

Global Economic Prospects for 2010 and 2011

Global Recovery Continues

Michael Mussa, Senior Fellow
Peterson Institute for International Economics

Paper presented at the seventeenth semiannual meeting
on Global Economic Prospects, April 8, 2010.

© Peter G. Peterson Institute for International Economics. All rights reserved.

The V-shaped recovery forecast a year ago at the depths of the great global recession of 2008–09 is now clearly under way, and my global real GDP growth forecast for 2010 is boosted to 4.5 percent (from 3.7 percent last April and 4.2 percent last September). For 2011, growth is projected to continue at about the same rate as this year (see table 1).

The global recovery started early last year in China, India, and Indonesia and quickly spread to the other emerging-market and advanced economies of the Asia-Pacific region, with Japan lagging somewhat behind. For 2010, growth in emerging Asia is now forecast to surpass 8 percent, led by 10 percent real growth in China. For 2011 modest cooling of growth is projected for China and most of the Asia-Pacific region. For Japan, growth this year will meaningfully exceed the Consensus Forecast of less than 2 percent and will be sustained at 3 percent in 2011.

Led by Brazil, economic recovery in most of Latin America is already showing considerable strength. Growth is forecast to exceed 4 percent this year and be sustained at this pace in 2011, despite continued difficulties in Venezuela and potential problems in Argentina. In the Middle East and Africa, recovery in world commodity prices and in exports to other emerging-market countries, coupled with continued relative calm in the social and political sphere, will support growth rates of 4 percent or better for these regions in 2010 and 2011. Countries in Central and Eastern Europe and the Commonwealth of Independent States (CIS) that were hard hit during the global recession have returned or are returning to positive growth, and growth rates in these regions of 2.7 and 5 percent for 2010 and 5 and 6 percent for 2011, respectively, are a reasonable prospect.

As forecast last April, recovery in the United States began in the summer of 2009 and by year-end had erased the sharp decline in real GDP during the first half of the year (which amounted to half of the 3.6 percent total decline in real GDP during the recession). Growth during the first quarter of this year remained solid, probably at least 3 percent at an annual rate, with employment beginning to improve. The unemployment rate almost surely reached its cyclical peak at 10.1 percent last October—only a hair above my September forecast and definitely better than most forecasts of a continuing upward creep in unemployment.

For 2010, I reaffirm my September forecast of 4 percent US real GDP growth (up from 3.6 percent in the April 2009 forecast) on a year-over-year basis. The fourth-quarter-to-fourth-quarter growth forecast, however, is cut marginally to 4.5 percent for this year and is anticipated to fall slightly below 4 percent next year. In contrast, the year-over-year growth forecast for 2011 is slightly above 4 percent. Consistent with these growth forecasts, the unemployment rate is expected to fall to 9 percent by the end of this year and to 8 percent by the end of 2011.

Table 1 Global growth forecast (percent year-over-year annual growth rates of real GDP)

Region/country	2009	2010	2011
World (WEO PPP weights)	-0.9	4.5	4.6
Advanced economies	-3.2	3.2	3.5
United States	-2.4	4.0	4.1
Japan	-5.2	2.7	3.0
United Kingdom	-5.0	2.0	3.0
Canada	-2.6	3.6	4.0
Euro area	-4.0	2.0	2.7
Germany	-4.9	2.1	2.7
France	-2.2	2.6	2.8
Italy	-5.1	1.7	2.2
Other euro area	-4.0	1.7	2.9
Other advanced economies	-1.3	4.6	4.2
Emerging-market and developing countries	2.0	6.0	6.1
Asia	6.8	8.2	8.0
China	8.7	10.0	9.0
India	6.5	7.0	8.0
Other emerging Asia	2.7	5.0	5.5
Latin America	-2.4	4.2	3.6
Brazil	-0.2	5.2	4.5
Mexico	-6.8	4.5	4.0
Central and Eastern Europe	-4.5	2.7	5.0
Commonwealth of Independent States	-7.8	5.0	6.0
Russia	-8.0	4.8	5.5
Middle East	2.0	4.5	4.5
Africa	2.1	4.0	4.2

PPP = purchasing power parity

WEO = International Monetary Fund's *World Economic Outlook*.

Western Europe is the one region where the recession proved significantly worse than I anticipated last April and where the extent of recovery so far has been disappointing. Predictions for growth in the euro area in 2010 in the March Consensus Forecast and the March Economist poll of forecasters range between 0.6 and 1.7 percent, with averages of 1.1 and 1.2 percent, respectively. Both polls indicate only a modest 0.2 to 0.4 percent pickup in growth for 2011. Both polls also show a similar low range of forecasts of growth for the United Kingdom in 2010 with a modest pickup to just over 2 percent growth for 2011.

In my view, all this is too pessimistic. The Zarnowitz rule that deep recessions are usually followed by steep recoveries is a very broad historical regularity. Western Europe has experienced a deep recession with real GDP falling about 5 percent versus 3.6 percent in the United States. There are good reasons to fear that the European recovery will fall short of what would normally be expected from the Zarnowitz rule and run somewhat below the pace of the recovery I have forecast for the US economy. But forecasts that growth in Western Europe will remain below potential growth rates through 2011 do not reasonably balance the downside risks against the upside potential. When forecasting for what is likely to be a period of cyclical recovery, it is essential to look past the gloom of recent weak economic data and to recognize that with large margins of slack and accommodative policies

in place, growth going forward is more likely to be somewhat above potential rather than below it.

Recognizing that weak performance during the second half of 2009 pulls down year-over-year growth for 2010, I put my forecast for growth in the euro area, the United Kingdom, and Western Europe as a whole at 2 percent, with a wide range of uncertainty around this figure. For 2011, the growth forecasts rise to 2.7 percent for the euro area, 3 percent for the United Kingdom, and 2.8 percent for Western Europe.

Turning to prospects for inflation, commodity prices have rebounded strongly from their lows of late 2008 and early 2009, driven by strong recoveries of industrial production especially in emerging-market economies. Recently, world oil prices have again pierced \$80 per barrel. The rise in commodity prices has contributed to moderate acceleration of overall consumer price inflation in a number of emerging-market economies and perhaps also to the modest pickup in core inflation in many of these countries. Monetary policies have been tightened in several countries (including China and India) to contain the rise of inflationary pressures. This will likely slow the pace of economic expansion somewhat but is not a major threat to continued global recovery.

In the advanced economies, overall consumer price inflation has recovered from modestly negative rates to modestly positive rates. A couple of countries, most notably Australia, have tightened monetary policies. For the main industrial countries, however, overall inflation rates remain low and core inflation rates continue to recede. For the United States, the euro area, and Japan, rising inflation is unlikely to be a concern any time soon. For this reason and because unemployment and other measures of margins of slack are likely to remain quite high for some time (even under my forecast), it is likely that the monetary policies of major industrial-country central banks will remain highly accommodative well into 2011. Measures of quantitative monetary easing will probably be gradually scaled back, but there will be no rush to shrink central bank balance sheets back to levels prevailing before the crisis.

The world oil price is potentially a more immediate concern for global growth, especially if prices rise again above \$100 per barrel. With considerable excess capacity available, however, it seems reasonable to expect that dramatic additional increases in oil prices will not be driven by global supply and demand conditions before 2012.

Sustainability of Recovery in Emerging Markets

Emerging-market economies, especially in Asia, have led the recovery from the great global recession of 2008 and early 2009. Some of these economies, most notably China, India, and Indonesia, avoided outright recession and suffered only sharp slowdowns in late 2008 before returning to more vigorous growth. Many emerging-market countries, however, were hard hit during the sharp contraction phase of the global recession in late 2008 and early 2009, especially those countries whose economies are very heavily involved in world trade. Quite generally, these countries have rebounded strongly as world trade has recovered since the spring of 2009. Some emerging-market economies, particularly in Central and Eastern Europe and the CIS, have suffered from the consequences of their own imbalances and policy inadequacies, as well as from the global recession and financial crisis. These countries too now seem to be on the road to recovery—as will be discussed by my colleague Anders Åslund.

At this stage of the global recovery, the question naturally arises whether emerging-market economies can broadly sustain their own recent rates of reasonably rapid growth while the industrial countries endure more sluggish recoveries.

The answer depends in part on how sluggish the recovery in the industrial countries proves to be. If the industrial countries were to fall back into recession this year or next, many emerging-market countries would find it very difficult if not impossible to maintain satisfactory economic growth. However, I have maintained for some time that such a “double dip” recession is highly unlikely; many who took this possibility more seriously have backed away from such forecasts as the global recovery has broadened and gathered strength. Assuming that the industrial countries grow in line with my forecast or even moderately beneath it, I see no reason why the emerging-market economies as a group cannot sustain growth rates of 6 percent or slightly better over the next two years and longer.

Looking to specific regions and countries, several commentators have raised concerns about the sustainability of rapid growth in China—the most important driver of recent global GDP growth. My colleague Nicholas Lardy has recently addressed these concerns in a Peterson Institute Policy Brief 10-7, “The Sustainability of China’s Recovery from the Global Recession.” I am persuaded by his analysis and share his main conclusions. There is some reason to expect that China’s growth may slow somewhat from its recent rapid pace as the Chinese authorities curb credit growth (especially to quasi-government local authorities) and contain potential inflationary pressures. Thus, my forecast is that China’s real GDP growth will slow from 10 percent this year to a still vigorous 9 percent next year.

Moreover, recent experience demonstrates that China can achieve rapid growth through expansion of domestic demand including household consumption and diverse forms of domestic investment. Indeed, in 2009 China achieved 8.7 percent real GDP growth despite a large (nearly 4 percent) negative contribution from real net exports. Household consumption grew more rapidly than GDP for the first time in many years.

Looking forward, I believe that China should be able to maintain real GDP growth of 9 percent or so (sufficient to maintain adequate employment growth in the face of rapidly rising productivity) on the basis of rising domestic demand. China’s real exports would continue to rise rapidly, probably more rapidly than real GDP, but real imports would expand equivalently. In this scenario, the real trade balance would remain roughly constant and would neither contribute to nor detract from China’s real GDP growth. Nevertheless, with China’s real GDP doubling every eight years, the real trade surplus as a share of GDP would be cut in half within eight years.

I emphasize this scenario because it is important to clarify serious misunderstandings that can easily arise from recent discussions of China’s undervalued exchange rate, including insufficiently qualified remarks of some of my Peterson Institute colleagues. Like many of my colleagues, I have argued for several years that China’s real effective exchange rate has become substantially undervalued as a consequence of the Chinese authorities’ massive efforts to resist nominal appreciation of the renminbi against the US dollar through persistent sterilized foreign exchange market intervention on an enormous scale. (From July 2005 to July 2008, the policy allowed for some nominal appreciation of the renminbi, but the rate was repegged as the global recession hit.) From 2002 to 2008, these policies were a key force behind the rise of China’s current account surplus from around 2 percent to over 10 percent of GDP.

The sharp decline in China's current account surplus in 2009 undoubtedly reflects the sharp decline in the value of China's exports as a result of the global recession, as well as the effect of various policy measures in stimulating domestic demand and hence import demand. In addition, I believe that effective reduction of sterilized official intervention (due both to the reduced current account surplus and the policies that permitted more rapid monetary and credit expansion despite reduced contributions to the monetary base from net foreign assets of the central bank) also contributed to the reduction in the current account surplus.

Whatever the reasons for the sudden decline in China's current account surplus in 2009, many analysts (including those at the Peterson Institute) conclude that China's real effective exchange rate is presently undervalued by 25 to 40 percent. I have no quarrel with these estimates, although I would be cautious about pushing the upper end of the range.

Instead, my concern is that proclaiming that the renminbi is undervalued by as much as 40 percent, calling for China to be branded as "an exchange rate manipulator," and arguing that large numbers of high-paying American jobs will be generated by Chinese exchange rate appreciation will be automatically interpreted as a demand for large, rapid appreciation of the renminbi to near its presumed equilibrium level.

In my view, this is the wrong policy. Large, rapid appreciation of the renminbi would likely disrupt China's near-term economic growth in ways and to an extent that could not plausibly be offset by other policy adjustments. And such large and rapid appreciation would probably do relatively little to boost the near-term recovery of employment in the United States.

Instead, what is needed and desirable is a gradual (but not too gradual) appreciation of the renminbi that is consistent with maintaining a roughly constant real trade balance for China—as described in the above scenario. This leaves to other Chinese policies the achievable task of supporting domestic demand growth in line with the potential growth rate of China's real GDP. Other countries, including the United States, would benefit in this scenario from the rapid rise in their exports to China—as China's real imports would rise as rapidly as its real exports and probably more rapidly than China's real GDP.

India's economic growth slowed in 2008Q4 and 2009Q1 but did not turn negative during the great global recession. Growth then accelerated in the spring and summer quarters of last year, before the effects of a poor monsoon caused a small output decline in the final quarter of 2009. My colleague Arvind Subramanian will discuss further the prospects for the Indian economy. My read at this time is that the poor results for the fourth quarter of 2009 will pull down the year-over-year growth rate for 2010 to just below 7 percent (from a September forecast of 7.5 percent). For 2011, I anticipate a rebound to 8 percent real growth.

Aside from Indonesia, ASEAN economies all suffered significant output declines during the great global recession before surging back to strongly positive growth in the spring of 2009. In the subsequent two quarters, growth was strong on average but erratic. The same description applies to the advanced Asian economies: Hong Kong, Singapore, South Korea, and Taiwan. Taking into account my forecast for the rest of the world this year and next, I expect growth in all of these fairly heavily export-dependent economies to continue to be robust, with rates in the range of 4 to 6.5 percent this year and next.

Australia skirted past the global recession with the help of some of its Asian trading partners, and the subsequent economic acceleration has been sufficiently robust to motivate significant monetary tightening by the Reserve Bank. For 2010 and 2011, the prospect is for growth of about 3.5 percent. New Zealand did not escape the global recession, and recovery

has not been particularly robust. Growth of around 3 percent for this year and next seems reasonable.

Finally, the situation in Japan merits comment. The global recession hit the Japanese economy very hard, with real GDP estimated to have declined by 8.4 percent between the first quarter of 2008 and the first quarter of 2009—the deepest recession of the postwar era. Real GDP is now estimated to have risen at a 6 percent annual rate in 2009Q2 before declining at a 0.6 percent annual rate in 2009Q3 and then rebounding to 3.8 percent annualized growth in 2009Q4. These figures are not entirely believable and are potentially subject to considerable revision. What is clear is that as of the end of 2009, the Japanese economy was operating with a very wide margin of slack.

Unfortunately, Japanese economic policy has been unable to do much to combat the recession or promote recovery. With its key short-term policy interest rate down at 50 basis points before the recession started, the Bank of Japan has had little room to use traditional monetary policy, and quantitative easing (which is now being expanded) does not have a strong record of success in Japan. Fiscal policy also has a record of limited success in Japan, and its vigorous use is somewhat constrained by worries about the huge government deficit and high level of public debt.

On the other hand, leading indicators such as the Purchasing Managers Index (PMI) for Japan point to recovery. Japanese exports are recovering along with the powerful recovery of world trade. Vigorous expansion is expected in Japan's key Asian trading partners and, to a somewhat lesser extent, in most of the rest of the world. Economic policy is surely not a barrier to recovery, even if the magnitude of its stimulative effect is questionable. At the bottom line, I find it implausible that over the next couple of years the Japanese economy will fail to realize an economic recovery in which annual real GDP growth meaningfully exceeds Japan's potential growth rate of about 1.5 percent.

My forecast is that Japan's real GDP growth will come in just under 3 percent for 2010 and reach 3 percent in 2011. This puts my forecast at the top end of the range of other forecasts (the Consensus Forecast and the Economist poll of March 2010).

Looking briefly to emerging-market economies in other regions, I generally share the assessment of my colleague Anders Åslund regarding Central and Eastern Europe and the CIS. Unlike the deep recessions in these regions two decades ago when basic market institutions needed to be established as a precondition for recovery, this time the institutional basis for recovery is reasonably well established and generally not under serious threat. The carry-over effects for some of the countries that suffered especially deep recession in 2008–09, specifically the three small Baltic states and Hungary, may result in modestly negative real GDP growth rates on a year-over-year basis for 2010. Most of the countries of the region, including the three largest economies (Russia, Turkey, and Poland), should turn in significantly positive growth rates. For 2011 I expect that results will surprise on the upside of most current forecasts.

As already noted, for the Middle East and Africa the combination of the rebound in commodity prices, recovery in world trade, and continued relative social and political calm should support growth rates generally in the 4 to 5 percent range.

In Latin America, real GDP declined sharply in late 2008 and early 2009, reflecting the great global recession. Economic growth returned in most of the region beginning in the spring of last year. Brazil led the way with a rebound sufficiently powerful that year-over-year results for 2009 will probably show virtually no decline in real GDP. In contrast, Mexico's economy, with its close ties to the United States, contracted so sharply during the recession that real GDP growth for 2009 will record a significant negative result. For 2010 real GDP

in the region as a whole appears likely to rise by over 4 percent (up from my September forecast of 3.6 percent). A similar result is now expected for 2011.

Sluggish Recovery in Western Europe

Western Europe was hit harder in the global recession than the United States, with real GDP declining 5 percent in the euro area and 6 percent in the United Kingdom versus 3.6 percent in the United States during the recession. Recovery in Western Europe has so far been minimal. Growth in the euro area slipped back to 0.4 percent at an annual rate in the fourth quarter of 2009 after a modest rebound in the summer. In the United Kingdom, output continued to decline through the summer, and the fourth quarter showed only a modest rise.

Recent economic forecasts for growth in Western Europe in 2010 and 2011 are quite anemic: The March Consensus Forecast indicates average projections of only 1.1 and 1.5 percent growth for the euro area in 2010 and 2011, respectively, with forecast ranges of 0.6 to 1.7 percent and 1.1 to 2.6 percent. The March Economist poll indicates average growth forecasts of 1.2 and 1.4 percent for the euro area in 2010 and 2011, respectively, with ranges of 0.7 to 1.7 percent and 1.1 to 2.2 percent. For the United Kingdom, the forecasts are only marginally more buoyant: The March Consensus Forecast posts averages of 1.4 percent for 2010 and 2.3 percent for 2011, with ranges of 0.8 to 2.2 percent and 1.3 to 2.8 percent, respectively; the Economist poll reports average forecast of 1.3 and 2.1 percent for growth in 2010 and 2011, respectively, with ranges of 0.7 to 2.2 percent and 0.9 to 3.4 percent. Clearly, these forecasts do not anticipate that the Zarnowitz rule will operate with much effect in Western Europe (see table 2).

Table 2 Recent real growth forecasts (percent year-over year annual growth rates of real GDP)

a. For 2010

Country/region	Mussa April 2010	IMF January 2010	Economist average March 2010	Consensus average March 2010	Blue Chip average March 2010
United States	4.0	2.7	3.1	3.1	3.1
Japan	2.7	1.7	1.7	1.5	1.8
Euro area	2.0	1.0	1.2	1.1	1.3
United Kingdom	2.0	1.3	1.3	1.4	1.2

b. For 2011

Country/region	Mussa April 2010	IMF January 2010	Economist average March 2010	Consensus average March 2010	Blue Chip average March 2010
United States	4.1	2.4	2.9	3.0	3.0
Japan	3.0	2.2	1.6	1.5	1.5
Euro area	2.7	1.6	1.4	1.5	1.9
United Kingdom	3.0	2.7	2.1	2.3	2.1

Is all this pessimism really justified? There are good reasons to anticipate that the economic recovery in Western Europe will be less buoyant than one might normally expect following such a deep recession, but the present forecasts for growth over the next two years are significantly too pessimistic.

There are several reasons to expect that the pace of recovery in Western Europe will be relatively sluggish. First, labor force growth in Western Europe will be more sluggish than in the United States, which generally implies that potential growth is lower in Western Europe. Labor productivity growth in some European countries also appears to be below that in the United States, especially in recent data. For Western Europe as a whole, however, the long-term trend of labor productivity growth does not appear to be much below that in the United States.

Second, cyclical recoveries in Western Europe tend to be less buoyant than in the United States. This probably partly reflects the more powerful operation of “automatic stabilizers” in Western Europe. These stabilizers tend to cushion the economic downturn but symmetrically restrain the economic recovery. Also, perhaps as a related matter, unemployment in Western Europe appears to be more subject to “hysteresis” than in the United States; that is, once the unemployment rate goes up, it takes significantly longer to work its way back down in Western Europe than in the United States (where the process also takes considerable time).

A third concern arises from the problems of achieving adjustments among Western European economies that are needed for economic recovery. Specifically, within the euro area, nominal exchange rates are fixed by the common currency. This means that countries (such as Greece, Ireland, Italy, Portugal, and Spain) within the euro area where real exchange rates have become overvalued relative to the area as a whole face a difficult process of relative domestic deflation to restore equilibrium. At the same time, Germany, which enjoys relatively strong cost competitiveness vis-à-vis other members of the euro area, may well continue to show quite weak growth of domestic demand and an expanding current account surplus. These developments in Germany may tend, other things equal, to keep up the foreign exchange value of the euro relative to the US dollar and other major currencies. (These concerns do not arise for the United Kingdom because the exchange rate of sterling is flexible against the euro.)

A fourth concern is that the fiscal and debt refinancing problems of some countries, notably Greece, may force fiscal contractions and high interest rates that inhibit recovery.

A final concern is that progress in recapitalizing and restructuring the European banking system is behind that in the United States, which may inhibit economic recovery in Western Europe. There is some truth to this concern, but I believe that its significance for economic recovery tends to be exaggerated.

On the other hand, there is good reason to believe that most recent forecasts for economic recovery in Western Europe are too pessimistic. This conclusion is justified partly by the regularity that forecasts systematically tend to underpredict the strength of recoveries. The tendency is reinforced when economic data at the start for a recovery continue to look weak; this weakness tends to be projected forward.

There is another important reason to suspect that recent forecasts are too pessimistic: the likely failure to recognize that recent weak data reflect the fact that the business cycle in Western Europe has been lagging behind that in the United States by a couple of quarters. Taking account of this lag, we should expect that recovery in Western Europe will begin to accelerate two to three quarters after the acceleration already seen in the United States.

The lag of the European business cycle behind that in the United States is apparent both in the performance of the respective economies and in the policy responses to the evolving business cycles. In the United States, growth of domestic demand slowed considerably during 2007, turning negative in the final quarter. Growth of real GDP and of employment also slowed during 2007 and turned negative in the first quarter of 2008. Economic forecasts envisioned a very weak economy with considerable risk of outright recession.

The Federal Reserve observed difficulties in the financial system, related particularly to mortgage-related instruments, beginning early in 2007 and by summer was concerned about the broader economy. Reflecting these concerns, the Federal Reserve began to ease US monetary policy in 2007 and by year-end had cut the target federal funds rate by 100 basis points to 4.25 percent. These concerns deepened in 2008, and in two quick moves the federal funds rate was cut by a further 125 basis points in January. Further monetary easing was undertaken at the regular Federal Open Market Committee (FOMC) meetings in March, May, and late June, taking the federal funds rate back down to its previous all-time low of 2 percent. Meanwhile, early in 2008, the Bush administration pressed Congress to enact a package of temporary fiscal stimulus, mainly tax cuts.

The economic situation in Western Europe and the concerns of Western European policymakers were quite different in 2007 into the summer of 2008. Economic growth remained solid through the first quarter of 2008 in both the euro area and the United Kingdom. Unemployment rates remained at or very near multi-decade lows through the spring and into the summer. The main concern of economic policy, especially monetary policy, was inflation, which generally moved upward in 2007 through the summer of 2008. The Bank of England tightened monetary policy in 2007, lifting the bank rate from 5 to 5.75 percent by summer 2007 and easing back only as far as 5 percent again by the summer of 2008. The European Central Bank was tightening policy throughout this period (as measured by the marginal refinancing rate), with the minimum refinancing rate finally increased to 4.25 percent in July 2008.

The divergence in economic performance and in monetary policies between the euro area and the United States was clearly reflected in the exchange rate. The value of the euro rose from \$1.30 early in 2007 to nearly \$1.50 by year-end and strengthened further to a peak of \$1.60 in the spring of 2008 before easing back again to \$1.50 during the summer. The pound sterling also weakened against the euro in this period but maintained a very strong exchange rate against the US dollar.

This was the situation when, in the autumn of 2008, an unprecedented panic gripped global financial markets and disrupted normal flows of credit and pitched the world economy into a sharp and very deep recession. Policymakers reacted rapidly and powerfully to this crisis in the United States, Western Europe, and most of the rest of the world. While these actions succeeded in calming the panic by early 2009, most economies continued to suffer severe contractions through the first quarter. The strong rebound from this severe contraction, which is most apparent in the data for industrial production and world trade, brought an important boost to general economic recovery in most countries by the spring or summer of 2009.

The point of the present discussion, however, is that conditions going into the extreme global crisis and the initial rebound from it were quite different between Western Europe and the United States. These differences should be and are reflected in the somewhat different paths followed by the respective economies since mid-2009.

Specifically, monetary policy usually operates on the economy with a significant lag. It is not surprising therefore that the United States, where monetary policy was eased very substantially before the global crisis hit in late 2008, is now seeing clear evidence of a sustained and moderately vigorous recovery. In contrast, in Western Europe monetary policy was tight up to the moment of the global financial crisis. It is not surprising that, after an initial bounce associated with the general global rebound from severe recession, Western Europe is taking somewhat longer than the United States in moving into sustained recovery. However, I believe that such a recovery is coming, and it should be starting about now.

Recovery of Output and Employment in the United States

Economic recovery in the United States is proceeding basically in line with my forecasts of last April and last September as far as real GDP is concerned. Performance in the US labor market, however, has been disappointing both in terms of the magnitude of job loss during the recession and the sluggishness of employment rebound so far in the recovery. With the formal forecast horizon now being extended to cover 2011, it is relevant to ask, what will keep the recovery going at least through the end of next year and how might behavior of employment and unemployment be explained and forecast?

In September, I laid out a scenario for growth of US real GDP and its major components for the six quarters from the presumed cyclical trough at mid-2009 (now confirmed by the reported GDP data) and the end of 2010. That scenario deserves to be modified only slightly in light of the data now available for the last two quarters of 2009 (see revised scenario in table 3). The projected cumulative gain of real GDP over the six quarters to end 2010 is cut marginally from \$875 billion to \$838 billion.

Table 3 Forecast scenario for US real GDP and its main components
(billions of 2005 chained dollars)

Component	2009Q2 reported	2009Q4 reported	2010Q4 forecast	2011Q4 forecast
GDP	12,902	13,150	13,740	14,262
Consumption	9,189	9,290	9,600	9,921
Gross private domestic investment	1,457	1,621	1,890	2,110
Nonresidential structures	400	362	350	380
Equipment and software	876	919	1,030	1,140
Residential	344	363	450	530
Inventories	-160	-20	50	50
Net exports	-330	-348	-380	-418
Government purchases	2,569	2,577	2,620	2,660

The projected gain in real consumption is reduced modestly to \$411 billion from \$460 billion. The projected consumption gain is still a little less than half of the projected rise in real GDP, reflecting the presumption that households will probably want to increase their savings. In view of the gains recorded through 2009Q4, the rise in inventory investment (from a large negative level) is projected to contribute somewhat more to the gain in real GDP, \$210 billion rather than \$180 billion. Residential investment is expected to rebound somewhat less than was expected earlier, by \$106 billion versus \$150 billion. The

recovery of business investment in equipment and software is somewhat ahead of schedule and is now projected at \$154 billion versus \$125 billion. [Note that there was an error in table 2 of my September 2009 forecast for investment in equipment and software. In accord with the overall rise of \$405 billion in gross private domestic investment, the gain in equipment and software investment should have been \$125 billion—from \$868 billion to \$993 billion, not \$1,093 billion as shown in table 2 of the September 2009 forecast.] Private real investment in nonresidential structures is projected to decline by \$50 billion, the same as in the September 2009 forecast. The rise in real government purchases is now projected at only \$51 billion rather than \$100 billion, reflecting the fiscal pressure on state and local governments. The decline in real net exports is now projected at \$50 billion rather than \$90 billion. This reflects the smaller than anticipated decline in real net exports during the second half of 2009 and the forecast that this will continue through 2010.

Looking further forward to cover 2011, the forecast scenario is similar in the projection for the annual growth rate of real GDP: an increase of 3.8 percent or \$522 billion from 2010Q4 to 2011Q4. The details of what make up this real GDP gain, however, look somewhat different. The projected rise in consumption spending of \$321 billion implies a further small decline in the ratio of consumption to GDP. However, it is assumed that the recovery of inventory investment is essentially complete by the end of 2010 so no contribution to real GDP growth comes from this source during 2011. In contrast, private real investment in nonresidential structures shifts from a decline to a rise of \$30 billion. Business real investment in equipment and software and real residential investment are projected to have further gains of \$110 billion and \$80 billion, respectively. (Notably, at the end of 2011, the level of real residential investment is still more than \$250 billion below the peak at the end of 2005. There is plenty of room for residential investment to continue to recover after the end of 2011.) Real net exports are projected to deteriorate further by \$38 billion (about 0.4 percent of real GDP). Government purchases of goods and services are projected to rise \$40 billion, reflecting some improvement in the fiscal situation of state and local governments.

Turning to the situation in US labor markets, three facts are especially noteworthy: (1) The decline in employment and increase in unemployment were exceptionally large relative to the decline in output during the recession; (2) the rise in unemployment involved an exceptionally large rise in the fraction of long-term unemployed (those unemployed 27 weeks or longer); and (3) in contrast to the often observed tendency for labor productivity to decline during deep recessions, labor productivity generally continued to rise during the recent recession and has recorded exceptionally large gains since output started to expand in the second half of 2009.

Some data relevant to the examination of these developments are reported in table 4. These data are taken from the Household Survey of the Department of Labor. They show that from December 2007 to December 2009, total employment declined by 8 million. The Establishment Survey of the Department of Labor indicates virtually the same employment decline but does not provide a breakdown of employment loss by age group and educational attainment (for people at least 25 years old) reported in table 4. These additional data show that for teenagers (who accounted for only 4 percent of total employment when the recession started), employment declined by 24.1 percent through December 2009 (accounting for 17 percent of the total employment loss). Younger adults aged 20 to 24 years suffered a 9.5 percent employment loss. Older adults suffered a relatively modest 4.5 percent employment decline. The extent of this loss varied greatly with educational attainment: Those with a college degree or higher actually registered a small employment gain while

those with less than a high school diploma suffered an 11.7 percent employment decline. Those with just a high school education and some college education were in between, suffering employment losses of 8.2 and 4.1 percent, respectively.

Table 4 Selected US employment and unemployment data (millions of persons)

	December 2007	December 2009	Percent change
Persons employed			
Total	146.29	138.33	-5.5
Ages 16 to 19	5.82	4.48	-24.1
Ages 20 to 24	13.74	12.44	-9.5
Ages 25+	126.74	121.40	-4.2
Less than high school	11.36	10.03	-11.7
High school	36.93	33.92	-8.2
Some college	35.07	33.63	-4.1
College degree and over	43.61	43.70	+0.2
Persons unemployed			
Total	7.66	14.74	93
27 weeks and longer	1.28	5.90	361

Source: Department of Labor, Bureau of Labor Statistics, Monthly Release, "The Employment Situation," December 2008 and January 2010.

Qualitatively, one would expect these results in a deep recession, but quantitatively there are surprises. Normally, in a deep recession teenage employment would be expected to fall in percentage terms by roughly three times as much as adult employment, not by nearly six times as much. Also, the absence of employment loss among those with a college education or better is odd in view of the depth of the recession and the extent of overall employment decline (although this is partly explained by the rising population with at least a college degree).

The explanation for the exceptionally large decline in teenage employment lies partly in the 40.8 percent rise in the minimum wage since mid-2007. The initial 60 cent rise in the minimum wage in mid-2007 probably had little effect on employment as very few workers were affected, and with labor markets quite tight, employers had few alternatives to hiring minimum-wage workers despite the wage increase. The second 75 cent increase in the minimum wage in mid-2008 affected more workers and came when employers faced relatively slack labor markets with alternatives to hiring traditional minimum-wage workers. This was even more the case when the third 75 cent increase in the minimum wage took effect in mid-2009. Minimum-wage workers are not all teenagers and not all teenagers earn only the minimum wage, but there is a very heavy concentration of teenagers among minimum-wage recipients. The size and timing of the minimum wage increases help to explain perhaps 500,000 of the 8 million decline in employment and a significant fraction of the 1.34 million decline in teenage employment.

Another policy development probably partly explains the exceptional rise in long-duration unemployment. It is well known that the availability of extended-duration unemployment benefits encourages people who have lost jobs to remain unemployed longer. Accordingly, the legislation that has provided extended unemployment benefits and other (health care) benefits to the long-term unemployed presumably bears some responsibility for the rise of long-term unemployment. This does not mean, of course, that the provision of

extended unemployment benefits is primarily responsible for the rise of long-term unemployment or that the provision of such benefits is, all things considered, a bad policy. Unemployment and long-term unemployment have gone up primarily because of the very weak economy. Those who suffer long-term unemployment and can do very little that is effective in finding work deserve continued social support, and the spending that such support enables contributes to aggregate demand and thereby to economic recovery. However, as the recovery gathers strength and job opportunities become significantly more plentiful, it will be important to scale back the duration of unemployment benefits. Otherwise a higher level of long-term unemployment may become an enduring feature of the US economy.

The data in table 4 help to explain the unusual behavior of measured labor productivity in the recession and the initial stage of recovery. Employment losses have been concentrated among those who, by age, experience, and educational attainment, are the least productive, and there has been no employment decline for the group that is presumably the most productive (older adults with at least a college degree). Indeed, weighting various groups by estimates of their relative productivity suggests that the decline of employment in effective units is only about half of the decline in the number employed. And, the average productivity of those who remain employed has gone up as the relative share of more productive workers in total employment has risen.

Looking ahead, if the recovery proceeds at even a moderately vigorous pace, it will be necessary to reemploy many of those who lost their jobs during the recession. As this happens, the average level of productive efficiency of the workforce is likely to decline somewhat; relatively less productive workers will predominate among those who are reemployed. Accordingly, the outsized gains in labor productivity that we have seen in recent quarters are unlikely to persist, and unit labor costs are likely to rise.

The other side of this coin is that the employment gains associated with a given rise in real GDP are likely to become larger as we move forward into the expansion. Specifically, under my forecast that US real GDP will rise cumulatively by a little more than 8 percent between the beginning of this year and the end of next year, I expect that employment will need to rise by about 4 percent or about 5.5 million to 6 million, with the unemployment rate falling to 8 percent by the end of 2011.

These gains are significantly larger than those now envisioned by most forecasters. Even if I am right, however, the cause for celebration will be limited. The level of employment at the end of next year will still be below the level at the start of the recession. With the labor force continuing to grow and with labor productivity hopefully improving at a moderate pace, it will take several more years of moderately vigorous expansion for the US economy to work its way back to what might reasonably be described as “full employment.”