World Recession and Recovery: A V or an L?

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The world economy collapsed into steep recession in the final quarter of 2008 with global real GDP dropping at a 6 percent annual rate. This was undoubtedly the sharpest decline in world output and especially in world industrial production and world trade of the postwar era, with virtually all countries participating in the downturn and many registering record quarterly declines in real GDP.

Incoming data indicate that the global economic contraction continued through the first quarter of 2009, although perhaps at a somewhat slower pace than the preceding quarter. Downward momentum will likely continue at least through the spring. A number of forecasters and pundits foresee a global recession lasting through this year and perhaps well into 2010. However long the recession may last, the common expectation is that the recovery will be quite sluggish—the forecast of an L-shaped global recession and recovery.

Despite a huge write-down in my global growth forecast from last September, I am more optimistic. Aided by substantial policy stimulus, growth in the Chinese economy should begin to accelerate in the first half of 2009 and the US recession should bottom out around mid-year with recovery accelerating to about a 4 percent annual rate by the fourth quarter. Recoveries in other countries will likely lag a little behind those in China and the United States. But, aided by a bounce-back in global trade from its recent extraordinarily sharp decline, the world economy generally will be in recovery by year-end. Then we will observe, as we have many times before, the Zarnowitz rule: Deep recessions are almost always followed by steep recoveries.

Before this recovery starts the world recession will become the deepest of the postwar era, with global real GDP falling about three-quarters of one percent on a year-over-year basis—the first significant decline of world real GDP in six decades. Output declines in the advanced economies (the traditional industrial countries plus Hong Kong, Israel, Singapore, South Korea, and Taiwan) will average 3 percent. Many emerging-market and developing countries, notably those in Central and Eastern Europe, will also see their real GDPs fall, but significantly positive year-over-year growth in China, India, and some other countries will keep growth for this broad and diverse group at about 1½ percent plus.

For 2010, global growth is projected to strengthen to 3.7 percent—a sharp rise from the preceding year but still somewhat below the potential global growth rate of about 4 percent. For the advanced economies, growth is expected to bounce back to 3 percent—enough to begin to narrow the margins of slack that developed during the recession. For emerging-market and developing countries, growth in 2010 is expected to rise to 4.7 percent, on its way back up to a potential growth rate above 6 percent.

At the world level, consumer price inflation peaked in the summer of 2008 with 12-month rates reaching 6 percent. By the fourth quarter, sharp falls in commodity prices (notably oil prices) took monthly measures of overall consumer price inflation negative and brought 12-month rates down to 4 percent. Disinflation continues and it now appears likely that 12-month rates for consumer price inflation will get down to 1 percent or less during 2009. Core rates of consumer price inflation did not rise as high as overall rates during the upsurge from 2003 to mid-2008, and their decline in the past nine months has been less spectacular. At the world level, core consumer price inflation appears likely to decline to about 1½ percent this year. While the details differ across countries, the general decline in both overall and core rates of inflation since mid-2008 is a universal phenomenon.

Prices of several commodities have already strengthened from their lows of last autumn and winter, with world oil prices rising from lows of about $30 per barrel to around $50 per barrel. If global recovery proceeds as envisioned in this forecast, world commodity prices should be expected to strengthen further over coming quarters, and this will add a little upward impetus to overall rates of consumer price inflation. With considerable slack now existing in the capacity to supply many commodities (including oil), however, a resurgence of commodity prices and general inflation rates to near their recent peaks is unlikely anytime soon.

Accordingly, monetary policy in most countries will be able to maintain, through 2009 at least, a stance of aggressive ease in order to combat recession and promote recovery. With margins of slack likely to remain substantial, relatively easy stances of monetary policies are likely to be appropriate for some time. Monetary policy, however, needs to be forward looking about threats of rising inflation. Hence, once recovery is solidly under way during 2010, monetary authorities will need to consider dialing back on extreme measures of monetary easing in order to prepare the way for eventual moves to more neutral monetary policies.

The present forecast envisions a world recession that is somewhat shallower and shorter than many other forecasts. More controversially, it envisions a V-shaped recovery that is considerably more vigorous than commonly thought to be likely. This is especially the case for the present forecast for the US economy, where the forecast for the real GDP this year (a decline of 2 percent) is toward the top of most forecasts and where the forecast for 2010 is a little above the top of the range of the 50-some forecasts reported by Blue Chip. In this paper I explain the reasons for this relative optimism concerning the US economy. Before that, I turn to some brief observations on the causes of the present global recession and on economic performance and prospects for the rest of the world.

Causes of the Present World Recession

The standard story of the present global recession and financial crisis emphasizes the centrality of developments in the United States—especially the expansion and subsequent collapse of the real estate and real estate financing bubble and its impact on an overleveraged US and global financial system. Others point more broadly to persistently easy monetary policies, very low interest rates and interest rate spreads, and general disregard of growing risks in the financial system as key causes. Some, especially among present and former US officials, point to the "global savings glut," particularly the part emanating from China's

massive current account surpluses and reserve accumulation, as a key underlying cause of present travails.

All of these explanations harbor a degree of truth, especially the first two. However, to understand both the sudden sharp deepening of the global recession and financial crisis last autumn and the reasons to anticipate recovery, it is important to look to a broader set of causes of present difficulties.

While it seems like a distant memory, it is important to recall that from mid-2003 through early 2008, the world economy enjoyed a boom of broad scope and exceptional vigor, with average annual growth of global GDP approaching 5 percent and with virtually all countries participating in the boom. As reflected in a deteriorating balance of real net exports, through the end of 2005, growth of domestic demand in the US economy in excess of US real GDP growth contributed to the boom in output in the rest of the world. The upsurge in residential investment in the United States and the impact of increasing household net worth from rising home and equity prices on US consumption contributed to this phenomenon. In 2006 residential investment turned downward, and growth of US domestic demand slowed. With the aid of a weakened dollar, US real net exports began to improve. Indeed, from the end of 2005 through mid-2008, the improvement in US real net exports slightly more than offset a very large decline in real residential investment. This kept US real GDP growing, albeit at a reduced pace, despite a considerable slowdown in real domestic demand growth. Thus, the rest of the world helped to cushion the slowdown in the United States.

This was fortunate from the perspective of the rest of the world as well. Rising inflation, not weak output growth, was the key macroeconomic problem for the rest of the world. This is evident both in the actual rise of inflation and in the fact that many countries were tightening their policies in order to combat rising inflation. Indeed policy tightening was undertaken in virtually all industrial countries, except the United States, until the summer of 2008, and many emerging-market countries (notably China, India, and Brazil) were also tightening their policies. From their perspective, the slowdown of demand growth in the United States and the improving US real trade balance were helping in the battle against inflation.

The stress and turbulence that began to develop in world financial markets in early 2007—linked to worries about US subprime mortgages and complex financial instruments based on such mortgages—was not such a mutually beneficial development. The deepening of these troubles in August 2007 was similarly unwelcome. The United States was clearly a key source of these difficulties, but it was not the exclusive source. The United Kingdom had its own problems related to mortgages as reflected in the need to nationalize Northern Rock. Difficulties with mortgage finance in Ireland and Spain also had domestic origins. And, for those financial institutions whose problems stemmed largely from assets based on US mortgages, it is noteworthy that they purchased these assets of their own free will.

During 2008, stress in world financial markets deepened and broadened, led by developments in the United States. The near failure and emergency rescue of Bear Stearns in mid-March increased concerns about wider classes of assets and financial institutions. Deteriorating conditions in markets for mortgages and related financial instruments induced the US government to take over Fannie Mae and Freddie Mac. In mid-September, the

outright failure of Lehman Brothers and emergency rescue of AIG (or, more accurately, of AIG's counterparties) began an unprecedented disruption of world credit markets.

This extreme disruption of key credit markets in the United States and worldwide continued through October and into November and only partially abated by year-end. The negative impact on economic activity and on trade was severe and virtually immediate. This explains at least an important part of the sudden economic collapse in the final quarter of 2008 and the first quarter of 2009.

The source of the extreme stress in financial markets was not exclusively in the United States. Severe problems in the banks of Britain (especially the Royal Bank of Scotland and Lloyds), Ireland, Belgium, the Netherlands, and tiny Iceland were primarily of their own making. Despite their generally sound management, Spanish banks faced difficulties linked to the inevitable collapse of the domestic housing boom. Other Western European banks were vulnerable because of overleveraging and due to their excessive exposure to affiliates in Central and Eastern Europe.

Beyond the stress in financial markets, the world economy also suffered important negative shocks late last year from several other sources. The upsurge in world commodity prices, especially in world oil prices to $147 per barrel in July 2008, was a significant negative shock to users of these commodities. This shock was clearly not the consequence of financial stress, in the United States or elsewhere; but allowing for a slight lag, its economic impact hit at the same time as extreme credit market turbulence. More recently, the collapse of many commodity prices has clearly begun to undermine growth in exporting countries. Policies to combat rising inflation undertaken through mid-2008 probably also operated with somewhat of a lag, reinforcing the downturn in the world economy in late 2008 and early 2009. The slowdown in China's growth late last year probably owes more to the earlier tightening of Chinese policies and the wind-down from the Beijing Olympics than to global financial turmoil, and the Chinese economic slowdown has affected its trading partners especially in Asia. Other emerging-market countries that earlier had tightened their policies, including India and Brazil, found the effects inconvenient by year-end. The slowdown in the euro area during the second and third quarters of last year was at least partly the consequence of policy tightening to combat inflation. By the fourth quarter, this effect was adding unexpectedly and undesirably to a precipitous decline in output. In the United States, the 2008 tax cuts provided a modest boost to demand in the second and third quarters, but the wearing off of this effect added to the pace of decline in the fourth quarter. In sum, the extremely sharp declines in global economic activity and world trade in late 2008 and early this year reflect several important negative shocks, with the stress and turbulence in world financial markets playing the leading role.

Other Advanced Economies

The other advanced economies are all in recession, with year-over-year declines in real GDP for 2009 forecast to range from about 1 percent for Norway to 5 percent for Japan and 6 percent or more for Hong Kong, Singapore, South Korea, and Taiwan. The particularly steep output losses for these Asian countries all reflect severe collapses of exports that are already in the data for the fourth quarter of 2008 and initial data for 2009. Domestic demand, especially investment, may be expected to weaken further in the light of very weak exports, but I do not expect the decline in exports to become much worse. Rather, I believe

that we have seen a very severe one-time disruption of world trade that has overshot to the downside and will be partly reversed during 2009 as growth picks up in China and the United States. Reflecting my relative optimism, these forecasts for the advanced economies of Asia (including Australia and New Zealand) are above most other forecasts. For 2010, substantial positive growth in the advanced Asian economies is likely on the back of more vibrant expansion of world trade. Growth of 2 percent for Japan, 4½ percent for the newly industrialized Asian economies, and 2½ percent for Australia/New Zealand are a reasonable prospect.

In Western Europe, the recession is likely to last a little longer than in the United States, and real GDP is forecast to decline by 2½ percent for 2009. Reflecting the relatively high importance of both manufacturing and exports for Germany, real GDP is forecast to decline by 3 percent this year, while the output decline for France is likely to be closer to 2 percent. Italy is suffering from very weak domestic demand, as well as severe problems with exports, and has little room for discretionary fiscal expansion. An output drop of about 3 percent this year is likely. In Britain, output is also likely to fall about 3 percent. This reflects the negative impacts of problems in housing and in the very important financial services industry. British manufacturing should get somewhat of a boost from the depreciation of sterling, especially against the euro, but this impact is likely to be felt more in 2010 than this year. For Spain, the long-anticipated retrenchment of residential investment, along with more general weakness in domestic demand, implies about a 3 percent output decline this year. Most of the smaller Western European countries are likely to see declines in real GDP in the neighborhood of 2 percent.

Economic policy in Western Europe is working to limit the recession and promote recovery, but the combined effect of monetary and fiscal policy is likely to be significantly less than in the United States. This lack of fully equivalent policy response reflects both a somewhat less dire economic situation and a tendency toward less active use of discretionary policy in the euro area than in the United States. On the first score, it is noteworthy that in the euro area, the increase in the unemployment rate through February 2009 from the low reached in the recent expansion (which was itself about ½ percentage point below the low in the previous expansion) is only 1 percent, versus a 3.7 percentage point increase in the US unemployment rate through February from its low of 4.4 percent in the recent expansion. There is presently a good deal more slack in the United States than in the euro area, and this is still likely to be the case a year from now despite the forecast of slightly more output decline in the euro area than in the United States for 2009.

On the second score, monetary policy makers in Western Europe generally place somewhat greater weight on keeping overall consumer price inflation low than does the Federal Reserve. Moreover, the admitted weaknesses on the balance sheets of Western European banks is probably more limited than the weaknesses so far admitted on the balance sheets of their US counterparts, especially if account is taken of the exposures of Western European banks to financial problems in Central and Eastern Europe. On fiscal policy, the automatic stabilizers operate significantly more forcefully in Western Europe than in the United States. This should help to cushion the recession but will symmetrically tend to weaken the recovery. In view of both the constraints of the Stability and Growth Pact and the generally higher level of government deficits and debt levels relative to GDP, European governments are rightly reluctant to use discretionary fiscal policy with quite the wild abandon now in evidence for the United States. Combined with other factors, the result is

likely to be that recovery in Western Europe will lag a little behind that in the United States; and, especially with potential growth rates somewhat lower than in the United States, the pace of subsequent recovery is likely to be more subdued.

Nevertheless, the Zarnowitz rule assures us that once recovery starts in Europe, the pace of that recovery will surprise on the upside. Year-over-year growth rates for 2010 will likely exceed 2 percent in most countries and will probably reach at least 3 percent in some, probably including Germany.

So long as oil and other commodity prices remained exceptionally strong, the Canadian economy enjoyed an important degree of insulation from the slowdown in the United States and in the world economy more generally. With the drop in world oil and other commodity prices, the Canadian economy is now falling into recession, and a real GDP decline of about 1½ percent is forecast for this year. With strong ties to the US economy (including through the highly integrated automobile industry) and continuing links to world oil and other commodity prices, the forecast of a stronger than expected recovery in the United States and in world commodity prices beginning around mid-2009 implies a relatively optimistic forecast for Canadian economic growth for 2010—likely on the order of 3 percent.

Emerging-Market and Developing Economies

By itself, the Chinese economy accounts for more than one-fifth of the economic weight of all emerging-market and developing economies (using PPP-based exchange rates to aggregate national GDPs). The imputed decline in China's annualized real GDP growth for fourth quarter of 2008 to barely more than 1½ percent, from a 13½ percent annualized rate two quarters earlier is, therefore, an important part of the explanation for the precipitous decline in real GDP growth late last year for all emerging-market and developing countries. This arithmetic effect was undoubtedly enhanced by the sizeable impact of slowing Chinese economic growth on exports from many of China's trading partners, especially in Asia.

Looking ahead, the response of Chinese policymakers to a greater than desired slowdown in economic activity has brought forth both serious measures of fiscal expansion and very substantial easing of credit conditions (more than reversing their earlier tightening). It is reasonable to expect that the Chinese economy will respond to these new policy measures with a resurgence of growth, yielding 7½ percent growth year-over-year for 2009 and better than 8 percent growth for 2010. The pick up in Chinese growth after slowdown in the second half of 2008 will help to boost growth in China's trading partners, especially in Asia.

India carries a little less than half of the weight of China in world GDP (using PPP-based exchange rates). After five years with average annual growth above 8 percent, India is forecast to deliver somewhat slower but still significantly positive output growth this year with an annual rise in real GDP of about 5 percent. The Indian economy is feeling the impact of the global recession and financial crisis but is less strongly linked to the rest of the world economy through both trade and finance than most of Asia. Reasonably solid growth of domestic demand and the effects of a favorable monsoon on India's important agricultural sector will keep growth positive. Monetary policy, which in the first half of 2008

was oriented toward combating rising inflation, has shifted toward an easier stance. The upcoming elections have not been a force for fiscal restraint.

The smaller Asian emerging-market economies are being more seriously affected by the global recession and collapse of world trade. Disruptions of trade financing for emerging-market economies are also having some negative effect, but Asian countries generally do not need to finance significant current account deficits and most have adequate reserves. Some countries, such as Malaysia and Thailand, which are heavily dependent on manufactured exports, are likely to see output declines this year. The group as a whole, however, will probably post slightly positive growth for 2009 and return to substantially positive growth for 2010.

Recently released data indicate that Brazil, Latin America's largest economy, will probably see real GDP decline this year (by about 1 percent) for the first time in a decade. The generally sound state of the public finances, a favorable trade balance and modest current account deficit, ample foreign exchange reserves, and limited foreign currency indebtedness (of the government), however, provide confidence that Brazil will weather the current global economic storm without serious damage. For 2010 a return to growth of 3 percent or better looks like a reasonable prospect.

Argentina is in more serious economic difficulty, for domestic reasons as well as because of spillovers from the global crisis. The government hopes to prop things up until the elections, but a real GDP decline of about 3 percent is likely this year, with considerable uncertainty about the pace of recovery in 2010.

As the fourth quarter real GDP results again testify, Mexico remains tightly linked economically to its northern neighbor. Fortunately, substantial but orderly depreciation of the peso's exchange rate against the dollar over the past year and the availability of ample external financing and Mexico's generally sound fiscal policy provide important protection against the type of crises that have hit Mexico in previous steep global recessions. Following developments in the United States, Mexico's output this year is likely to decline about 2½ percent and then recover smartly by 3 percent or better in 2010.

Elsewhere in Latin America, the picture is mixed with most countries likely to record at least modest output declines this year followed by recoveries of varying strength in 2010. Venezuela and Ecuador will be hit fairly hard by the drop in world oil prices, while Chile and Peru fair somewhat better despite considerable declines in the prices of their primary exports. Altogether, Latin America's real GDP will probably shrink by about 2 percent this year and grow about 3 percent in 2010.

In Central and Eastern Europe, several countries (including the Baltic States, Hungary, Romania, and Bulgaria) are in deep difficulty because of the collapse in external financing for their large current account deficits, as well as the general economic impact of the world recession. Turkey is discussing a possible resumption of International Monetary Fund (IMF) support and will see output decline this year by 2 percent or more. Poland and Slovakia are in better shape and might scrape by with little or no growth. For the region as a whole, a decline in real GDP of about 3 percent is likely this year. Assuming that Western Europe stages a moderate recovery in 2010, the Central and Eastern Europe region should follow in its wake.

In the Commonwealth of Independent States (CIS), the Russian economy is suffering from the collapse of oil prices and from some of the poor policies that high oil prices made possible. Real GDP this year is likely to decline at least 2 percent. The Ukraine is a mess, economically and politically. Despite financial support from the IMF and Western Europe, economic activity will shrink this year, perhaps by as much as 10 percent. Belarus is also in trouble and amazingly even admits it. Even more amazing, Belarus has negotiated a program with the IMF. It will be interesting to see how that turns out. Elsewhere in most of the CIS economic conditions are better—if one believes the data. Nevertheless, with the largest economies clearly in difficulty, the CIS will likely see a decline in real GDP of at least 3 percent this year, and prospects for recovery in this region in 2010 are highly uncertain.

The Middle East region is suffering a large decline in export revenues from the fall in world oil prices, but this does not show up directly in volume measures of real GDP. Cuts in oil production to meet OPEC's reduced output quotas, however, do negatively impact real GDP. Also, for a number of countries where oil export revenues are an important driver of domestic economic activity (such as Dubai), the drop in world oil prices is an important negative development. All told, I expect that real GDP growth in the Middle East region will decline from about 6 percent in 2008 to 2½ percent in 2009. Assuming that we see significant recovery of world oil prices (to about $80 per barrel) as the global economy recovers, growth in the Middle East region should strengthen to 4 percent in 2010.

The IMF remains relatively optimistic about growth prospects in Africa. Their forecast released in January envisioned 3.4 percent growth this year, rising to 4.9 percent in 2010. In the face of the collapse of world trade and in the prices of many primary products exported by African countries, I find the IMF's optimism a little overdone. Africa will be fortunate if it can sustain 2 percent growth this year and then stage a recovery to 4 percent growth for 2010.

Recession and Recovery in the United States

With the sharp drop in real GDP in the fourth quarter, –6.3 percent at an annual rate, the US economy has clearly fallen into a steep recession. Preliminary data for the first quarter of 2009 indicate that real consumption spending has stabilized, at least temporarily, after two quarters of sharp decline. Other data, especially for the labor market, indicate that the economy is still contracting at a rapid pace. All major categories of real gross private domestic investment (business fixed investment in nonresidential structures and in equipment and software, residential investment, and inventory investment) are probably contracting, and real US exports are probably shrinking faster than US real imports. There is no clear sign yet that this process of economic contraction is about to come to an end.

The task of an economic forecaster, however, is to forecast even when the hard data do not provide a clear guide to what is about to happen. I first seriously confronted this problem 27 years ago when I was asked to join the forecasting panel for the Graduate School of Business of the University of Chicago, replacing my future boss at the US Council of Economic Advisers, Beryl Sprinkel. I asked my colleague Victor Zarnowitz, a distinguished scholar who specialized in business cycle analysis and who sadly died just last month, for his advice. Victor explained that forecasters had never been very successful in forecasting business cycle turning points: when an expansion would end and

a recession would begin, how long or how deep a recession might be, or when expansion would resume. Long expansions did not appear to die of old age and were not necessarily followed by deep or long recessions. Indeed, Victor noted that there was only one reliable regularity about business cycles and business cycle forecasts: Deep recessions are almost always followed by steep recoveries, and forecasts generally fail to take account of this regularity in consistently underpredicting the initial strength of many economic expansions.

In deep recessions, such as those in the mid-1970s and the early 1980s, there is usually a growing sense of gloom as the recession deepens, and few can see any reason for hope that the recession might end. As employment and income fall, demand for consumption and investment declines, bringing on more declines in employment and income, in a downward spiral that appears to be without end. However, recessions do end when the negative shocks that have created them are absorbed and dissipated and the natural processes of economic recovery, often aided by stimulative economic policies, begin to operate.

I sense that we are nearing that point in the present recession. Last autumn, when the US economy was already quite weak, it was hit hard by the turmoil in financial markets and the other factors that have already been explained. The economy is absorbing the negative impact of those shocks in its present steep downturn. But shocks are dissipating and we are approaching the plausible limits on how much the economy needs to adjust before a natural rebound will begin. Meanwhile, extremely aggressive policy actions have been taken by the monetary and fiscal authorities to blunt the shocks that have already occurred, to guard against any important new shocks, to help bring an end to the downturn, and to promote a more vigorous recovery. Experience suggests that all of this should work, and I believe that it will.

In a nutshell, I expect that real GDP has declined at an annual rate of about 4 percent in the first quarter of 2009, with inventory investment falling more into negative territory. The pace of decline is expected to moderate in the second quarter as the effect of past shocks wears off and policy stimulus begins to work. The cyclical turning point will occur about mid-year, with real GDP posting a modest advance in the summer quarter. By the autumn, the recovery will be firmly under way, supported by strong policy stimulus. Growth during 2010 will proceed at better than a 4 percent annual rate (on a fourth-quarter-to-fourth-quarter basis).

Before becoming more specific about forces driving recovery, it is useful to examine the recession—in comparison with previous postwar recessions. Table 1 presents data concerning the behavior of key components of real GDP (measured in chained 2000 dollars) during the ten previous postwar recessions. The starting and ending dates for these recessions are based on peaks and troughs in real GDP and do not correspond exactly to the NBER business cycle dating, which relies on monthly data. The final row of the table shows the behavior for those components that is projected for the current recession, derived from my present economic forecast that real GDP will start rising again this summer.

Notably, the peak to trough decline of real GDP in the present recession is 3.2 percent, which is marginally less than the declines in the 1957–58 and 1973–75 recessions. By other measures, especially the rise in the unemployment rate (which is expected to be up 5 percent in the current recession) this is the deepest postwar recession. In some important

respects, the present recession looks similar to previous recessions; in some respects it is different.

Downswings in inventory investment typically play a large role in recessions, on four occasions accounting for more than 100 percent of the fall in real GDP. This time inventory investment is projected to play a quite minor role. This time there was no undesired build-up of business inventories before real GDP started to fall (inventories of unsold homes do not count in these figures). The flip side of this is that we should not expect a huge impetus to recovery from an enormous rebound of inventory investment.

Residential investment shows a significant decline in the present recession, but not as much as in some earlier recessions. The reason for this is that residential investment started to decline in early 2006, well before real GDP started falling. Measuring from the peak at end 2005, the decline in real residential investment is expected to reach almost 50 percent—10 percentage points larger than the previous postwar record. A substantial and sustained rebound in residential investment is clearly on the agenda for the coming economic recovery.

Real consumption spending registered declines in only half of the earlier recessions. It shows a significant decline in the present recession, concentrated in durables and nondurables with services posting a modest gain. Indeed, the decline in consumption is larger than in any earlier recession. The combined decline in the third and fourth quarters of 2008 is a little larger (in percentage terms) than the very sharp one-quarter drop in the spring of 1980 when the Carter administration temporarily imposed controls on consumer credit.

Like previous recessions, the present recession involves a substantial decline in business investment in equipment and software. Private investment in nonresidential structures also declines in the present recession, as it does in most previous recessions. In the present case, private investment in nonresidential structures is assumed to continue falling for a while after real GDP as a whole starts rising.

Real net exports deteriorated sharply in the fourth quarter of 2008 after almost three years of substantial improvement. Such deterioration is not a common feature of past recessions when the drop of demand in the United States usually pulled down imports by more than the decline (if any) in US exports. This time, with economic activity falling sharply throughout the world, the outcome is different.

Turning next to the prospective expansion, table 2 summarizes how real GDP (measured in 2000 chained dollars) has expanded during the first six quarters of nine previous postwar expansions. The expansion following the brief recession of 1980 is omitted because, after a sharp two-quarter recovery, the economy fell back into recession in the spring of 1981 as the Federal Reserve pressed on with determined efforts to defeat inflation (pushing longer-term US Treasury rates to 16 percent in late 1981).

The record shows that the average cumulative real GDP gain over six quarters was 7.7 percent. The average is 8.8 percent if the recoveries from the 1948–49 and the 2001 recessions are excluded. The episode in the late 1940s was mainly a huge inventory cycle and not really relevant to today's situation. The 2001 recession was exceptionally mild with real GDP declining only 0.2 percent and, not surprisingly, the recovery was very flat—a V-shaped cycle, but a very shallow V. Notably, the only other occasion when real GDP rose less than 7 percent was in the recovery from the 1990–91 recession. Measured by the peak-

to-trough decline in real GDP, this was the third mildest recession of the postwar era. Measured by the decline in real GDP relative to potential, however, this two-quarter recession was the second mildest of the postwar era—significantly milder than the five-quarter long recession of 1969–70. The Reagan recovery, which followed the combined recessions of 1980 and 1981–82, benefited from the substantial policy stimulus provided by the Reagan tax cuts and defense build-up and the easing of monetary policy beginning in July 1982 and was exceptionally buoyant—Morning in America.

Clearly, the present recession is not like the mild recessions of 1990–91 or especially 2001. It is more similar to the deeper recessions earlier in the postwar era. It is reasonable, therefore, to expect that the recovery from the present recession would look broadly similar to the recoveries from those earlier recessions—a V-shaped pattern of recession and recovery.

Table 3 presents my forecast that embodies a conservative version of this presumption. The table reports the level of real GDP and its main components expected for the second quarter of 2009, the assumed trough for quarterly real GDP in this cycle. It also reports my forecast scenario for the changes in these aggregates (in 2000 chained dollars) six quarters into the recovery at the end of 2010, as well as the percentage changes (or contributions to real GDP growth) for these aggregates. This scenario embodies my forecast that real GDP will rise cumulatively by 6.2 percent during the first six quarters of recovery. For comparative purposes, table 3 also reports a scenario for the changes in real GDP and its components from the second quarter of 2009 to the final quarter of 2010 (and percentage changes) under the alternative assumption that the pace of recovery matches the 7.7 percent average real GDP gain in the initial six quarters of previous postwar recoveries.

The forecast scenario is less buoyant than the average cyclical recovery primarily because, at this stage, it is not yet clear that the recovery will start quite as early as I expect. A delay of a quarter or so in the onset of recovery cuts down the projected economic gains likely to be achieved by the end of 2010, although it does alter the fundamental notion of a V-shaped recession and recovery. The forecast scenario is also conservative in that it incorporates many of the reasons why people argue that this recovery is likely to be somewhat tepid.

The forecast scenario envisions that real consumption spending will recover from its recent downturn, especially for durables, but the gain in consumption is proportionately smaller than the rise in real GDP—only 4.3 percent versus 6.2 percent. Reflecting the desire of households to rebuild their wealth in the face of declines in home values and equity prices (from their previous peaks), the personal saving rate is projected to rise to about 7 percent by end 2010. (Personal disposable income rises somewhat more than proportionately with GDP because of lower taxes and higher transfer payments.)

Real gross private domestic investment is forecast to rise by 25 percent. One-third of this gain is due to the normally expected recovery of inventory investment from sharply negative levels to modestly positive levels, which contributes 1.1 percent to the rise in real GDP. As usual in recoveries, business investment in equipment and software bounces back strongly, but the level of such investment forecast for the end 2010 is still below what it was before the recession started. For real private investment in nonresidential structures, a moderate further decline is forecast for the initial stages of recovery. For residential investment, a strong gain is projected, but to a level that is still 30 percent below the peak at

end 2005. The level of new housing starts consistent with this forecast is barely more than 1 million—compared with an estimated longer-term demand for gross new housing production (due to household formation and retirement of the existing housing stock) of 1.5 million to 1.7 million. Here note is taken of the fact that (according to the Case-Shiller index) house prices have already declined nearly 30 percent from their peak—back to 2003 levels—and are still falling. Mortgage interest rates have been pushed down to record lows, and indexes of housing affordability are at record highs. It should not be very much longer before residential investment begins to pick up.

Consistent with the assumption that recovery in the United States will get started somewhat sooner and be somewhat more vigorous than recoveries in much of the rest of the world, the forecast scenario envisions that US real net exports will deteriorate in the initial stages of the recovery. This factor subtracts 0.9 percent from the rise of US real GDP between the second quarter of 2009 and the final quarter of 2010.

The large stimulus package passed in February, expansion of discretionary spending in the appropriations bills for FY2009, and the budget proposals for FY2010 assure that increases in government spending will make an important direct contribution to recovery. Specifically, real government purchases of goods and services are projected to rise by 4.7 percent ($100 billion in chained 2000 dollars). In addition, fiscal stimulus will boost both private consumption and private investment, as already allowed for in the forecast scenario.

Of course, there are downside risks to the forecast scenario, beyond the risk that the onset of recovery might be delayed by a few months. Such downside risks, however, need to be weighed against the upside potential in order to arrive at a reasonable forecast.

The upside potential is clearly there. A recovery that matches the average of previous postwar recoveries cannot be excluded as outrageously optimistic, and even much stronger recoveries are within the range of what has previously been accomplished. Specifically, to reach the "average recovery" scenario in table 3, all we really need is somewhat stronger recovery in business investment and a recovery of new home building to two-thirds rather than one-half of its previous peak. Stronger increases in real consumption spending brought on by large income gains (with saving ratios still rising to about 7 percent) do the rest. Alternatively, the economy might get a little more out of fiscal stimulus than is assumed in my forecast, or somewhat stronger recovery in the rest of the world might boost US recovery.

Many have talked about the possibility of an L-shaped recovery but few have ever seen one. Indeed, in the business cycle history of the United States at least since World War I, only one episode might be described as an L-shaped business cycle—and this was not a business cycle in any normal sense. From 1945 to 1946, real GDP dropped 13 percent (measured in 1962 dollars) and then was essentially flat for two years.[1] This episode marked the end of World War II, when federal spending dropped suddenly from over 40 percent of GDP to less than 10 percent. Unlike any normal recession, private consumption and private investment soared in this period—but not enough to match the cutback in the war effort. US production was strained to the absolute limit in order to win the war, and when the war ended it was natural and desirable to relax.

[1] Use of 2000 chained dollars gives a very distorted picture and is not really appropriate.

Finally, it is important to say something about the role of monetary and financial-sector policies in promoting recovery. The Federal Reserve has embarked on extraordinarily aggressive policies to combat recession and promote recovery, using both sides of its balance sheet. Traditional monetary policy has been eased to its natural limit by pushing the target federal funds rate to below 25 basis points. Success has been achieved in relieving the extreme stress that beset credit markets last autumn and in rejuvenating some key financial markets that had virtually shut down. The Fed has used the asset side of its balance sheet for this purpose by purchasing private assets in order to help generate and support a market, first for commercial paper, then for Fannie Mae and Freddie Mac securities, and most recently for a variety of asset-backed instruments.

The operations that have expanded the Fed's balance sheet on the asset side also necessarily expand it on the liability side. The result is that the Fed is stuffing banks with huge volumes of excess reserves on which banks earn interest of only 25 basis points. As these excess reserves grow larger and larger, at some point, banks are going to decide that it is sensible to lend some of this money to borrowers willing and able to pay interest rates substantially greater than 25 basis points.

Thus, with a very active Fed, I do not see that there will be profound problems with the availability of credit from the banking system for creditworthy borrowers. Moreover, the concerns that the problem assets on bank balance sheets need to be largely removed or neutralized as a precondition for economic recovery are overdone. Having major financial institutions fail or on the brink of collapse is a major impediment to recovery, and there needs to be confidence that the authorities will intervene effectively if this is necessary to prevent the disorderly failure of systemically important institutions. However, experience in the United States and elsewhere demonstrates that vigorous economic recoveries can proceed even when financial institutions are not all in stellar good health.

For example, in the deep recessions of the early 1980s, many US banks and most saving and loan associations became insolvent based on market valuation of their assets and liabilities. Traditional accounting practices, however, did not reveal this fact. As the economy recovered and interest rates came down, the value of bank assets improved and many banks returned to solvency on a market value basis, although some banks (including Continental Illinois) did ultimately fail. In this episode, as in many others, it was economic recovery that restored health to many financial institutions rather than the other way around. Many saving and loan associations were too deeply damaged to recover, and ultimately (in 1989) the government needed to take over many of these institutions at considerable cost to the taxpayer. But the fact that many financial institutions remained in trouble in 1983–84 and beyond did not preclude a very vigorous economic recovery.

In sum, experience indicates that deep recessions are almost always followed by steep recoveries. The present episode could be an exception, but there is no good reason to presume so.

Table 1 Comparison of postwar recessions, main components of real GDP (RGDP) using 2000 chained dollars

Period	Percent change in RGDP	Contribution (percent of RGDP)		Investment: Equipment and software (percent change)	Investment: Nonresidential structures (percent change)	Residential investment (percent change)	Consumption (percent change)				Government spending (percent change)
		Net exports	Inventory investment				Percent change	Durables	Nondurables	Services	
1948IV–49II	−1.8	+0.5	−3.5	−10.9	−4.2	−9.1	+1.7	+6.8	+0.7	+1.2	+7.5
1953II–54I	−2.7	+0.3	−1.3	−5.3	+3.4	−3.6	−0.5	−6.7	nil	+1.1	−2.7
1957III–58I	−3.7	−0.7	−1.1	−14.2	−2.4	−4.1	−1.3	−7.9	−1.7	+1.4	+0.7
1960I–60IV	−1.6	+0.5	−2.9	−5.8	+5.3	−11.1	+0.9	−1.2	+0.6	+2.0	+4.0
1969III–70IV	−0.6	+0.3	−1.4	−5.9	−3.6	+0.9	+2.5	−2.2	+1.6	+2.3	−2.8
1973IV–75I	−3.3	+1.2	−2.4	−9.5	−11.2	−30.2	−0.6	−9.2	−2.8	+3.7	+4.6
1980I–80III	−2.2	+1.0	−1.5	−5.9	−1.7	−17.1	−1.2	−6.7	−1.5	+0.6	−1.1
1981I–82III	−2.3	+0.7	−1.1	−5.0	+1.0	−27.2	+1.4	−4.1	+1.5	+2.9	+2.1
1990III–91I	−1.3	nil	−0.6	−3.0	−6.6	−11.2	−1.1	−5.7	−1.1	−0.1	+1.4
2000IV–01III	−0.2	−0.4	−0.7	−8.0	−1.7	+2.4	+1.1	+2.3	+0.7	+0.7	+0.4
2008II–09II	**−3.2**	**−0.3**	**−0.4**	**−16.3**	**−9.1**	**−17.6**	**−1.7**	**−11.6**	**−3.8**	**+1.2**	**+3.0**

Table 2 Recoveries from postwar recessions, cumulative rise of real GDP in first six quarters of recovery (percent, based on 2000 chained dollars)

Period	Depth of preceding recession	Strength of recovery
1949IV–51II "Truman"	−1.6	12.5
1954II–55IV "Eisenhower I"	−2.7	9.8
1958I–59III "Eisenhower II"	−3.7	10.0
1960IV–62II "Kennedy"	−1.6	9.2
1970IV–72II "Nixon"	−0.6	8.9
1975I–76III "Ford"	−3.4	7.4
1982IV–84II "Reagan"	−2.3 and −2.2	11.5
1991I–92III "GHW Bush"	−1.3	4.6
2001III–03I "GW Bush"	−0.2	2.6
Average	*−2.0*	*7.7*
Average, excluding "Truman" & "GW Bush"	*2.2*	*8.8*

Table 3 Recovery scenarios, real GDP and its components

Component	**Base real GDP, 2009Q2** (real dollars billions)	**Forecast change to 2010** (real dollars billions)	**Forecast change in percent** [contribution]	**Average change to 2010Q4** (real dollars billions)	**Average change in percent** [contribution]
Real GDP	11,350	700	6.2	875	7.7
Consumption	8,200	350	4.3	470	5.7
Durables	1,085	100	9.2	130	12.0
Non durables	2,330	80	3.4	110	4.7
Services	4,770	170	3.6	230	4.8
Gross private domestic investment	1,400	350	25.0	420	30.0
Structures	310	−10	−3.2	5	1.7
Equipment and software	900	130	14.4	150	16.7
Residential investment	305	110	36.1	140	45.9
Inventory investment	−100	120	[1.1]	125	[1.1]
Net exports	−400	−100	[−0.9]	−125	[−1.1]
Government spending	2,120	100	4.7	110	5.2

Table 4 Projected real GDP growth rates (percent change, year-over-year)

Country/region	2008	2009	2010
World	2.9	−0.8	3.7
Advanced economies	0.6	−2.8	3.0
United States	1.1	−2.0	3.6
Japan	−0.7	−5.0	2.0
United Kingdom	0.7	−3.0	2.5
Canada	0.5	−1.5	3.0
Euro area	0.7	−2.5	2.5
Germany	1.0	−3.0	2.9
France	0.7	−2.0	2.6
Italy	−1.0	−3.0	2.0
Other euro area	0.8	−2.2	2.4
Other advanced	0.8	−4.5	3.8
Emerging-market and developing	5.8	1.7	4.7
Asia	7.0	5.0	6.8
China	9.0	7.5	8.2
India	7.1	5.0	6.3
Other Asia	3.1	0.5	3.8
Latin America	4.2	−1.8	3.0
Brazil	2.8	−1.3	3.2
Mexico	1.4	−2.5	3.1
Other	5.1	−2.0	2.8
Central and Eastern Europe	2.8	−2.8	2.5
Commonwealth of Independent States	5.4	−3.2	1.5
Middle East	5.6	2.5	4.0
Africa	5.0	2.0	4.0