

CHAPTER 2

Low Equilibrium Real Rates, Financial Crisis, and Secular Stagnation

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The past decade has been a tumultuous one for the US economy, characterized by the buildup of huge excesses in financial markets during the 2001–2007 period; the Great Recession and its containment; and, finally, a recovery that has been very slow by historical standards and insufficient to bring the economy back even close to the levels of output that were anticipated before the recession. The containment of the Recession was no easy feat, since economic conditions initially looked worse than in the early months of the Great Depression. However, the economy is still struggling five years later, and the correct diagnosis of its ailment is requisite for applying the appropriate treatment going forward.

Hence, in this paper I will therefore discuss what I label the new secular stagnation hypothesis. This hypothesis asserts that the economy as currently structured is not capable of achieving satisfactory growth and stable financial conditions simultaneously. The zero lower bound on base nominal interest rates, in conjunction with low inflation, makes the achievement of sufficient demand to bring about full employment problematic. If and when ways can be found to generate sufficient demand, they will likely be associated with unsustainable financial conditions. Secular stagnation was first suggested by Alvin Hansen in the late 1930s,¹ but did not prove relevant given the rise in demand due to World War II and the massive pent-up demand for consumer and investment goods after the war. The difficulty that the US economy has had for many years in simultaneously achieving full employment, strong growth, and

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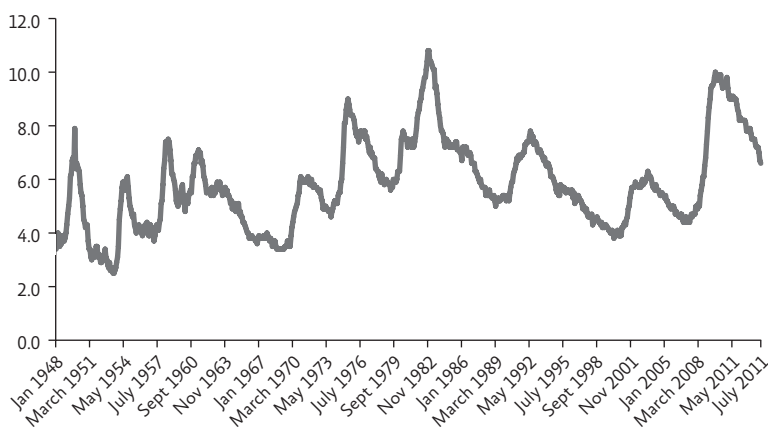
1. Alvin H. Hansen, “Economic Progress and Declining Population Growth,” *American Economic Review* 29, no. 1 (1939): 1–15.

financial stability suggests that secular stagnation should be considered anew. Moreover, the problems of achieving sufficient demand appear to be even more serious in Europe and Japan than in the United States. I will argue that secular stagnation is a scenario supported by both theory and evidence, and therefore is an important contingency to be ensured against. I will also discuss the policy approaches that could raise demand and thus help avoid stagnation woes.

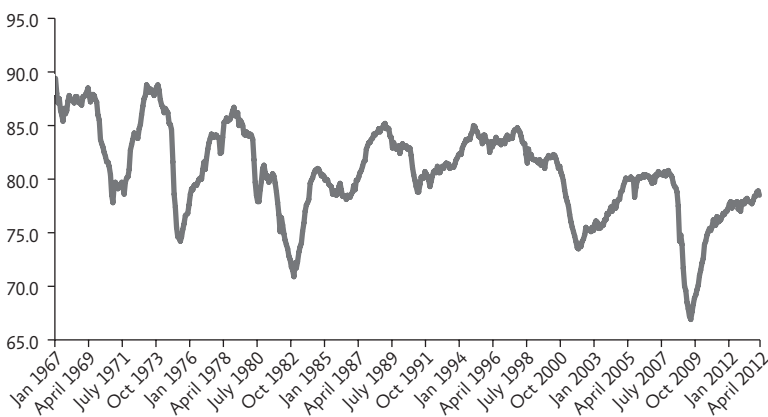
Economic facts and a hypothesis

Any explanation of US economic developments in the years leading up to the Great Recession of 2007–2008, and the five years since, has to grapple with two important facts. First, prior to the crisis, the economy grew only at a moderate rate and did not overheat. The unemployment rate stayed above 4 percent and did not plummet to historic depths (figure 2.1). Similarly, capital utilization did not rise to historically unusual levels (figure 2.2) and there were no reports of significant shortages in labor markets. This is remarkable, since multiple factors combined to substantially boost aggregate demand: monetary policy kept interest rates low, the absence of effective action by financial regulatory authorities and a breakdown of risk controls brought about excessive leverage in the financial sector, and the housing markets were characterized by the presence of large and manifestly unsustainable asset bubbles.

Second, even after the financial system was repaired, the real economy did not pick up, and growth remained sluggish. The LIBOR OIS spread (London Interbank Offered Rate, Overnight Indexed Swap), a proxy for financial distress, was reduced to regular pre-crisis levels by 2009 (figure 2.3); credit default swaps on major financial institutions, which measure the costs of insuring against a default, quickly normalized (figure 2.4); and taxpayer funds outstanding to major financial institutions were largely repaid by the end of 2010 (figure 2.5). All three factors reflect the swift and successful containment of the crisis and a substantial normalization of conditions in the financial sector. Nonetheless, the broader economy has not returned to normal—the recovery has only kept up with population growth and normal productivity growth, but it has not produced the catch-up growth required to reach the economy’s potential. Figure 2.6 shows the path of actual GDP (gross domestic product) and potential GDP as predicted in 2007. With GDP growth limited since the aftermath of the crisis, there has been almost no gain in output relative

**FIGURE 2.1** Civilian unemployment rate

Source: US Department of Labor, Bureau of Labor Statistics

**FIGURE 2.2** Total capital utilization

Source: Board of Governors of the Federal Reserve System

to the previously predicted potential. In the labor market, very limited progress in restoring the employment ratio (share of the adult population that is working) to pre-crisis levels has been made (figure 2.7), even adjusting for demographic changes (figure 2.8).

The sluggishness of the recovery is counterintuitive on the theory that the root cause of the output downturn was the financial breakdown in the fall of 2008. As an analogy, consider episodes characterized by a telephone

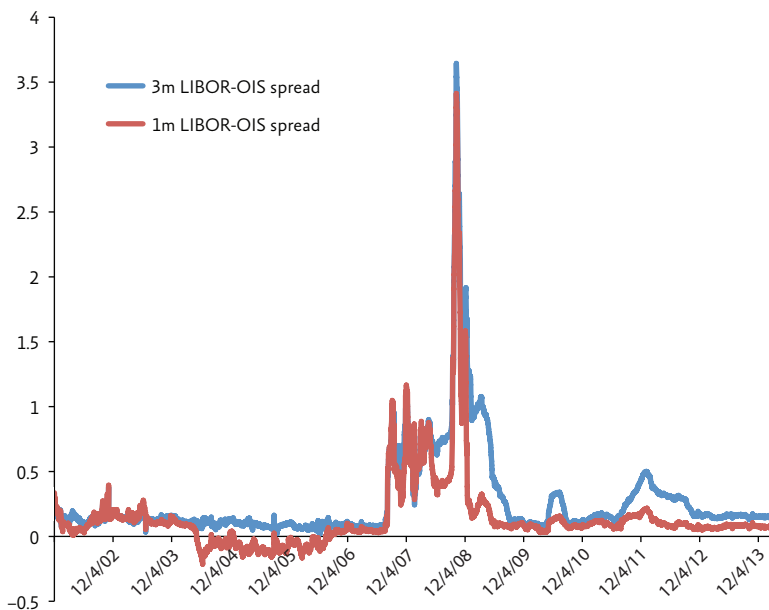


FIGURE 2.3 LIBOR-OIS spread

Source: Bloomberg

connection problem, a power failure, or a breakdown of the transportation system. While GDP would plummet during such episodes, after telephone connectivity was restored, power turned back on, or transportation restarted, we would expect the path of GDP to return to normal. For a time, GDP would be above normal as inventories were replenished and people caught up with the spending they were unable to do during the period of failure. However, this has not proved the case for the “financial power failure” of 2007–2008: now that the central connections have been repaired, there has been no sign of catch-up, abnormally rapid growth, or a closing of slack.

The point here may be put starkly. It has been over fifteen years since the US economy achieved satisfactory and sustainable growth. The Great Recession of 2007–2008 and subsequent slow recovery followed the 2003–2007 period, which was characterized by bubbles in the financial markets. Before that was the 2001 recession, which was preceded by the Internet bubble.

In Japan, it has been a generation since growth approached the 3 percent level that was thought of as a conservative estimate of its potential

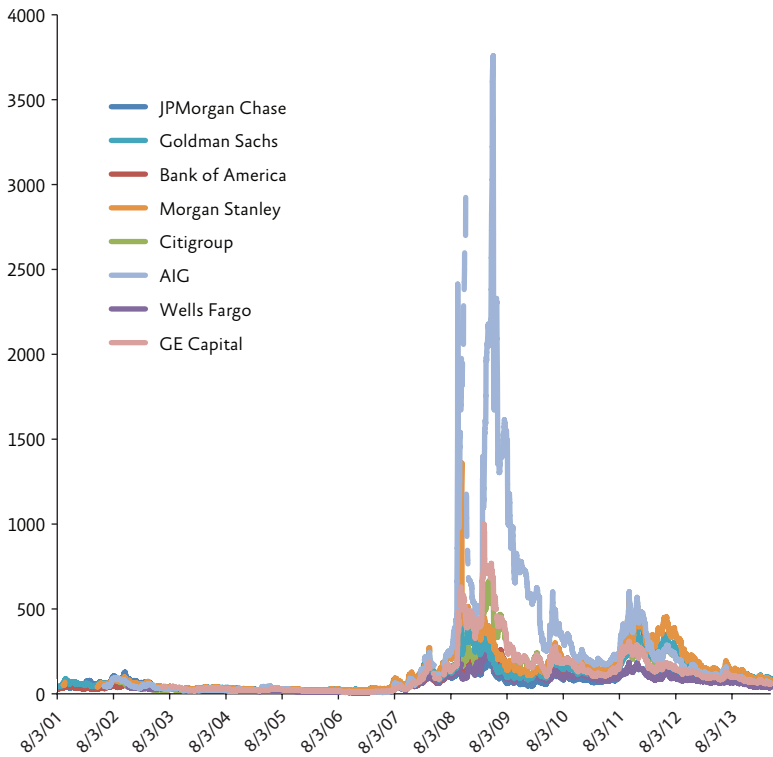


FIGURE 2.4 CDS spreads (bp) on major financial institutions

Source: Bloomberg. Eight largest holding companies as of December 31, 2013
<https://www.ffiec.gov/nicpubweb/nicweb/top50form.aspx>.

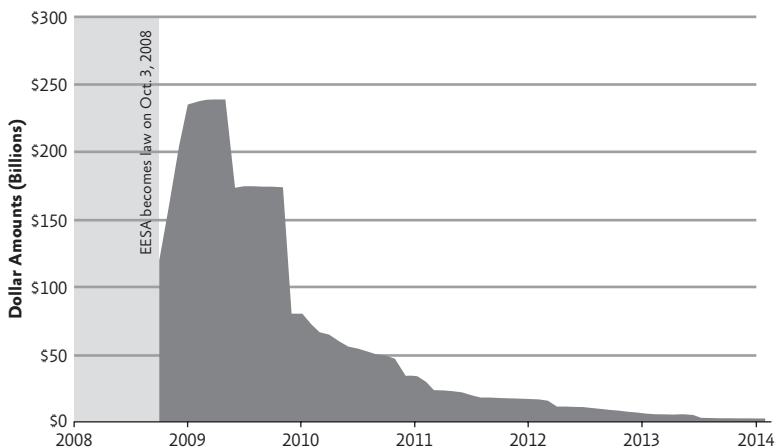


FIGURE 2.5 TARP repayment

Source: US Department of the Treasury, TARP Tracker

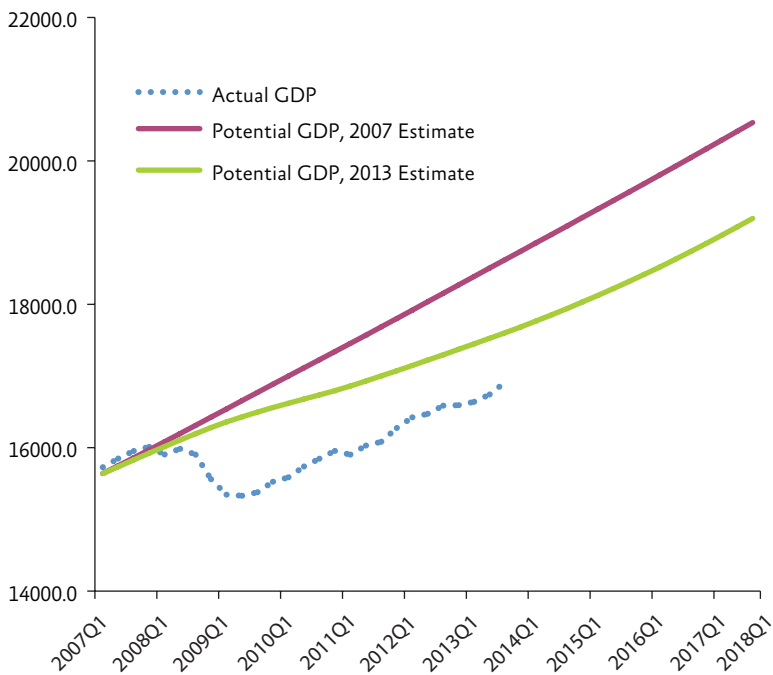


FIGURE 2.6 Output gap (billions, 2013 USD)

Source: Congressional Budget Office

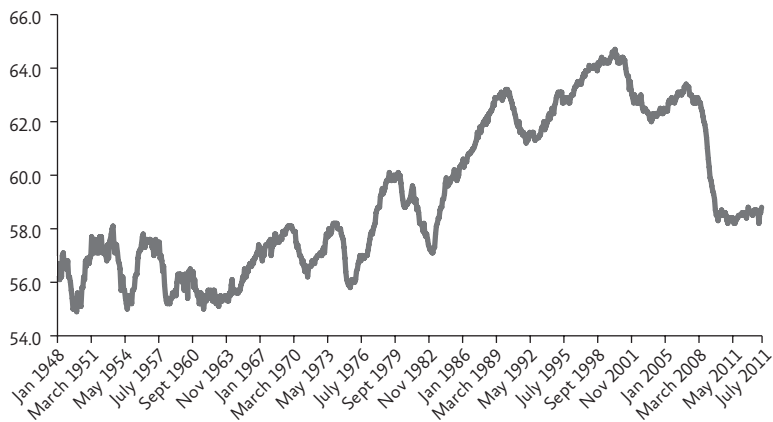


FIGURE 2.7 Civilian employment ratio

Source: US Department of Labor, Bureau of Labor Statistics

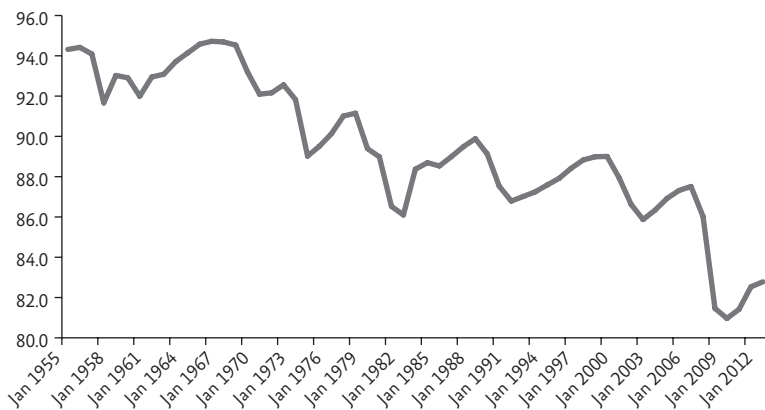


FIGURE 2.8 Employment ratio for men ages 25–54

Source: Organisation for Economic Co-Operation and Development

throughout the 1980s. And the European economy, like the American economy, had unsustainable finance in the pre-2008 period and has had manifestly unsatisfactory growth in output and employment since that time (figure 2.9).

Modern macroeconomics in either its New Keynesian or New Classical version cannot provide a satisfactory account of this situation. First, it is a premise of standard formulations of both schools of thought that fluctuations are cyclical around a path of what is labeled as normal or trend or potential GDP, so that shortfalls of output in one period are on average matched by excesses of output in another. In New Classical models, the fluctuations are frequently seen as optimal responses to changing economic conditions. In New Keynesian models, fluctuations are treated as undesirable, but policy can only aspire to reduce the variance of output over time, not to raise its average level. Clearly, what is required to account for the experience of recent years in the industrialized world is a theory of why output is continually depressed relative to potential for a protracted period. Models that see stabilization policy as an exercise in minimizing the amplitude of fluctuations around a given mean have little to contribute to explaining a prolonged period of stagnation *a fortiori*, as do models which presume the optimality of outcomes.

Second, models in the dominant macroeconomic traditions attribute adverse outcomes to some form of wage or price rigidity. In recent years, the industrial world has been below target inflation despite depressed



FIGURE 2.9 Economic growth in the US, Euro Area, and Japan

Note: The Euro Area contains the fifteen OECD countries that are members of the euro area (Austria, Belgium, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Slovak Republic, Slovenia).

Source: OECD Economic Outlook 2013 (projections for 2013).

levels of output and employment. Greater flexibility of wages and prices would have exacerbated the situation both by further reducing inflation and by raising real interest rates—thereby depressing output. So, if anything, in the current context wage and price rigidity are sources of stability rather than fluctuation.

The secular stagnation hypothesis

The tentative hypothesis of secular stagnation provides an explanation for the growth patterns just described. Suppose that structural changes in the US and global economy led to a substantial increase in the propensity to save and a substantial reduction in the propensity to spend and invest. Then, the real interest rate as the price on saving is supposed to fall until supply and demand equilibrate. However, short-term safe interest rates cannot fall below zero because people would substitute holding currency for holding debt instruments that pay a negative yield. Since instruments that carry risk have a spread beyond safe instruments and since longer-duration debt has higher yields than shorter-duration debt, a zero bound on safe government short-term rates implies a lower bound, albeit above zero, on a broad range of other interest rates that are relevant for firms' and households' decisions.

With a lower bound on nominal interest rates, savings and investment cannot be equated by the price channel and hence must be equated by a reduction in output. This view explains both facts: if equilibrium real interest rates were low or negative, then the economy would fail to overheat or contain significant slack prior to the downturn even with artificially inflated demand. Also, if equilibrium real interest rates were not attainable following the crisis, then full employment would not materialize even after the financial system was repaired.

Elsewhere I have presented² a variety of reasons for believing that the equilibrium real interest rates have fallen. These include (1) decreasing population growth and possibly declining technological change; (2) an increase in the tendency to save associated with changes in the income distribution, with more income being retained by corporations, going to owners of capital, and going to those with higher incomes and presumably low propensity to consume; (3) a reduction in the demand for investment associated with technological changes that reduce the level of capital investment necessary to carry out a given quantum of economic activity; and (4) the accumulation of substantial holdings of liquid government debt by emerging market central banks.

Responding to secular stagnation doubts

Concerns about the possibility of secular stagnation have profound policy implications. Before analyzing candidate policy responses, two substantial doubts about the accuracy of the secular stagnation diagnosis need to be addressed.

First, is growth about to accelerate in the United States and much of the industrialized world? After all, fears of secular stagnation when raised in the 1930s were proven wrong. If acceleration is imminent, there is little need for great alarm about secular stagnation. Some recent economic indicators—like the strength of the stock markets and the end of the sharp fiscal contraction—provide grounds for optimism. However, consensus forecasts have predicted that escape velocity would be around the corner for several years, but have been belied by lingering stagnation. Addi-

2. Lawrence H. Summers, “U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound,” keynote address at the National Association for Business Economics conference, February 24, 2014; forthcoming in *Business Economics* (2014).

tionally, Japan failed to achieve its predicted escape velocity in the 1990s, despite implementing a zero interest rates following its financial crisis in the late 1980s; now, Japan has a level of output only a little more than half of what was forecast twenty years ago. Moreover, even if the economy accelerates, this provides no assurance that prolonged growth at regular real interest rates is possible. Across the industrial world, inflation is below target levels and shows no sign of picking up—a strong suggestion of a chronic and substantial shortfall in demand.

Second, and related, why should we believe that the economy will not return to normal levels of output and capacity without additional unconventional policy? Have real interest rates really declined so substantially that the zero bound is much more relevant than in the past? As just noted, there are a range of factors that would suggest substantial declines in equilibrium real interest rates.

Beyond these theoretical factors, empirical evidence also indicates a reduction in the real rate of interest. The interest rate on Treasury Inflation-Protected Securities (TIPS), which is a measure of the real interest rate, has been declining since mid-2007, with the exception of a single spike in early 2009. Figure 2.10 shows the interest rates on five-, ten-, twenty-, and thirty-year TIPS. The five- and ten-year real interest rates have been negative for substantial periods between 2011 and 2013, with the five-year rate dropping to as low as -1.67 percent in September 2012. Even the twenty-year TIPS rate dropped into negative territory for a prolonged period in the latter half of 2012.

A related analysis has been performed by Thomas Laubach and John C. Williams,³ who seek to determine the equilibrium real interest rate for the US economy by using sophisticated statistical techniques to estimate the real interest rate necessary for demand and potential supply to be equated. Their calculations (depicted in figure 2.11) suggest that equilibrium real rates are now negative and have been trending downward for a long time.

Both the abundance of theoretical reasons for a decrease in demand and the available empirical evidence thus indicate that the US economy is plausibly incapable of generating demand sufficient to exhaust potential output, corroborating secular stagnation concerns.

3. Thomas Laubach and John C. Williams, "Measuring the Natural Rate of Interest," *Review of Economics and Statistics* 85, no. 4 (November 2003): 1063–1070.

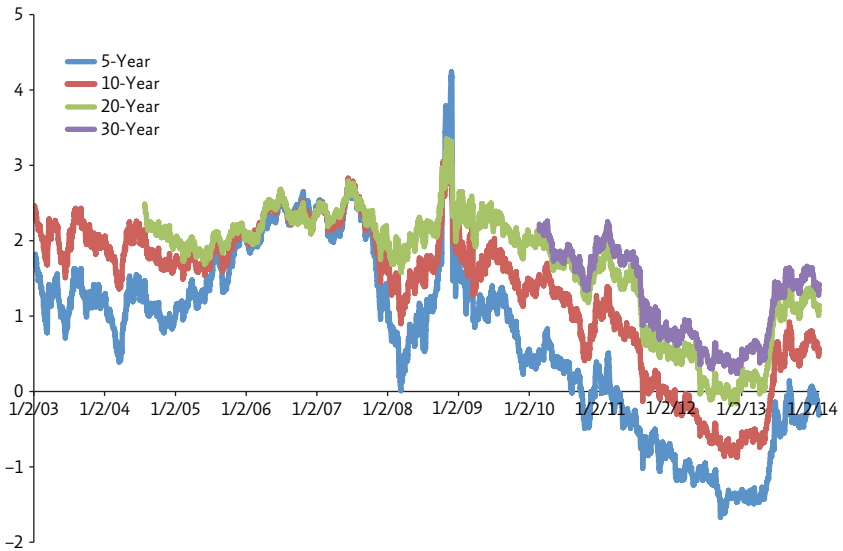


FIGURE 2.10 Real interest rates as measured by returns on Treasury Inflation-Protected Securities (TIPS).

Source: Board of Governors of the Federal Reserve System

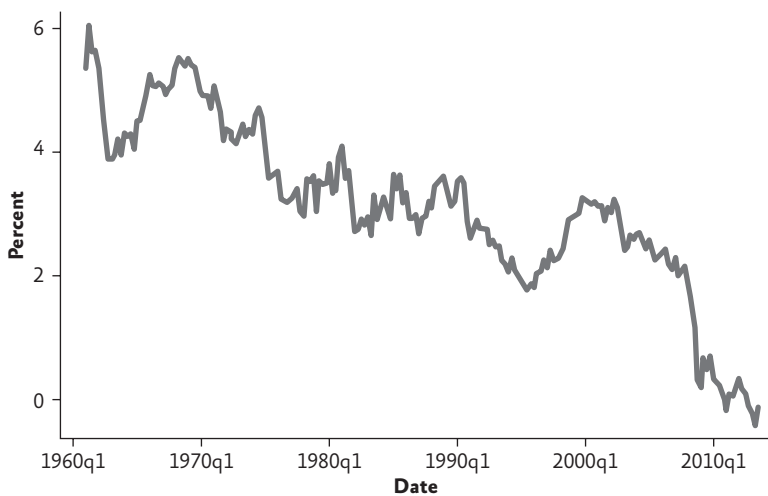


FIGURE 2.11 Estimate for the real interest rate by Laubach and Williams (2003)

Source: Updated estimates from John Williams's home page, <http://www.frbsf.org/economic-research/economists/john-williams/>.

Policy prescriptions

Given the concern that demand is constrained by the lower bound on the nominal interest rate, there are three potential policy approaches. The first and least satisfactory is passivity. Perhaps the situation will right itself or policies that promise an increased emphasis on long-run macroeconomic rectitude will improve matters. But there is little evidence anywhere in the industrialized world that such policies in the face of liquidity trap conditions are availing. Early work suggesting the efficacy of fiscal consolidations in stimulating economic activity has been convincingly discredited by research at the International Monetary Fund (IMF) and in other places.⁴

The second alternative is to use monetary policy to engineer lower real interest rates consistent with the zero lower bound on the nominal interest rate. This involves keeping the federal funds rate near zero and taking unconventional monetary policy actions that aim aggressively at reducing risk and term premiums, so that the economically important risky or longer-term interest rates can be reduced. This strategy is more attractive than doing nothing, but has multiple problematic aspects. First, it is questionable whether investments that are not attractive at already negative real interest rates, but only get implemented when real interest rates fall even further, will be productive. Second, these new and unconventional policies create uncertainty, as markets puzzle about the strategy of winding down quantitative easing and about the effect of forward guidance on investors' beliefs. Third, as Jeremy Stein⁵ and others have pointed out, reducing interest rates through unconventional monetary policy

4. See, for instance, IMF, "Will It Hurt? Macroeconomic Effects of Fiscal Consolidation," chapter 3 of the IMF's October 2010 "World Economic Outlook"; Jaime Guajardo, Daniel Leigh, and Andrea Pescatori, "Expansionary Austerity: New International Evidence," IMF Working Paper WP/11/158 (2011); Christina D. Romer and David H. Romer, "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks," *American Economic Review* 100 (2010): 763–801; and Alan J. Auerbach and Yuriy Gorodnichenko, "Measuring the Output Responses to Fiscal Policy," *American Economic Journal: Economic Policy* 4, no. 2 (2012): 1–27.

5. Jeremy C. Stein, "Overheating in Credit Markets: Origins, Measurement, and Policy Responses," speech at the "Restoring Household Financial Stability after the Great Recession: Why Household Balance Sheets Matter" research symposium sponsored by the Federal Reserve Bank of St. Louis, St. Louis, Missouri, February 7, 2013.

leads investors to increase risk-taking and leverage, thus raising the likelihood of bubbles. The argument that macroprudential policies can be used to contain such financial excesses is a chimera—unconventional monetary policy stimulates the economy precisely by increasing asset values and the ability to borrow, which prudential regulation aims to address. In addition, macroprudential policies rely on the ability of regulatory agencies to spot and curb bubbles—the same regulators who were unable to discern that Lehman Brothers, Wachovia, Washington Mutual, and Bear Stearns were undercapitalized even a week before they failed. Regulatory approaches that do not require regulators to be able to out-guess markets are preferable. These include sharp increases in capital and liquidity requirements and the provision of swift and forceful resolution authority. Finally, there are distributional concerns: policy measures that drive down interest rates to inflate asset values benefit those who hold the assets, which are disproportionately the wealthy.

The third and most promising policy option is to spur spending at every possible level of the real interest rate. The most direct way to do this is through fiscal policy action. Consider infrastructure investments, which not only increase productivity and thereby raise GDP, but also stimulate demand in an economy that is demand-constrained. As such, fixing John F. Kennedy International Airport in an environment with a construction unemployment rate in the double digits by issuing long-term debt at very low interest rates should be highly attractive.

When the growth rate exceeds the interest rate, which will likely be the case for a long time for short-term debt, the debt-to-GDP ratio will decline if the government issues debt and rolls over the debt to cover interest payments. Elsewhere, I have demonstrated⁶ that in the model of the US economy used for the forecasting and analysis of monetary policy at the Federal Reserve Board, a five-year fiscal impulse in the context of a nominal short-term interest rate at the zero lower bound leads to a lower debt-to-GDP ratio in twenty-five years. The model (1) assumes that government expenses do not contribute to utility or productivity—they are simply goods that are produced and contribute to GDP, but then are thrown into the ocean; and (2) does not take into account public debt at the local and state levels. Both are model simplifications that understate the real-world effect of expansionary fiscal policy on GDP growth, so that

6. Lawrence Summers and David Reifschneider, ongoing analysis for speech at National Association for Business Economics, 2014.

the future debt-to-GDP ratio would likely be even lower than the model predicts.

But public investment is just one way to boost demand. There are ample opportunities to improve the efficiency of regulation in ways that would stimulate demand, particularly in the energy sector. One example in the United States would be to allow exports of fossil fuels. In general, a concerted effort to promote competitiveness to increase net exports would raise demand in a single nation without the need to lower interest rates. However, such a strategy would not work for the world as a whole. Finally, long-run supply-side fundamentals such as policy measures that ensure the sustainability of entitlement programs, provide for tax reform, and facilitate investments in labor force skills and innovation can contribute to confidence and thereby boost demand in the short term.

Conclusion

Economic developments over the past decade raise concerns about secular stagnation. In a sufficiently low inflation environment, it may be impossible to attain real interest rates consistent with full employment. Even if it is possible, monetary policy actions that keep short-term nominal interest rates near zero by reducing term and risk premiums raise the likelihood of financial excesses and future crises. However, secular stagnation is not inevitable. We can ensure both adequate economic growth and financial stability with the right policy choice: a commitment to structural increases in demand. Embracing this objective will require a sea change in contemporary economic thinking.