



Strategic Analysis

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IS THE LINK BETWEEN OUTPUT AND JOBS BROKEN?

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Growth has been anemic since the recession's end. According to the Bureau of Economic Analysis, the US economy grew reasonably each quarter from the end of the recession in 2009 until 2012Q4, when growth of real GDP slowed to .1 percent. Many economists and commentators have argued that this figure represents only a temporary drop, though vigorous growth—say, 4 percent or so on average in real terms—shows no sign of being at hand.

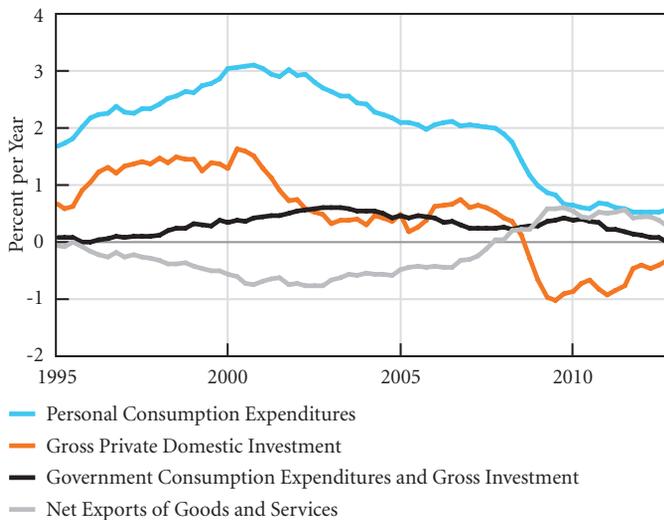
This report argues that the shallow recovery may, indeed, continue through 2014 and beyond. But with the private sector still indebted and deleveraging, satisfactory growth in the medium term cannot be achieved without a major, sustained, and discontinuous increase in either government spending or net export demand, or both. If we were to rely on an increase in net exports, it is doubtful that this would happen soon enough; and if it were to happen, the decrease in the domestic absorption of goods and services by the United States would put deflationary pressure on US trading partners.

We make no short-term forecast. Instead, we use the Levy Institute's macroeconometric model, based on a consistent framework of stock and flow variables, and trace a range of possible medium-term scenarios in order to evaluate strategic policy options, with no precision about timing.

We begin with pertinent background information and data that we hope will justify the choice of the scenarios that follow. Figure 1 separates out the actual contributions of four components of the economy to percentage growth rates. The data are averaged over five-year periods, to help bring out long-term trends, allowing us to identify the fastest-growing sectors. On average, private investment has acted as a net reducer of economic growth for the United States, partly

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Figure 1 Contributions to Quarterly US Real GDP Growth (Five-year Moving Averages)



Note: The four items in the figure add up to total GDP growth at any given point.

Sources: BEA; authors' calculations

because of a tremendous postcrisis slump in the housing industry and related activities, but also because of subdued animal spirits, the business sector has been stockpiling huge net cash holdings instead of purchasing new capital goods. On the other hand, in terms of moving averages, this sector's contribution to overall growth is still stuck below zero, while those of net exports and government spending have been falling and that of personal consumption expenditures has turned only slightly upward.

The job-creation figures are not even this reassuring. Almost four years of economic growth have left us with an official unemployment rate of 7.7 percent and a much-higher rate of 14.3 percent when we count workers who are marginally attached to the workforce or employed less than full time for economic reasons. The linkage between output and job creation has become *increasingly* weak in the last three decades. The recoveries of output have been “jobless” and have not created as many jobs as they used to; faster growth or a longer economic recovery is needed to generate a given number of new positions. The data of the last three years and our projections for the next four years confirm this trend (see Figure 13). Also, unemployment was higher in the most recent recession than in any other since the early 1980s (Papadimitriou, Hannsgen, and

Zeza 2011). To be sure, growth has brought jobs, yet millions fewer were employed at the start of the recession in 2007 than in previous postwar recession periods.

Thus, there are two problems with the recovery from the recession of 2007–09. First, growth has been meager by the standards of a modern recovery; second, employment growth has been weak, even considering the slow pace of GDP growth.

Since early December 2012, the Federal Reserve has maintained a 6.5 percent unemployment rate threshold as a benchmark that could lead to a gradual increase in short-term interest rates (Federal Reserve 2012). Some members of the Federal Open Market Committee, including Atlanta Fed President Dennis Lockhart (2013), believe that it will take perhaps three years to reach this figure. One option, of course, would be to implement Hyman Minsky's public employer-of-last-resort program, which he advocated many years ago (e.g., Minsky 2008 [1986], Papadimitriou and Minsky 1994). We put that possibility aside, and look at the more standard options for countercyclical government spending and taxation. Lockhart, along with Fed Chairman Ben Bernanke and others, cites concerns with the withdrawal of fiscal stimulus over the coming years, arguing that the Fed will have to support the economy, given current mandates and plans to cut federal budgets and deficits. Among other, more aggressive policies, Christina Romer (2013), former head of President Obama's Council of Economic Advisers, specifically called for lowering the 6.5 percent threshold by a full percentage point, noting that the Fed's interest rate-setting committee was already of the belief that the lower rate could be maintained without causing excessive inflation.

So far, no such rule has been adopted for US fiscal policy, though late last year, former labor secretary Robert Reich (2012) joined the chorus of other economists calling on Congress to adopt a 6 percent unemployment rate trigger for federal tax increases and spending cuts. Achieving this rate would necessitate the reversal of the sequester and the other spending cuts and tax hikes that made up the “fiscal cliff” until the economy had time to recover. We adopt the actual Fed target for the unemployment rate in scenario 1 below, estimating the amount of fiscal stimulus that would be needed to reach that goal in about two years. In scenario 2, we estimate how much more would be needed if we were to use Romer's more ambitious proposal of a 5.5 percent threshold as an objective to be reached

in the same period. In our third and last scenario, we modify our assumptions, comparing scenarios 1 and 2 with a situation that combines a small amount of fiscal stimulus with higher private sector spending, together with an assumption of stronger growth in US trading-partner economies.

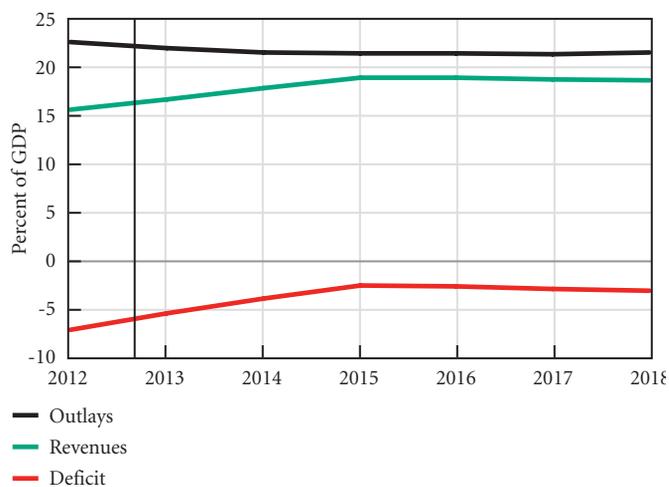
We begin with a baseline that adopts assumptions based on those used in the Congressional Budget Office's latest projections, issued in February (CBO 2013).

Baseline Scenario

Our base-run projections of the main balances are rooted in the CBO's baseline forecasts. Their February report foresees a rapidly falling government deficit through 2018 (Figure 2), a finding that has led some stimulus proponents to call on fiscal conservatives to admit that their estimates are overblown (Krugman 2013). Nonetheless, the report itself relies on a flawed model in which deficits are seen over the long term as an enemy of private investment and low interest rates (CBO 2013, 40–47). We have criticized the CBO model in a previous report (Papadimitriou, Hannsgen, and Zezza 2012) and will not repeat it here. We only wish to use the model as somewhat of a benchmark, while stating the caveat that it differs in important ways from our own and that we have strong objections to its approach. For example, we believe that, almost as a rule, the US economy operates with excess productive capacity and large amounts of unemployed labor. If only for this reason, higher government spending cannot be expected to have a crowding-out effect on private spending. As shown in Figure 2, the decline in the deficit depends mostly on rising tax revenues, while a fairly rapid decline in outlays is also forecast by the CBO.

Some of the key CBO projections for this year and the next three years can be found in Table 1. These projections reflect the provisions of the American Taxpayer Relief Act of 2013, the law that averted or delayed most tax increases and spending cuts contained in the so-called “fiscal cliff.” This last-minute agreement allowed taxes to be raised on the wealthiest taxpayers. It also put off the sequester until the beginning of March, in the vain hope that these spending cuts could be exchanged for a more palatable combination of gradual cuts and tax increases before the new deadline.

Figure 2 CBO Baseline Projections for the Federal Budget, 2012–18



Source: CBO (2013)

Table 1 CBO Projections, 2013–16 (in percent)

Year	2013	2014	2015	2016
Deficit (Percent of GDP)	-5.3	-3.7	-2.4	-2.5
Growth Rate *	1.4	3.4	3.6	3.6
Unemployment **	8.0	7.6	7.1	6.6

* The CBO makes a single projection for the years 2015–18 and then for the years 2019–23

** The CBO projects that unemployment will be 5.5 percent at the end of 2018. We calculate the rates for 2015 and 2016 with a simple linear interpolation.

Also, our baseline uses the latest International Monetary Fund (IMF 2013) projections for growth in the rest of the world, issued in the January update to its October 2012 *World Economic Outlook* report. Global GDP growth has not been strong, leading to domestic concerns about export demand. Looking to the future, the IMF lowered its growth forecasts for much of the world in its January update. As shown in Figure 3, overall growth in the advanced countries, which are crucial to export demand, is projected to have been nearly flat in 2012Q4 once final official figures are reported. On the other hand, the IMF currently anticipates stronger growth in these countries next year. In addition, the simulations for our baseline scenario assume a moderate increase in average US home prices.

In our baseline simulations, we attempt to reproduce the GDP growth rates and government deficits projected by the CBO in the report mentioned above. For the CBO forecasts to materialize, it would take a gradual decrease in the private sector surplus from 5.4 percent of GDP in 2012Q4 to 1.5 percent in 2015Q1. This decrease amounts to almost 4 percent and seems implausible to us. Last year's actual decline was much smaller, from 6.2 percent in 2011Q4 to 5.4 percent in 2012Q4. The black line in Figure 4, which depicts the ratio of household debt to income, falls only gradually, while Figure 5 shows that the corresponding series for nonfinancial corporations rises smartly. In our base-run projection, we assume for the sake of argument that this somehow happens.

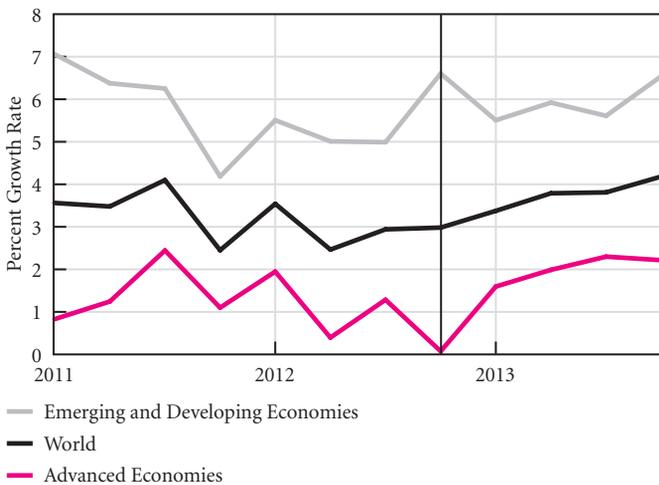
To achieve this dubious outcome is more difficult within our own model, as adjustment to full employment cannot *not* occur automatically or quickly in a world economy with deficient demand. (On the other hand, as argued below, some signs of a resurgence in private borrowing have recently appeared.) Our model verifies that, with a 1.4 percent growth rate in 2013, unemployment will reach 8.0 percent. Our estimates are also in line with the CBO's estimates for the years 2014–16.

The patterns of GDP growth rates and of the three main financial balances in this baseline case—that is, the negative of

the private sector balance, the government deficit, and the current account balance—are illustrated in Figure 6. These three balances are central to our approach and are linked by the national accounting identity, which we have emphasized from the first analyses in this series (see, e.g., Godley, Papadimitriou, and Zezza 2008). The red line shows that the government deficit stood at 8.3 percent of GDP in 2012Q4. It declined in the second, third, and fourth quarters of last year, reflecting the end of the recession-era fiscal stimulus measures and the beginning, perhaps, of a new era of US fiscal austerity. Our assumptions about fiscal policy result in a continuing drop in the deficit, to approximately 3.8 percent by the beginning of 2015. Our projection then remains nearly constant for the rest of the simulation period, until the end of 2016. The private sector surplus, shown in green in the figure, declines from 5.4 percent in the fourth quarter to approximately 1.5 by the first quarter of 2015; it then stays roughly constant, at about 2 percent of GDP. The current account balance, depicted in blue, now stands at about –2.9 percent of GDP, having improved for some time. In our baseline simulation, this balance rises very gradually toward –2 percent.

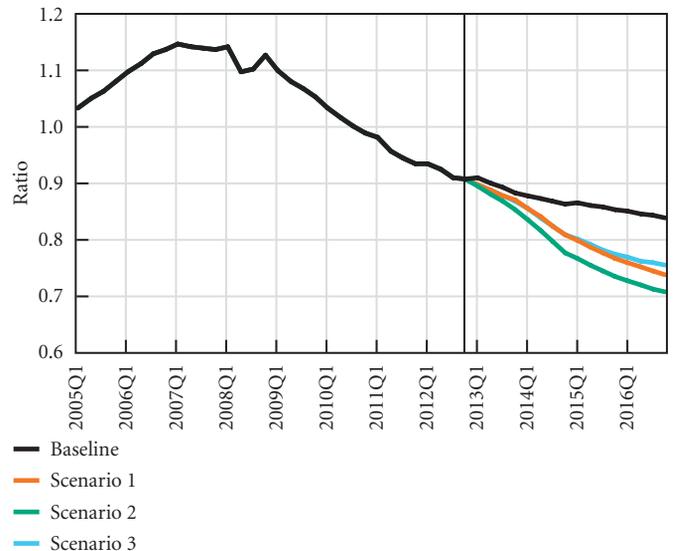
The black line shows GDP growth hovering at an anemic 1.25 percent for most of this year, rising to just over 2 percent

Figure 3 World Growth Rates: Historical and Projected, 2011Q1–2013Q4



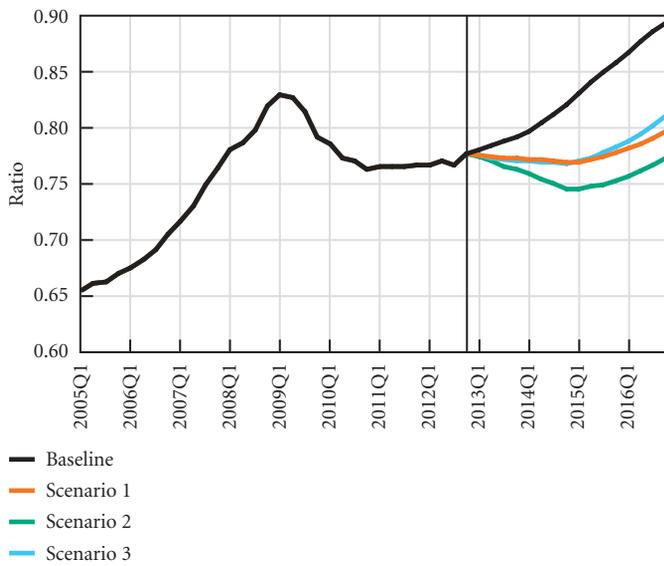
Source: IMF (2013)

Figure 4 Households: Debt-to-Disposable Income Ratio, 2005Q1–2016Q4



Sources: Federal Reserve; authors' calculations

Figure 5 Nonfinancial Corporations: Debt-to-GDP Ratio, 2005Q1–2016Q4



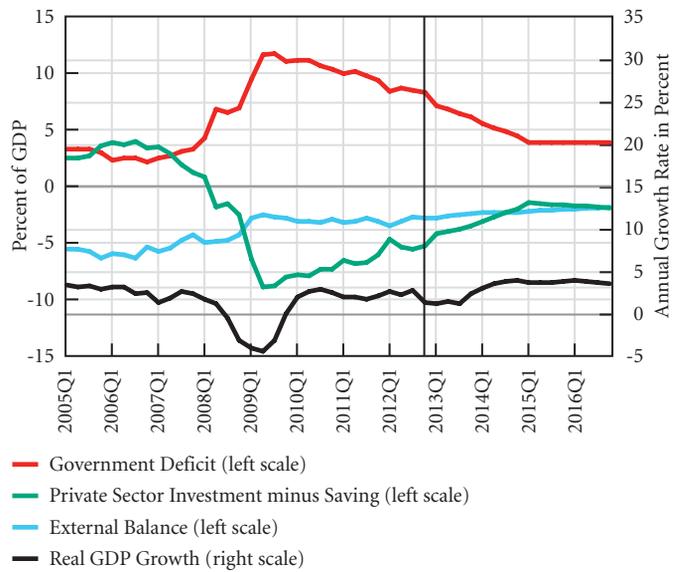
Sources: Federal Reserve; BEA; authors' calculations

in the fourth quarter and finally surpassing 3 percent from the second quarter of next year. It stabilizes at that level until the end of the simulation period. These rates are weak, given usual rates of population and productivity growth. As we will see later, they are woefully insufficient to bring about full recovery, given current labor market institutions and policies.

Scenario 1: Discretionary Fiscal Policy to Reach the Fed’s 6.5 Percent Threshold for the Unemployment Rate in 2014

As noted above, it seems likely that fiscal policy will be biased toward deficit reduction in the coming years. The deal that prevented the fiscal cliff from going into effect on January 1 has brought an income tax increase for the most well-to-do taxpayers and will eventually result in spending cuts. In the president’s State of the Union address, he forcefully called for an end to the austere approach to fiscal policy, but he also promised not to increase the deficit. He and many legislators in Congress sought to replace the draconian budget cuts set to occur under the sequester with tax increases and a more carefully selected set of gradual spending cuts, but were unsuccessful. The effects of the sequester will be felt very soon. But

Figure 6 Baseline: US Main Sector Balances and Real GDP Growth, 2005Q1–2016Q4



Sources: BEA; authors' calculations

why should the deficit be reduced further, given that we are far from the goal of full employment, and inflation remains low? This notion underlies our first two scenarios, which were modeled using the Federal Reserve unemployment rate goal announced in December, as well as Reich’s fiscal twist on that idea. For starters, scenario 1 makes use of the Fed’s current tightening threshold of 6.5 percent unemployment. It includes the following basic assumptions:

1. A slight decrease of the surplus of the private sector, which reaches 3.1 percent at the end of 2016.
2. An increase in taxes on wages and salaries that is slightly smaller than the increase that we assumed for the baseline simulation, plus a small increase in the direct taxation in 2013.
3. An increase of real government purchases of final goods and government transfers to the private sector by 6.8 percent in 2013 and 2014, and by 3 percent in 2015 and 2016.

A caveat is in order. Our dour results force us to assume rather high levels of stimulus to obtain reasonable employment numbers. Sharp fiscal relaxation can only be described

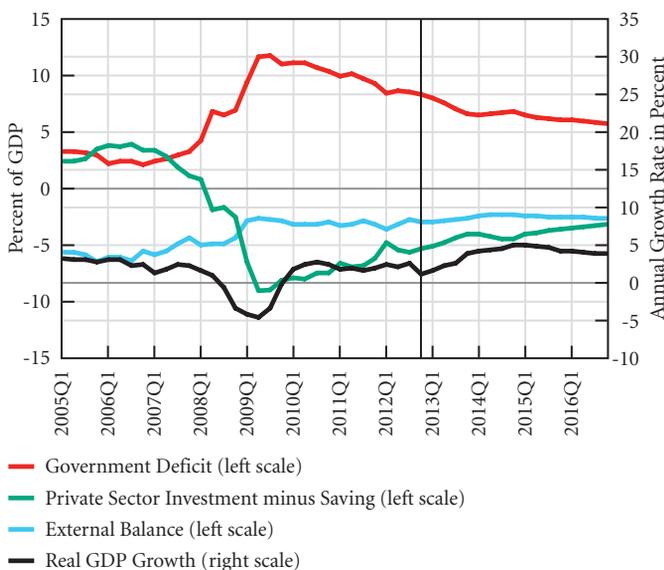
as unrealistic, given the current political situation in Washington. President Obama wants to negotiate more spending cuts and tax increases to replace the sequester cuts, which have just gone into effect as we go to press. It is unlikely, at least at this point, that political leaders in Washington will agree on a looser fiscal stance than the one advocated by the president, as his main opponents are the austerity faction in the House. This antigovernment faction took the position as the February 28 deadline approached that they did not oppose the military spending cuts in the sequester, choosing to give tax relief priority over deficit reduction in the days before the automatic spending cuts went into effect. This left neither side in support of overall increases in federal spending relative to the austere path the government would have to follow starting March 1. The “austerians” still called for dubious supply-side tax cuts, but Obama had insisted from the beginning on a balance of tax *increases* and spending cuts. Hence, a deadlock in Washington exists that prevents anything from happening for now, other than a set of potentially chaos-inducing across-the-board spending cuts and temporary federal furloughs. In our scenario 3 below, we simulate an alternative with the same modest fiscal stimulus as in scenario 1, which relies primarily on private investment and export demand in the rest of the world.

How the balances are projected to respond under this set of assumptions and policies is demonstrated in Figure 7. As shown in red in the figure, the deficit continues to narrow in this scenario but remains in excess of 5.7 percent throughout the simulation period, owing to a looser fiscal stance. The private sector surplus (green line) adjusts toward zero, as in the baseline scenario, but it stays below 3.1 percent—meaning that, with more government borrowing than in the baseline scenario, the private sector accumulates more net assets. Hence, the current account balance (blue line) reaches -2.6 percent.

Scenario 2: Fiscal Policy to Reach a Lower Threshold of 5.5 Percent Unemployment at the End of 2014

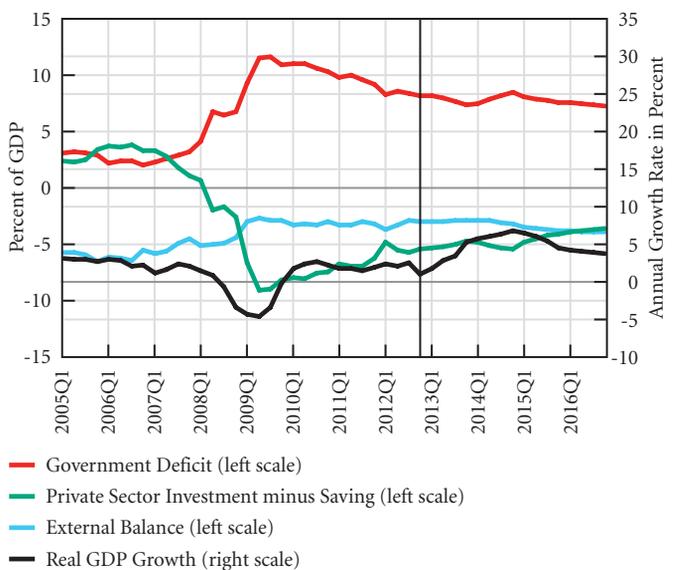
The only difference between the assumptions of this scenario and those of scenario 1 is that here, the two types of government outlay are assumed to grow by 11 percent per annum after inflation in 2013–14. Figure 8 shows how the balances evolve in this higher-stimulus case. The government deficit remains above 7.3 percent throughout the simulation period—higher than in the previous scenario, but below last quarter’s observation of 8.3 percent, except for the fourth

Figure 7 Scenario 1: US Main Sector Balances and Real GDP Growth, 2005Q1–2016Q4



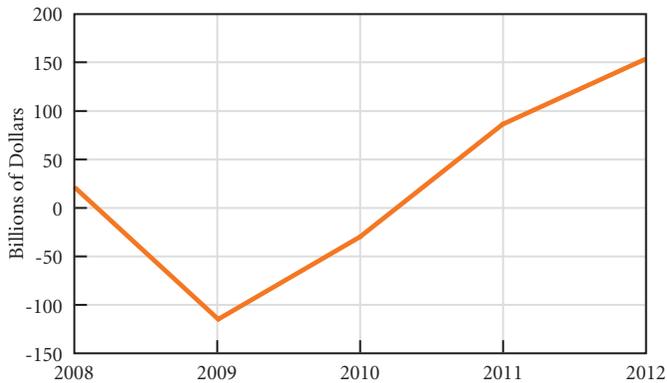
Sources: BEA; authors’ calculations

Figure 8 Scenario 2: US Main Sector Balances and Real GDP Growth, 2005Q1–2016Q4



Sources: BEA; authors’ calculations

Figure 9 Change in Consumer Credit, 2008–12



Source: Federal Reserve

quarter of 2014, when the deficit peaks at about 8.5 percent. The private sector surplus hovers around 5 percent until roughly 2015Q1, then decreases to around 3.5 percent by the end of 2016. Throughout the simulation period, the current account balance ranges from -2.9 percent to -3.9 percent of GDP. With the higher level of fiscal stimulus, GDP growth, shown again in black, reaches as high as 6.9 percent per year in the last quarter of 2014 and generally achieves levels above those in the previous two simulations.

Scenario 3: Aggregate Demand Growth in All Three Sectors

The debt data seen earlier in Figure 5 show that the corporate nonfinancial sector is carrying a low debt load, compared to the crisis-era levels of 2009, though the burden of debt still exceeds the levels shown for the precrisis period of 2005–07. Business investment decreased in 2012 as compared to 2011, but some economists predict an upsurge in capital spending, especially in equipment and software, in this year and beyond (Mericle 2013). It is also very possible that business borrowing will resume and help drive a recovery, with some recent news stories suggesting that bank lending to nonfinancial businesses rose strongly in the fourth quarter of 2012 (Raick 2013). Moreover, financial companies may have issued a significantly greater number of mortgage-backed securities during the first part of this year (Foley 2013). It seems plausible that a new wave of borrowing might help to drive a recovery, given that the burden of

existing private debt as a percentage of GDP has been subsiding since the financial crisis (Demyanyk and Chapman 2013).

Official consumer credit numbers show strength and momentum as well. Figure 9 depicts recent data on consumer borrowing from the Federal Reserve. The first data point, which represents 2009—the year after the financial crisis hit—saw a \$115 billion fall in overall consumer credit. The rest of the yearly series shows a gradual upward trend, to an increase of \$152.8 billion for calendar year 2012. Securitized debt—which was one of the problems during the crisis—remains at low volumes, compared to precrisis data points, while a number of categories (especially direct student loans from the government) have been increasing rapidly, presumably helping to propel demand for goods and services (Federal Reserve 2013).² Many economists, including ourselves, believe that it is realistic to expect a rebound at this time, given that the household sector has finally worked off a good portion of its crisis-era debt load as a percentage of its disposable income. Figure 4 above shows the sharp decline in this ratio since the financial crisis years of 2008 and 2009.

Moreover, while the eurozone debt crisis and worldwide fiscal austerity have dampened growth forecasts for many US trading partners (see the IMF projections depicted in Figure 3), exports seem to be on the increase. As shown in Figure 10, the parts of the world that import the most goods and services from the United States nonetheless have all increased their US imports somewhat dramatically since about 2009, at least in nominal terms. Also, while growth in the G20 group of industrialized economies was negative in 2012Q4, bond yields in Italy and most other debt-stricken eurozone countries have been stable since the European Central Bank vowed “to do what it takes” to support the euro. The outcome of the recent elections in Italy, however, may change this significantly.

We have tried to make the case for policies that would allow the United States to increase its exports in numerous previous analyses (e.g., Godley, Papadimitriou, and Zezza 2008). Reforms of the corporate tax system could be used to encourage the aforementioned onshoring process (see Papadimitriou, Hannsgen, and Zezza 2012). Aiming for a US role as a bigger exporter would involve various kinds of public investments, many of them potentially small in size. Cuts in education, including drastic decreases in instructional budgets for many large state universities, as well as cuts in federal

research budgets, need to be restrained and hopefully reversed. Research in manufacturing technologies in the amount of, say, \$1 billion, as called for again in the president's annual address, would help to balance existing work in R & D (Pisano and Shih 2012). Finally, reforming laws and rules that govern corporate behavior, including the tax code, might help gear nonfinancial companies more toward innovation and productivity growth, rather than short-term market gains (Lazonick 2011).

In recent commentary, some hope has been expressed for broad-based job creation in manufacturing as early as this year (Fishman 2012; Tyson 2012). In 2012, a number of manufacturers publicly announced that they intended to “insource” significant numbers of jobs, generating a new wave of optimism. Among many other reasons are the shifting winds of competitiveness: overall, the US dollar has gradually lost value, and, unfortunately, wages have stagnated badly, despite rising productivity. These and other developments have led to a downward trend in the inflation-adjusted exchange rate. Figure 11 shows that the real depreciation of the past 10 years has affected both of the big exchange-rate subindexes compiled by the Federal Reserve—the “major currencies” index, which includes Canada, most of the major European economies, and Japan; and the “other important trading partners” index, which

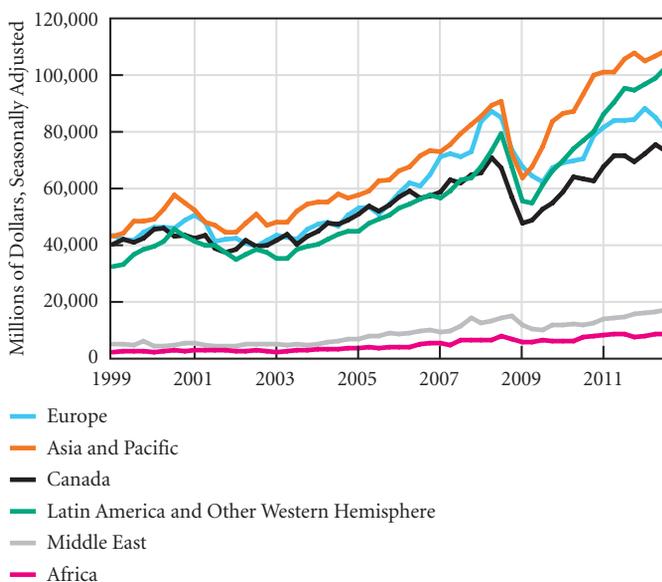
encompasses the currencies of most of the biggest Asian exporters and some important oil producers, among others. Given this trend, the United States may more comfortably adopt the role of a major exporter in the coming years, confounding the pessimism expressed by Hendrik Houthakker and Stephen Magee (1969) and others over the decades about the prospects for US export-led growth.

A solution to the current global slowdown requires an effort to stimulate demand globally, especially in the economically depressed eurozone. Current levels of aggregate demand, in fact, leave vast amounts of resources completely unemployed worldwide, even in countries that enjoy high levels of per capita consumption.

The main difficulty has been in convincing economic leaders of the nature of the main problem: insufficient aggregate demand. Unlike policies such as import quotas, fiscal and monetary policy stimulus will be of *even greater* help to individual countries if they are allowed to go into effect in *all* countries suffering from underemployment.

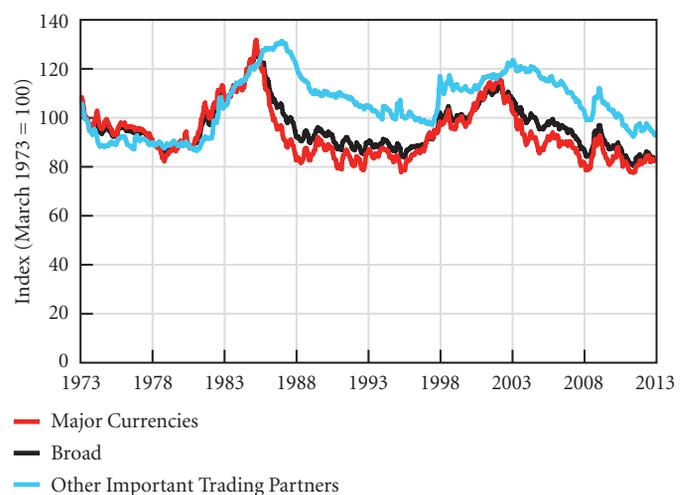
Hence, given the right policies, there is some hope of a recovery led by private borrowing and export demand, provided there is sufficient stimulus, and not austerity, from the public sector. We discuss some of the policy questions related

Figure 10 US Exports by Country of Destination, 1999Q1–2012Q3



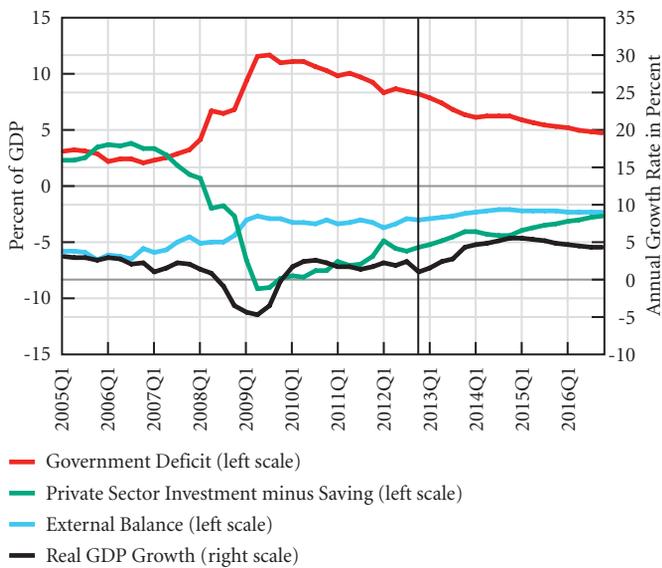
Source: BEA

Figure 11 Real, Trade-weighted US Dollar Exchange Rate Indices, 1973–2013



Source: Federal Reserve

Figure 12 Scenario 3: US Main Sector Balances and Real GDP Growth, 2005Q1–2016Q4



Sources: BEA; authors' calculations

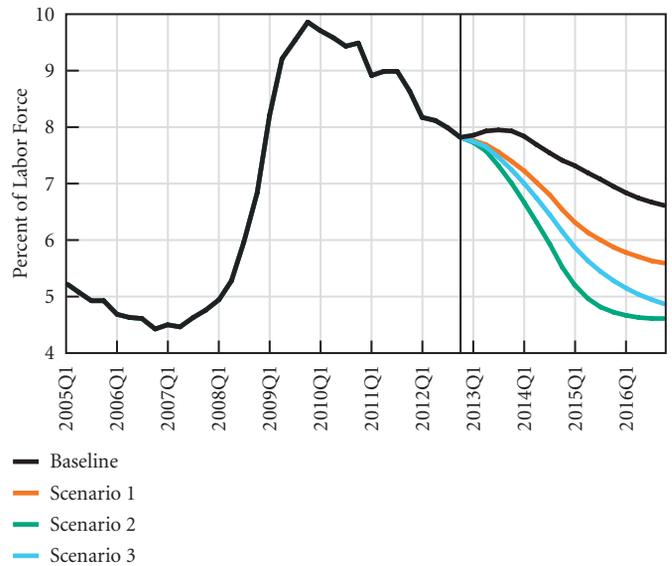
to these developments below, but we mention them here to help justify a third scenario, one that assumes growth led by all three sectors—government, private, and foreign. This move seems necessary given our findings in scenarios 1 and 2 that the levels of fiscal stimulus required to achieve modest unemployment goals are very stimulative relative to realistic outcomes of budget deliberations in Washington and state capitals around the country.

Thus, in scenario 3 we assume a more rapid increase in private sector net borrowing and faster economic growth in the rest of the world. The latter is captured by assuming that the global economy will grow 1 percent faster in all four simulation years compared to the estimates of the IMF (2013).

The resulting main balances are illustrated in Figure 12. The government sector behaves as in scenario 1, again increasing both types of government outlays relative to our baseline case, but less than in scenario 2. Hence, as the red line shows, the government deficit falls fairly steadily, as in each of the other simulations, reaching approximately 4.8 percent of GDP in 2016Q4.

In this scenario, the private sector balance (green line) reaches 2.6 percent at the end of 2016, compared with 2.0 percent in the baseline, although the path is much more reasonable. Moreover, the current account balance (blue line) stands

Figure 13 Unemployment Rate, 2005Q1–2016Q4



Sources: Bureau of Labor Statistics; authors' calculations

at -2.3 percent of GDP at the end of 2016. Finally, the black line, representing real GDP growth rates, stays close to 5 percent after the second quarter of this year. Such growth rates are capable of significantly reducing the unemployment rate, as illustrated in Figure 13.

Jobless Recoveries and Unemployment in our Projections

We began this analysis with a discussion of GDP growth and unemployment, and the relationship between the two in the current US recovery. As we pointed out then, Figure 13 plots the quarterly unemployment rate in our baseline scenario and the three alternative scenarios. It shows the series peaking at over 9.8 percent at the height of the most recent recession, in the fourth quarter of 2009. Since that quarter, the unemployment rate has fallen steadily, reaching approximately 7.9 percent by January of this year. Under the conditions posited in the baseline scenario (see black line), this decline would be interrupted, with unemployment rising gradually once again, to nearly 8.0 percent by 2013Q3, before declining again for the rest of the simulation period. Even at the end of that period, the official unemployment rate would stand at approximately

6.6 percent—still in excess of the Federal Reserve’s threshold for possible tightening.³

In scenario 1 (orange line), the goal of 6.5 percent unemployment is achieved within two years, but the lower goal of 5.5 percent still has not been reached by the end of the simulation period—nearly four years from now. The next-best scenario for the labor market is scenario 3 (blue line), which combines modestly increased fiscal stimulus, higher private sector borrowing, and higher growth rates for our trading partners. This set of changes results in unemployment falling below Romer’s proposed threshold of 5.5 percent in 2015Q3 and reaching 4.9 percent by the end of the simulation period. The fastest and deepest reduction in unemployment is obtained in scenario 2 (green line), which features the highest levels of fiscal stimulus. Consistent with the premises of the scenario, projected unemployment is just slightly above 5.5 percent at the end of 2014, as shown by the green line. Two years later, in 2016Q4, it reaches about 4.6 percent—still not as low as it was in 2007, just prior to the recession’s start. Labor market recovery thus requires four years in the scenario that assumes the highest levels of fiscal stimulus, and takes even longer in each of the other scenarios.

What becomes clear in Figure 13 is the difficulty the US economy has creating jobs. This phenomenon has become increasingly important over the last three decades, during which economic recoveries have become slower and slower in terms of employment growth. In other words, the growth of output in the recovery phase of the cycle increases employment and reduces unemployment at a slower pace than it used to. Many economists have called this phenomenon a “jobless recovery.”

In a forthcoming paper, Deepankar Basu and Duncan Foley show that the percent change in employment resulting from a 1 percent change in GDP was halved between the 1948–53 business cycle and the most recent one, 2001–07. According to their estimates, this employment-creation effect of output growth has been constantly decreasing in the cycles of the last three decades.

In Table 2 we present our calculations of the effect of output growth on employment in the recovery phase of the last four cycles as well as the current cycle. What these coefficients tell us is how much employment grows due to a 1 percent rise in GDP growth. For example, in the first row of the table we can see that during the recovery in the second half of the 1970s every

Table 2 Effect of Output Growth on Unemployment, 1975Q1–2016Q4

Period	Baseline	Scenario 1	Scenario 2	Scenario 3
1975Q1–1979Q4	0.714	0.714	0.714	0.714
1982Q4–1990Q2	0.528	0.528	0.528	0.528
1991Q1–2000Q4	0.382	0.382	0.382	0.382
2001Q4–2007Q3	0.42	0.42	0.42	0.42
2009Q2–2012Q4	0.288	0.288	0.288	0.288
2009Q2–2016Q4	0.258	0.283	0.301	0.294

1 percent increase in output led to an increase in employment of 0.714 percent. This number has been decreasing since and has reached 0.288 in the current recovery, from 2009Q2 to 2012Q4. In the last row of the table we incorporate our projections for GDP and employment under the four different scenarios and calculate this coefficient for the entire period, from 2009Q2 to 2016Q4. As we can see, the number remains much lower compared to any other recovery over the last four decades.

An interesting feature of our projections is that this coefficient rises along with the projected rate of growth. Scenario 2 has the highest coefficient, followed by scenario 3, scenario 1, and, finally, the baseline scenario. This tells us that higher growth not only decreases unemployment but also encourages labor force participation, and thus its effect on employment is twofold.

An Alternative to a Shale Economy? Prospects for the Future

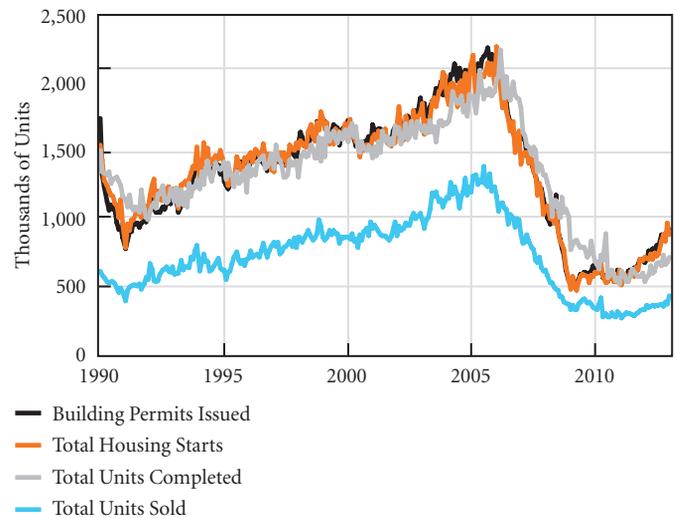
There is an urgent need to make policy for the postcrisis economy—the economy needed to bring back full employment once the financial crisis has been fully resolved and the temporary stimulus programs completely wound down. Shale oil and gas extraction is being grasped as an alternative by many of those who see the same imbalances that we do in the US economy. Few Americans see a big new government program as even a possible alternative, in the way, say, the “tech” sector was said to be the new engine of US growth in the late 1990s.

But a choice about whether to permanently and massively expand the government sector is not the question of the day. In inflation-adjusted terms, overall government spending

has been shrinking for some time now, along with federal employment. Federal Reserve Board Vice Chair Janet Yellen (2013) argues that postrecession growth has been below par compared to other recent US recoveries and links this phenomenon to relatively slow growth in government spending. Even looking at five-year moving averages, the statistical contribution of the public sector to GDP growth has gradually fallen and now stands at approximately zero (see Figure 1). So the immediate question relates to fiscal austerity and whether it should continue. Existing proposals outline the benefits of the government's acting as an employer of last resort (Antonopoulos et al. 2011; Papadimitriou and Minsky 1994), restoring a modicum of order to finance (Levy Economics Institute 2012), and averting an outright fiscal trap of the type now occurring in many European countries (Hannsgen and Papadimitriou 2012). None of these public sector ideas constitutes a new economy, though they involve creating massive numbers of jobs and would help to undergird demand for the products of whatever economy eventually takes shape. Moreover, even deeper government job cuts lie ahead, with the congressional sequester threatening to lop off well over one million more federal jobs (*The New York Times* 2013a, 2013b). This is a substantial loss, compared to, say, the number of new jobs generated in the entire private sector last year—only two million, or twice as many.

Moreover, there is no one answer to the search for a driver of economic growth. But some seem to argue as if there were a need for a quick, simple fix to this problem. When job growth is not occurring in spite of GDP growth and pundits clamor for lower deficits, some gain the impression that there will not be enough income for all unless a proverbial pot of gold is discovered, perhaps in the form of an energy-extraction economy on a par with Saudi Arabia, an idea emerging in some recent headlines on sensational forecasts about the shale-fuel industries in the United States (Friedman and Cohen 2013). Manufacturing employment has fallen precipitously over a 30-year period; service employment, on the other hand, has grown steadily, but barely fast enough to keep people assured that the economic recovery is still under way. It is to many a sad thought that the best hope is to rely on largely unproven extraction technologies and not on our labors and much-vaunted ingenuity. Job creation need not defy common sense or come at the cost of an environmental hazard.

Figure 14 New Private Housing Units: Permits, Starts, Completions, and Sales, 1990–2012 (Seasonally Adjusted)



Source: Federal Reserve Bank of St. Louis, FRED database

We see signs of hope—and possibly some false panaceas—in other parts of the private sector. The long-awaited boost from a new boom in housing may be one such false hope, though there are many signs of a recovery of residential investment, a large but long-depressed part of the economy. Housing experts cite low mortgage interest rates in the wake of months of Federal Reserve bond purchases, as well as declines in the number of homes on the market nationwide. Writing in the *Financial Times*, Roger Altman (2012), a former Clinton White House official, touted what he sees as a coming boom in the industry. Robert Shiller (2013), notable among mainstream economists for his early call of the housing bubble, sees ongoing momentum in national house-price data series, though he is certainly not one to forecast another big boom in residential construction and house prices. The tangible signs of recovery in the industry are widespread and include rising housing permits, starts, and sales, as one can see from the statistics depicted in Figure 14. In particular, one notices a modest upturn in new-home sales, which is lagging only a little behind the turnaround in standard indicators of new construction.

Conclusion

This analysis seeks answers to the ongoing US unemployment problem, which in our view is severe and cyclical in nature. In sum, (1) we oppose any form of fiscal austerity on the grounds that employment has gone into a tailspin everywhere it has been implemented; (2) we advocate no more tax increases whatsoever given the vast amounts of unemployed resources in the US economy and in the rest of the world; (3) an employer-of-last-resort program, as advocated by Minsky, for example, might offer a reasonable solution, but we focus on more realistic and mundane fiscal policy options decided in Washington each month and each year; (4) the relatively small fiscal boost assumed in scenario 1 could achieve 6.5 percent unemployment by the end of 2014 and 5.6 percent at the end of 2016, but even this modest increase in stimulus is not realistic at this time; (5) the larger fiscal injection proposed in scenario 2 would allow policymakers to reach acceptable rates of unemployment levels more quickly, but it would require still more implausible amounts of spending, namely increases of 11 percent in government purchases and transfers to the private sector in each of the next two years and corresponding increases of 3 percent in the rest of the simulation period; and (6) a mixture of private investment, increased export demand, and light fiscal stimulus could put the recovery very much back on track, and policy alternatives, including corporate tax reform and investment in R & D, are available to achieve synergies among these three sources of demand.

Notes

1. The authors thank Research Scholar Gennaro Zezza for his consulting and comments related to this analysis and the econometrics on which it is based.
2. This increase in large part represents a shift of lending from private lenders, resulting from a policy change aimed at reducing the costs of loans to students.
3. The Fed has stated that this threshold will be adhered to, provided that inflation and inflation expectations remain below certain levels.

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