowers drives interest rates lower because of supply and demand. More money flowing into savings means the banks and other institutions gathering those savings need not boost rates to attract those deposits.

Second, aggregate hours worked falls as the population ages and workers move into retirement. Lower aggregate labor input reduces the amount of output produced by each unit of capital. This in turn acts to reduce the real return from investing in capital, Braun explains.

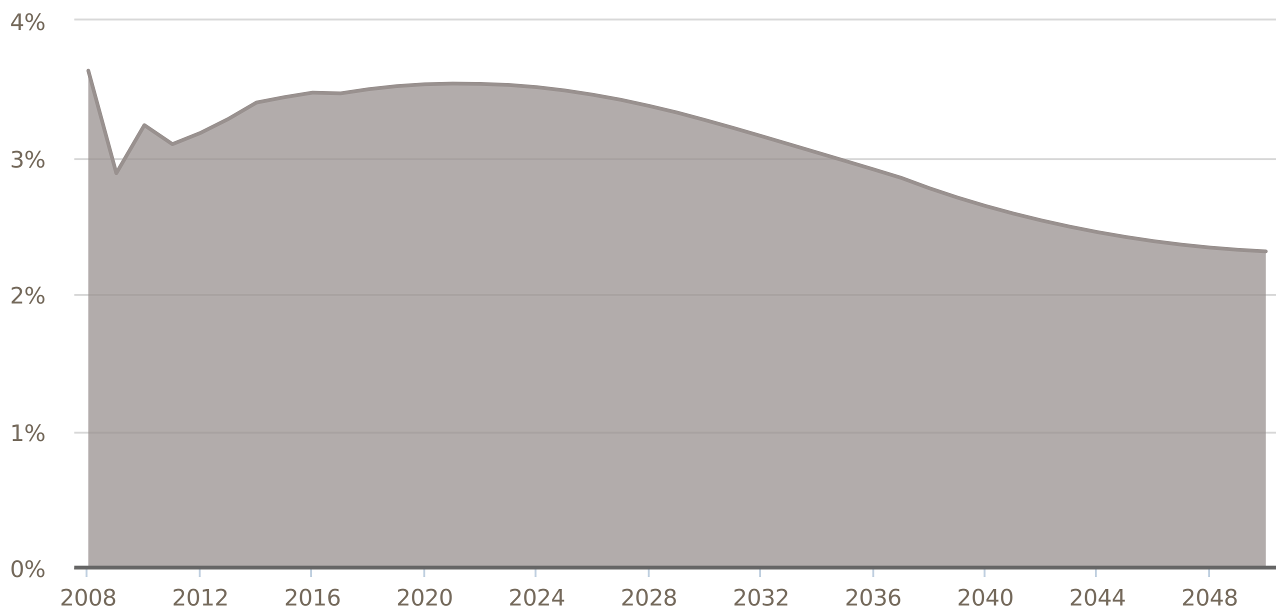
Aging societies are already starting to experience down-ward pressure on interest rates—most notably in Japan. A 2009 paper Braun authored with Daisuke Ikeda and Douglas Joines was among the early research to document the implications of population aging on the real interest rate in Japan (see onlinelibrary.wiley.com/enhanced/doi/10.1111/j.1468-2354.2008.00531.x).(See the chart.) The authors found that the two biggest factors underlying the decline in Japan's real interest rate from 6 percent to 3.9 percent between 1990 and 2000 were rapid population aging and lower productivity growth.

A large increase in life expectancy in Japan has meant that the baby boomers need to plan for longer retirement. Now, as they move into retirement, both the national savings

rate and the interest rate are falling. The decline in the real interest rate is compounded by a declining fertility rate. A lower fertility rate translates into a smaller fraction of younger workers who seek to borrow funds to purchase homes and cars. A subsequent 2015 paper by Braun and Joines predicts the after-tax real interest rate in Japan will decline by a further 2 percentage points between 2010 and 2050, with aging a key driver of those declines (see sciencedirect.com/science/article/pii/S0165188915000780).

Aging is acting to reduce interest rates in other advanced economies, too. San Francisco Fed economist Fernanda Nechio and coauthors Carlos Carvalho and Andrea Ferrero find that population aging in a hypothetical representative developed country can account for about a third to a half of the total decline in the real interest rate between 1990 and 2014 (see frbsf.org/economic-research/files/wp2016-05.pdf). An increase in life expectancy accounts for most of the drop, the authors conclude. As people expect to live longer and thus spend more years retired, they save more money for their

Japan's After-Tax Real Interest Rate



Source: R. Anton Braun and Douglas H. Joines, 2015 (www.sciencedirect.com/science/article/pii/S0165188915000780)

retirement. The authors forecast that the real interest rate in their composite country will continue to fall for the next 40 years and then stabilize at about 2 percent.

Might monetary policy be less effective as the population ages?

Because of demography's downward pressure on interest rates, formulating effective monetary policy might be more difficult as the population ages. That's because interest rates set by market forces tend to move lower regardless of policy, Braun notes.

Again, Japan offers a model. The Pacific Rim nation is aging more than any other advanced country, as its working-age population is shrinking by roughly a million people a year. Aggressive monetary policy has made limited headway in reversing years of sluggish economic growth and falling prices, said Masaaki Shirakawa, professor of economics and former governor of Japan's central bank.

During a recent talk at the Atlanta Fed, Shirakawa said the mild deflation Japan experienced during the 1990s was often inaccurately cited as the cause of the country's slow economic growth. But the fundamental economic problem in Japan, Shirakawa said, is not deflation but rather a rapidly aging population.

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Research suggests that a big reason why younger people react more strongly to interest-rate changes than do older people is homeownership. Younger people generally carry larger mortgages because older people have typically had more years to pay down their home loans, according to research by Arlene Wong (see sites.northwestern.edu/awo760/files/2015/10/Arlene_Wong_JMP_Latest-2g9f9ga.pdf). Since they owe more money, younger people have more reason to refinance their mortgages when interest rates drop. And among those who refinance when rates fall, consumption rises much more than among those who don't refinance, according to Wong.

It comes down to this: the conventional tool central banks use to stimulate the economy is lowering short-term nominal interest rates. However, when deposit rates become too low (or even negative), eventually people and businesses will choose to keep their cash to avoid "earning" a negative interest rate. Stored at home, $1 today equals $1 next year. When short-term nominal rates are negative, a deposit of $1 at a bank today will be worth less than $1 if withdrawn after one year.

As short-term nominal rates approach this threshold—the effective lower bound, or ELB—central banks have little recourse but to rely on other measures such as quantitative easing to stimulate the economy. This scenario happened during the Great Recession. With an aging population that exerts downward pressure on interest rates, it is possible—but not certain—that the economy and policymakers could confront the ELB more often.

Demographics is just one of many forces that determine growth and interest rates. However, aging is occurring in all advanced economies, and in some nations, the aging of the population is widespread and rapid. How societies adapt to a higher ratio of retirees to workers will no doubt influence how the Federal Reserve seeks to achieve its congressional mandate of low inflation and maximum employment.

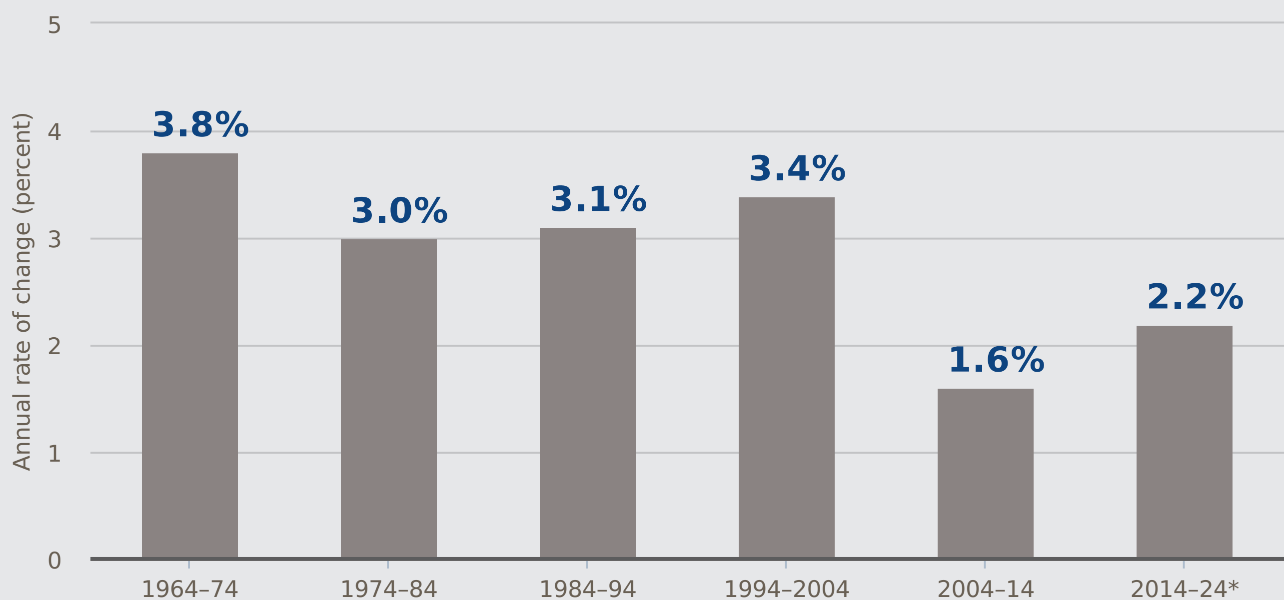
Graying of America Expected to Produce Slower Economic Growth

The changing age structure of the U.S. population is likely to result in slower economic growth and consumption as labor market participation declines. Much depends on the decisions policymakers take to address the fiscal challenges of aging.

The good news: experts predict economic expansion, just not as much compared with historical trends. The Bureau of Labor Statistics forecast in December 2015 that the U.S. economy will grow at a slower pace than before the 2007–09 recession, citing aging and declining labor force participation (see bls.gov/opub/mlr/2015/article/overview-of-projections-to-2024.htm).

Gross domestic product (GDP), the total value of goods and services produced in the nation, expanded at an average rate of 2.1 percent annually from 2010 to 2014, down from 3 percent or higher during the previous decades. The bureau expects GDP to grow 2.2 percent over the 10 years that will end in 2024 (see the chart).

Similarly, growth in personal consumption spending—the biggest component of GDP—will also ease, the labor agency said. From 2014 to 2024, personal consumption expenditures are expected to rise 2.4 percent on average. While that is stronger than the 2.2 percent growth from 2009 to 2014, it is lower than the 2.9 percent consumption expansion before the Great Recession and 3.8 percent growth from 1994 to 2004.



*Projected
Source: U.S. Bureau of Labor Statistics

Many variables, many unknowns

Louise Sheiner, a senior fellow in economic studies and policy director for the Hutchins Center on Fiscal and Monetary Policy of the Brookings Institution, has coauthored research on aging concluding that without a marked rise in labor market participation, consumption growth will have to fall (see aeaweb.org/articles?id=10.1257/aer.104.5.218). In a 2006 research paper, she and her coauthors identify a number of factors that could affect consumption in the coming years (see federalreserve.gov/pubs/feds/2007/200701/200701pap.pdf). These variables include the personal saving rate, productivity growth or contraction, and the cost of health care.

Still, uncertainty over the direction of U.S. fiscal policy, especially with regard to whether lawmakers cut or raise U.S. deficits or change the rules governing Social Security and Medicare, makes it hard to predict when any economic effects from aging might materialize, she says.

"There are a lot of models that say consumption is going to fall and savings will increase" as a consequence of aging, said Sheiner, a former economist with the Federal Reserve Board of Governors. "But a lot of them assume that the government puts itself on a sustainable path and cuts benefits or raises taxes for pensions."

Additionally, policies that might address the consequences of aging on issues such as labor force participation need to take into account the widening inequality in mortality by income in the United States, Sheiner said. For example, some have proposed boosting the retirement age as one possible solution to try to keep older people in the workforce longer. But a January 2016 report from the Center for Retirement Research at Boston College found a gap in life expectancy along lines of socioeconomic status, raising questions about the potential feasibility of such a policy (see crr.bc.edu/wp-content/uploads/2016/01/IB_16-1.pdf).

The report, titled *Does a Uniform Retirement Age Make Sense?*, is based on research that estimated trends in mortality from 1979 to 2011 by education. It concluded that although all workers were likely to live longer today than in the past, those with lower educational levels did not live as long as people with higher socioeconomic status (SES). "Policies seeking to extend work lives that treat all workers the same will tend to cut into the retirement of low-SES workers more than high-SES workers," the center's researchers wrote.

Now or later?

Ben Bernanke discussed various actions the nation's policymakers could take to address changing U.S. demographics during his time as Federal Reserve chairman, including reforming entitlements, raising private savings rates, and making improvements to education. He warned that acting later rather than sooner on these fiscal issues could lead to gloomy outcomes for consumption and overall growth.

"If we decide to pass the burden on to future generations—that is, if we neither increase saving now nor reduce the benefits to be paid in the future by Social Security and Medicare—then the children and grandchildren of the baby boomers are likely to face much higher tax rates," Bernanke said in a 2006 speech. "A large increase in tax rates would surely have adverse effects on a wide range of economic incentives, including the incentives to work and save, which would hamper economic performance" (federalreserve.gov/newsevents/speech/bernanke20061004a.htm).

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