

The Next Economy and the Growth Challenge for the United States

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By

Martin Neil Baily

**Senior Fellow and Bernard L. Schwartz Chair, Brookings
Senior Advisor, McKinsey Global Institute**

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INTRODUCTION

In 1999-2000, the Administration of President Clinton was celebrating an era of unusually strong economic growth with both strong productivity gains and employment gains. The unemployment rate was around 4 percent, inflation was low, the budget was in surplus and the stock market was high. Incomes had risen for all quintiles of the household income distribution. This was a New Economy, fueled by technological marvels, with the new century offering the promise of even greater things to come. This was a new day compared to the dismal assessment of Paul Krugman in his 1994 book, *The Age of Diminished Expectations*.

Unfortunately the dismal Krugman is back, and with reason. The first decade of the 21st century has not gone very well economically, including a really horrible recession. Unemployment is high, wealth is down, US competitiveness is under siege and the prospects for growth are not thought to be very good. In a paper written in January 2010, Martin S. Feldstein paints a rather sober view of growth over the next 10 years.¹ He believes that the economy will recover from the recession over time, allowing growth to exceed its long term potential growth rate for some years. On the other hand, since the economy starts with a very large trade deficit, this means that domestic production will have to exceed domestic purchases, if the trade deficit is to be reduced, holding down the growth of domestic spending. US consumption and investment, he finds, will grow at only 1.9 percent a year over the next decade.

The New Normal or the Next Economy that people are talking about today is one where the US population is aging, reducing labor force growth and putting pressure on Medicare and nursing homes. An economy where people will have to work longer before receiving smaller pensions. An economy where real living standards for the mean or median family will grow very slowly if at all.

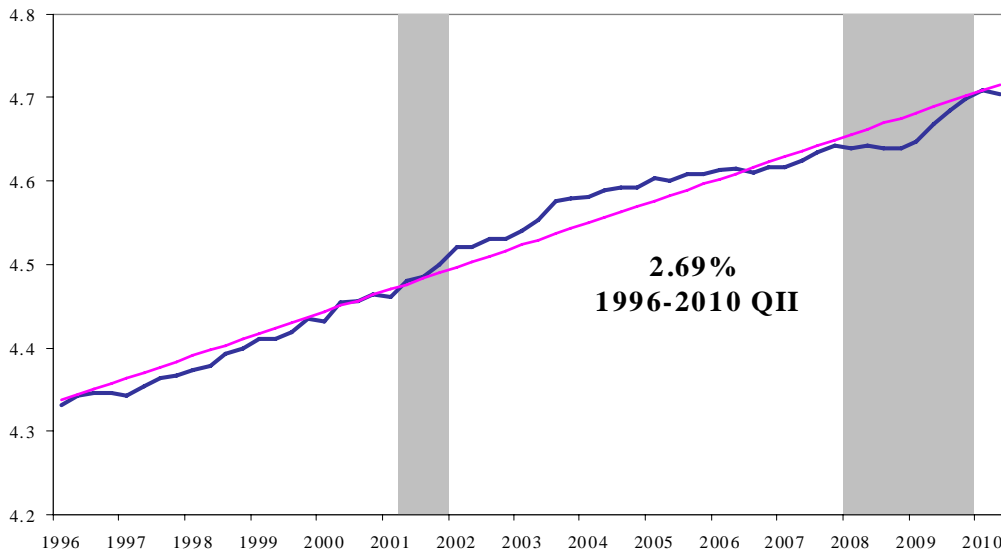
This paper will not try to whitewash the economic picture nor will it offer a solution to all the problems. The challenges are real and not easily answered. The recovery is not yet assured and the possibility of a double dip remains a danger. And, even after the recovery becomes firmer, dealing with the trade deficit, an aging

¹ Feldstein (2010)

population and so on presents real barriers to rising living standards. I am more optimistic than Feldstein, however, and the main reason is that the pace of trend productivity growth looks pretty good. The chart below shows one estimate of that trend at 2.7 percent a year in the nonfarm business sector. I am not sure if that pace is really sustainable, but even at 2.5 percent a year, it means the size of the pie is growing solidly.² With that rate of growth in the private economy, it is possible to achieve rising living standards for the broad population, we just have to figure out how to accomplish that.

A Linear Trend over the Period Since 1996 Suggests High Trend Productivity Growth (Nonfarm Business) natural log of output per hour 1996I-2010II

BROOKINGS



SOURCE: Author's calculations based on Bureau of Labor Statistics Data

The immediate economic problem is one of weak demand resulting in high unemployment and slack capacity, so this paper looks first at what happened in the recession and whether or not the policies that were followed to get out of the recession are in fact working or not. Is more stimulus needed and, if so, is it possible to provide it?

² There are economists that think trend productivity increase is under 2 percent a year, so I am on the high side. Without incriminating them, I note that in conversation, both Alan Blinder and Robert Solow said that a figure under 2 percent is too low based on available evidence.

I then turn to more structural issues, looking at lessons from the recent history of US economic growth, including patterns of employment and productivity by industry. One of the puzzles of the last decade is that increased productivity has not automatically translated into rising wages and incomes for all.

One explanation of the weak economic performance of the US economy is that it is being undermined by competition from emerging economies, especially China. I explore the impact of increased globalization on the economy and try to understand why the income distribution has widened so much and whether globalization is to blame. This is a much-explored topic and I confine my analysis to a perspective on what the evidence seems to say.

In the next section I look more closely at the manufacturing sector, whether it can be saved, and what policies might help it do better in the future. Some of the policies to help manufacturing would also help the broader economy, but there are other possibilities and so in the following section I consider two additional policies to help the rest of the economy, before adding a short conclusion.

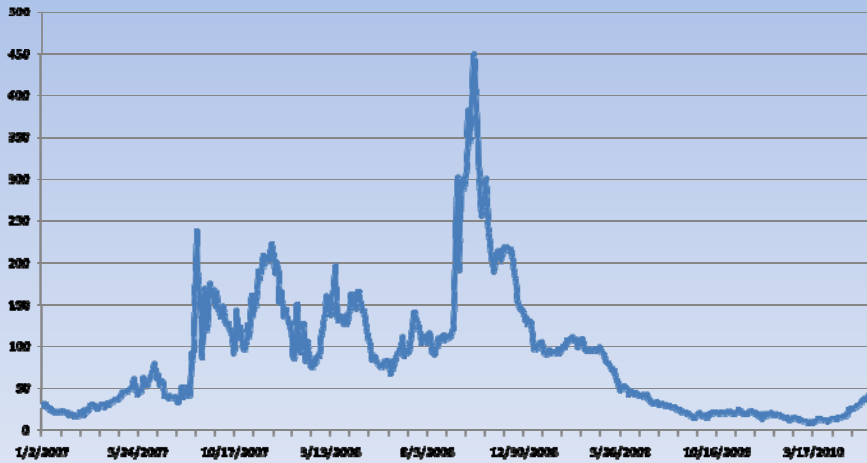
THE FINANCIAL CRISIS AND THE GREAT RECESSION

Where We Were

There were signs in 2006 and early 2007 that financial markets, particularly housing and mortgage-backed securities markets, were troubled. With the benefit of hindsight, we can see that the decline in median home prices that started in 2006, the collapse of 25 subprime lenders in early 2007 and the collapse of two Bear Stearns hedge funds in July 2007 were early-warning signs of much worse trouble to come. The financial crisis hit front and center in August of 2007 when wholesale lending markets seized up, making it difficult or impossible for some financial institutions to roll over their short term borrowing. Chart 1 shows the “Ted Spread” the difference between the LIBOR interest rate and the 3-month Treasury bill interest rate, an indication of the willingness of financial institutions to lend to each other. It spiked up in 2007 as the crisis hit and then went through the roof in 2008 in the turmoil following the collapse of Lehman.

Chart 1: TED Spread (3-M LIBOR, 3-M T-Bill)

(basis points)



SOURCE: FEDERAL RESERVE, WALL STREET JOURNAL

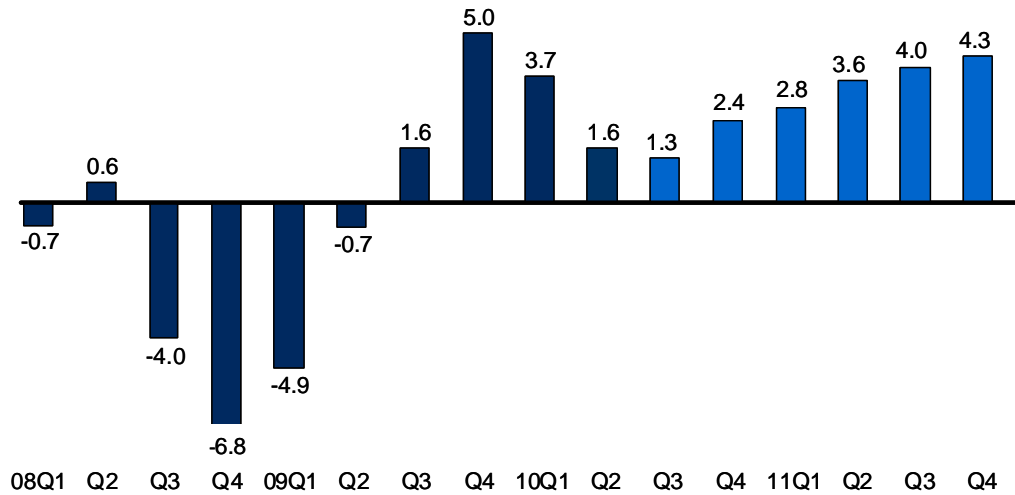
The financial crisis worsened through 2008 and into 2009 as both large and small banks failed or were propped up. Wall Street was reeling but so were a lot of regional and local institutions. Many FDIC insured banks have failed and the number of banks considered to be problem banks reached 775 by the end of the first quarter 2010. These banks collectively hold \$431 billion of assets, so the difficulties facing the banking sector are not over yet.

At first, it seemed as if the financial crisis would cause only modest collateral damage to the Main Street economy of jobs and production. Real GDP grew at 3.6 percent in the third quarter of 2007 and 2.1 percent in the fourth quarter. Even the first half of 2008 was not too bad with a small decline in GDP in the first quarter and a small increase in the second. By the second half of 2008, however, the economy went into freefall, particularly in the fourth quarter when GDP declined by 6.8 percent, followed by a 4.9 percent annual rate of decline in the first quarter of 2009. Chart 2 shows this pattern.

Chart 2: After Going into Freefall for Two Quarters, Real US GDP Rebounded in the 4th Quarter

Real GDP growth, United States
Percent change at an annual rate

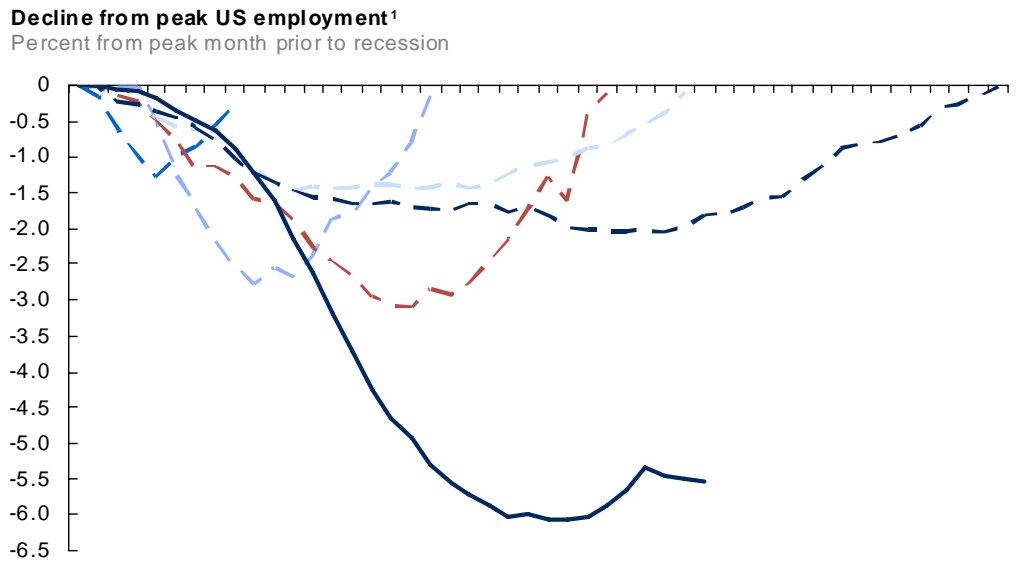
■ History
■ Macroeconomic Advisers



SOURCE: Macroeconomic Advisers (June 2010); Global Insight (June 2010)

Employment loss in this recession has been horrendous. Payroll employment started to decline by the end of 2007 and the freefall of GDP that occurred in the second half of 2008 was matched and then some in the labor market with monthly employment declines of around 700,000. As Chart 3 shows, the loss of employment in this recession dwarfs anything in prior recessions in the postwar period. The business community became very scared by the speed and depth of the recession and moved very aggressively to cut costs in whatever ways they could find. Nonfarm payroll employment declined by 8.4 million jobs between December 2007 and December 2010.

Chart 3: In the US this downturn has produced a record decline in jobs although declines have bottomed out



¹ Total non-farm employment, seasonally adjusted

SOURCE : Bureau of Labor Statistics; Haver Analytics, Moody's Analytics

The stock market directly affects households through their wealth holdings and affects the pension retirement accounts held by individuals and by companies. In addition, the stock market acts as a sign of confidence for everyone. If the stock market is plunging, families become reluctant to spend even if they do not have a significant stake in the market themselves. Chart 4 shows the movement of the S&P 500 index over the period 2001 to early 2010. After rising into the 1,500 to 1,600 range in 2007 it plunged over the next several months, dropping below 700 before recovering partially. Families that were counting on a comfortable retirement realized they lacked the necessary resources and would either have to keep working or adjust to a much reduced lifestyle.

Chart 4: S&P 500 Index, 2005-2010



SOURCE: FEDERAL RESERVE

Where We Are Now

The good news is as follows:

- After its frightening freefall in late 2008 and early 2009, the economy slowed its rate of decline in the second quarter of 2009 and resumed growth in the third quarter of 2010. A mainstream forecaster suggests slower growth rates of 1.3 and 2.4 percent for the rest of 2010, but then growth closer to 3-4 percent for 2011. This is a remarkable turnaround with the pattern also shown in Chart 2.
- The labor market has stabilized, with unemployment having peaked at 10.1 percent in October 2009 and now declining slowly to 9.6 percent in August. Payroll employment rose, at a rate of about 200,000 a month for total payroll³ and about 100,000 for private nonfarm employment for 2010 through May. However, total nonfarm employment has declined by about 100,000 per month since June.
- The stock market has partially recovered from its swoon and is up substantially since March of 2009. Arguably, the high that it reached at its peak was above its

³ Total payroll employment received a temporary boost from Census hiring that will not persist.

sustainable level and it is now at an appropriate level in relation to earnings. I do not try to forecast stock price movements, but if the economy continues to recover, there is upside potential in the market.

- According to the S&P Case-Shiller home price index for May, the large drop in home prices has ameliorated with the index up 7 to 8 percent from May 2009

The bad news is also evident:

- The unemployment rate is close to 10 percent while full employment is thought to be around 5 percent. This means that American output and incomes are about 10 percent below their potential.⁴
- If employment growth continues at the rate of 200,000 a month it will take around seven years to get back to full employment.⁵
- Household wealth, including financial assets and housing wealth, is \$11.7 trillion below its peak as of the end of 2009 and this decline has erased all of the wealth gains accumulated since the early 1990s.⁶
- The federal budget deficit was over \$1.4 trillion in 2009 and is forecast to be over a trillion dollars a year through 2019 unless there are major policy changes.
- GDP in the second and third quarters of this year has been weak. Even if growth resumes at 2-4 percent, this is below the usual level achieved in an economic recovery from a deep recession. There is a danger of a second dip recession.

Without in any way discounting the economic challenge that remains, I will make the case here that the big policy measures taken to turn the economy around have worked extraordinarily well, indeed much better than could have been expected. Around the Ides of March in 2009 the economic situation was truly frightening. Workers had been laid off at a rate of 700,000 a month for several months, GDP was plummeting, the housing market was collapsing, and the stock market was hitting lows not seen for 15 years. At that time, I would have reacted with disbelief to anyone who had predicted that by the fall

⁴ Based on a standard “Okun’s Law” calculation that each percentage point decline in unemployment is associated with 2 percentage points of GDP relative to its trend or potential.

⁵ Calculation made by Ezra Greenberg of McKinsey & Company.

⁶ Calculations by the McKinsey Global Institute based on Federal Reserve Data.

of 2009 there would be solid economic growth; that the stock market would have rebounded; and that employment would start growing by 2010. The natural resilience of the American economy has, of course, helped this ongoing recovery, but it would not have been possible without the massive policy interventions undertaken by Congress and two Administrations. There were plenty of mistakes made in the period leading up to the crisis, some of them very serious. And mistakes were made in dealing with the crisis, some of them also serious. But the simple fact is that in the end the treatment worked and the economy is recovering.

There are op-eds and commentary to the effect that the economic policies used to combat this crisis have not worked, but such statements are not right. There were many causes of this crisis and plenty of blame to go around. The policies of the Bush Administration bear responsibility because they were based on the belief that financial markets did not need to be regulated. Federal housing policies pushed by both political parties, but especially by Democrats, contributed to the problem by encouraging over borrowing and too much home building. But, regardless of the causes of the crisis, this was a terrible global meltdown and recession and could not possibly have been reversed quickly. Harvard economist Kenneth Rogoff has shown in his empirical studies with Carmen Reinhart (2009) that economies take a long time to recover from financial crises. Aftershocks of the global crisis, like the sovereign debt crisis in Europe, have slowed the pace of U.S. recovery and could threaten a double dip, despite the progress to date. There are limits to the power of policymakers to affect economic outcomes. This crisis was like catching typhoid not just an upset stomach and the recovery from it is bound to be slow. The policies that were followed have done what was expected of them; actually, they have worked much better than could have been expected.

Policies Used to Restore the Financial Sector

The financial crisis was threatening to pull the U.S. and global economies into recession or even depression when the Bush Administration and Secretary Paulson asked for a fund of \$700 billion—the TARP—to stabilize the financial sector. The Emergency Economic Stabilization Act, signed in October 2008, authorized the Department of Treasury to spend up to this amount to purchase or insure troubled assets, but with broad discretionary authority. The Treasury's stated diagnosis of the financial crisis was that

distressed mortgage-related assets had become impossible to trade and value because of the breakdown of normal market relationships. The TARP was to be used to facilitate the return of private valuation of these assets, including the use of reverse auctions. Treasury was willing to buy distressed mortgage-related assets on the open market in order to get this process started. As the crisis unfolded, it became clear that financial markets were too troubled and many of the assets were so bad that they simply had to be written down in the books of banks and other financial institutions. The proposed reverse auctions never got off the ground.

Consequently, the TARP's manner of intervention had to change. Under the Capital Purchase Program (CPP), one component of the TARP, money was used to stabilize and reinforce the core capital reserves of banks, primarily through the purchase of preferred shares. In October 2008, immediately after Congress created the program, the CPP bought \$125 billion of preferred shares from nine of the nation's largest banks. Hundreds of other banks applied and were accepted into the program in the following weeks. Ultimately, the TARP would purchase \$205 billion in preferred shares from 707 financial institutions. It is important to note that the TARP was not simply used as a transfer to failing institutions. Even healthy banks were forced to accept money in an attempt to mask government opinions about which banks were healthier than others.

Beyond the CPP, more extraordinary intervention was provided for critical and interconnected institutions. AIG received \$40 billion from the purchase of preferred shares, money that was used, in part, to restructure two Federal Reserve credit lines that totaled \$123 billion. The TARP also extended AIG a \$30 billion preferred line of credit. Citigroup and Bank of America each received an additional \$20 billion capital infusion on top of the \$25 billion committed to each bank from the CPP.

Another problem is that "runs on banks" began to occur. Historically, a bank run occurred when retail depositors feared that their money in deposit accounts was not safe and they rushed to withdraw it before the bank went under. During the Great Depression, deposit insurance and the FDIC were created, and these policy changes have virtually eliminated the problem of retail bank runs in the United States. However, FDIC bank guarantees do not cover non-bank financial institutions, such as investment banks, which

comprise the so-called shadow banking system. These institutions have grown increasingly important during the last decade, and in the lead up to the financial crisis they were engaged in a massive game of borrowing short and lending long. Given the lack of insurance as well as the generally opaque nature of their operations, brokers trading in derivatives and other securities were vulnerable to runs as their clients rushed to withdraw the funds they had deposited with them or avoided entering into new derivative or repo contracts. Bear Stearns went under as a result of this, followed by Lehman and then AIG.⁷ It turned out that money market mutual funds were holding large amounts of repo contracts as part of their asset portfolios and as they feared losses on these contracts, they, too, pulled them out of troubled companies like Lehman. One such fund threatened to impose losses on retail depositors that had accounts with them (break the buck) and this caused a run on money market mutual funds.

The Federal Reserve acted forcefully to contain the spreading damage, providing guarantees for depositors in money market funds (deposit insurance for these non-bank depositors) and guaranteeing interbank lending in order to stop the payments system worldwide from freezing up. Even with these measures there were disruptions as global trade plunged when importers and exporters were unable to obtain funding.

One of the biggest turning points of the financial crisis was the Supervisory Capital Assessment Program (SCAP), informally known as the “bank stress tests.” This was a comprehensive, simultaneous assessment of the capital held by the banking groups of the 19 largest U.S. bank holding companies which collectively accounted for two-thirds of all deposits. Conducted by the Federal Reserve and bank supervisors, the effort was meant to determine if these groups had sufficient capital to withstand two macroeconomic scenarios, one with baseline conditions and the other a more pessimistic take on the economy in which the jobless rate would climb to 10.3 percent. The results were to be made public so the skeletons were going to be brought out of the closet.

Taken overall, the stress tests revealed that the banking industry was not as troubled as many had feared. Among the 19 surveyed, 9 were deemed to have sufficient

⁷ AIG, of course was an insurance company not a broker dealer but it had developed a huge book of Credit Default Swaps through its operations in London.

capital already. The other 10 were told to raise a combined \$75 billion in equity. The day after results were published, Wells Fargo and Morgan Stanley raised \$7.5 billion and \$8 billion, respectively. Goldman Sachs had raised \$5 billion before the results were even released (though the report said they did not need any). Of the 19 banking groups that underwent stress tests, all but one were able to raise sufficient capital from issuing stock, selling business units, and strong earnings. GMAC, the troubled lending arm of General Motors, was said to need \$11.5 billion, the most of any banking group as a percentage of assets--much of this money would come from the TARP in two subsequent rounds of funding. In the worst case scenario, the stress test report predicted losses by the 19 banks could total \$600 billion. Nevertheless, the stock market reacted positively after the results were announced, with the S&P 500 climbing 2.4 percent that Friday. Soon afterwards, the strongest banks were able to begin repayment of their TARP funds.

The TARP and SCAP programs worked. The vast majority of banks receiving the TARP funding remained open⁸, and the large banks returned this funding more quickly than could have been expected from their problems, becoming much more stable and earning profits. As well as the capital injections, the low interest rate environment allowed them to make profits on the lending they made and their trading businesses were also profitable.

Various other programs, unrelated to toxic assets, were housed in the TARP, given its broad mandate and the difficulty of earning new allocations from Congress. Hence the TARP was involved with the auto industry, mortgage modification, and providing capital to institutions that serve underrepresented communities.⁹ The automotive industry—including GM, Chrysler, and two of their financing arms¹⁰—has collectively received \$64 billion, which is now held as a mixture of debt, equity, and preferred shares. The jury is still out on the sustainability of GM and Chrysler, but so far so good. They are both making a comeback and their survival prevented what would have been even more massive job losses.

⁸ Three banks that received TARP money have failed: Midwest Bank and Trust Company, [Pacific Coast National Bank](#), and United Commercial Bank. A fourth, CIT Group Inc., filed for bankruptcy. The expected loss from these 4 institutions is \$2.7 billion, \$2.3 billion from CIT Group Inc. alone.

⁹ Through the Community Development Capital Initiative.

¹⁰ GMAC and Chrysler Financial.

Wall Street has taken the bulk of the criticism in this crisis, but actually the financial system more broadly contributed to the crisis and many smaller and regional banks remain troubled. Many of the bad mortgage loans were originated by state regulated non-bank institutions and many insured small banks have been troubled. The TARP funds were used to help smaller institutions as well as larger ones but nevertheless several hundred FDIC banks have been placed into receivership and, as noted earlier, 775 are currently problem banks. The chart below shows FDIC bank failures over time.

**Chart 5: The Number of Bank Failures Shot Up
And Is Still High**

Bank Failures		
Year	Number	Notes
2010	121	(through August 27)
2009	140	
2008	25	
2007	3	
2006	0	
2005	0	
2004	4	
2003	3	
2002	11	
2001	4	

The FDIC has been faced with enormous challenges in this crisis and, under the leadership of Sheila Bair, has shown skill in resolving failing institutions. Not everything has gone right, and the FDIC programs have been pretty expensive (the costs will be borne by member banks in the form of higher deposit insurance premiums not directly by taxpayers). The FDIC programs to reduce foreclosures and keep people in houses have not been very successful—although no plan has proven good at that. Despite these issues, our economy is much, much better off today for having the FDIC on the watch and ready

to deal with failing banks. It is hard to think how bad the situation would have become without the FDIC to step in and resolve failing banks.

Costs of the TARP: According to a March 2010 CBO report, the CPP part of the TARP should earn \$2 billion in profit. Net income from investments in Citigroup and Bank of America will total \$5 billion. That said, total returns will still be negative, largely because of anticipated losses from the automotive industry (\$34 billion), AIG (\$36 billion), and a home loan modification program (\$22 billion). *The total cost of the TARP program should be roughly \$100 billion net*, much smaller than February 2009 forecasts of more than \$500 billion. At less than 1 percent of GDP, that cost is well below historical averages of 13 percent of GDP, according to IMF numbers. As Ben Bernanke, chairman of the Federal Reserve, said, “This is a pretty good return on investment.”

Costs of Fannie and Freddie: In 2008, the Treasury determined that Fannie Mae and Freddie Mac were in danger of bankruptcy and took them into conservatorship. The purpose of doing this was to protect the mortgage market from even greater instability than it was experiencing already and to use these institutions to keep the mortgage pipeline open. The amount that could be borrowed on a conformable loan was increased also for those buying houses in high-price states or cities.

The cost of dealing with the mortgage portfolios of Fannie and Freddie is still uncertain. So far, the Treasury has put \$150 billion into them and CBO, in a letter to Barney Frank dated September 16, 2010, estimates that between \$44 and \$53 billion in additional support will have to be added to the total. If these numbers are correct, then taxpayers probably got off lightly. While \$200 billion is certainly a big cost, it is lower than earlier forecasts of a cost of around \$400 billion and, unfortunately, the larger number could be closer to the final tally, especially if housing prices continue to decline. Egged on by Congress, Fannie and Freddie expanded their lending in the early years of the boom and bought a large amount of subprime and Alt-A backed securities that have subsequently defaulted. And even a fraction of their portfolio of conformable loans has defaulted.

In summary, the policies to restore the financial sector are working. The recovery of the sector is not complete but the period of extreme anxiety is over and banks are

positioned to lend more as recovery takes hold. This was done with costs that are very large but not disproportionate to the problems being faced.

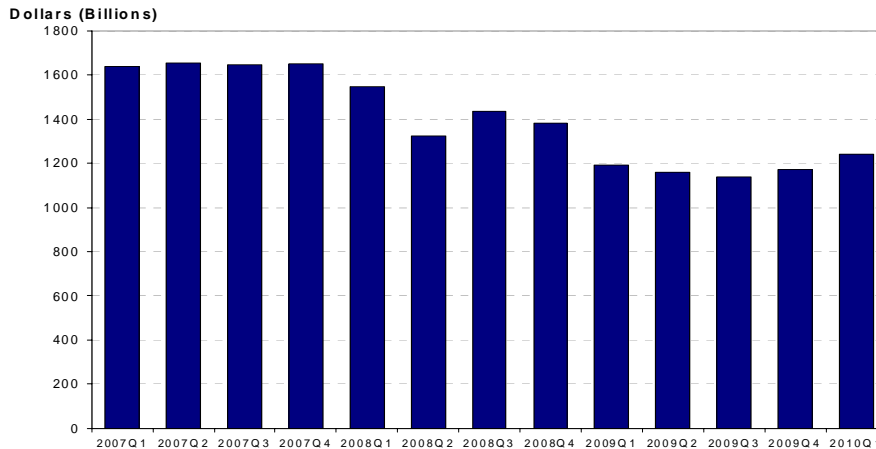
Fiscal Policy Used to Combat the Recession

At the end of the Clinton Administration, the federal budget was in substantial surplus and one of the many advantages of this was that we had “reloaded the fiscal cannon,” in the words of then Treasury Secretary Lawrence Summers. This meant that in the event of a serious recession in the future, expansionary fiscal policy could be used to mitigate the unemployment and lost output that would result. The Bush Administration decided that the surpluses should be used to finance very large tax cuts and the result has been chronic federal budget deficits from 2001 through the present. I was not opposed to tax cuts as a way of returning families’ incomes back to them and easing the tax burden, but the size of the cuts was excessive. It is irresponsible for the United States to run *chronic* deficits and become reliant on foreign capital inflows to finance our domestic investment. Moreover, it meant that we entered the crisis in 2007 in a vulnerable fiscal condition. The fiscal cannon was short on powder.

Recessions always cause deficits because tax revenues fall, and the severe recession of the past three years is no exception. Much of the deficit of \$1.4 trillion in 2009 was the result of the loss of tax revenue that followed the economic decline. The chart below shows that *federal revenues declined \$515 billion or 31 percent from their peak to the trough.*

Chart 6: Federal Tax Receipts Drop by \$515 billion between 2007 Q2 and 2009 Q3, a 31 Percent Decline.

Federal Tax Revenues (Nominal Dollars)



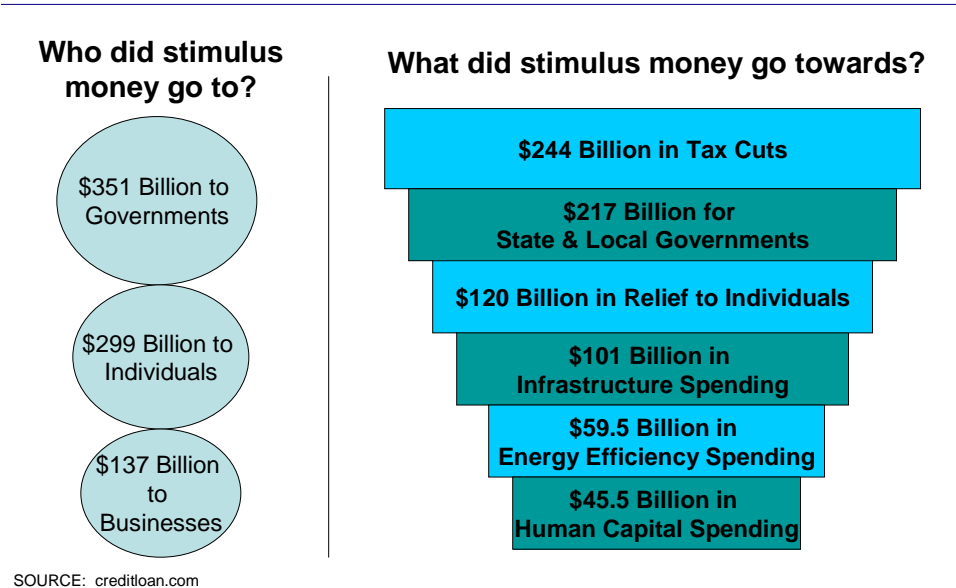
SOURCE: BEA

Some expenditures rise automatically in recessions, notably unemployment insurance benefits, and these also add to deficits. It is important to note that these “automatic stabilizers” are vital to the maintenance of economic stability. Without any action by Congress, tax revenues fall and some types of spending rise, cushioning households and businesses from the downturn. Historically, these stabilizers have formed the front-line defense against more severe recessions and it is important that their effect not be offset by ill-timed actions to reduce the deficit—Herbert Hoover economics. As in other things in life, timing is everything. Chronic deficits are bad, in fact the budget should be balanced or even a little in surplus on average. But at times of recession deficits are a necessary evil.

In an effort to hold off the recession, the Bush Administration had proposed and Congress had passed a stimulus package in 2007, mostly consisting of temporary tax cuts. I supported this policy, but it clearly did not solve a problem that was much bigger than we knew. During the transition, President Obama and his team proposed a much larger stimulus package of \$787 billion, which was enacted in early 2009 and the chart below shows a breakdown of this spending by creditloan.com on the basis of who got the money and what was it used for. (The \$787 amount was the stimulus as originally

estimated. CBO subsequently published a revised estimate of the total cost at \$862 billion, see footnote¹¹).

Chart 7: Where Did the Stimulus Money Go?



As you can see from the left side of the chart, the largest portion of the stimulus went to governments—federal agencies, state and local governments. States and localities are almost all in terrible trouble financially and are making cuts in spending. In the long run it is a good thing that our state and local governments are forced to operate with balanced budget constraints. But in a recession like the one we are going through, cuts in such spending contribute to the recession. In my judgment, it was a good choice to support states and localities. The spending on infrastructure and energy efficiency was a mixed bag and not part of a coherent national strategy to deal with energy or infrastructure problems. Understandably, perhaps, it was decided to act quickly and avoid political or implementation delays as far as possible. Judging by the District of

¹¹ The \$862 billion is from revised estimates put out by the CBO in January 2010. The revisions included: \$34 billion increase in food stamps; \$26 billion more in the Build America bond program (which allows state and local governments to issue taxable bonds for capital projects for which they could otherwise issue tax-exempt government bonds, they then receive a subsidy from the federal government for a portion of the borrowing costs); \$21 billion in unemployment compensation; \$3 billion reduction in Medicare spending; and a \$3 billion reduction in other spending.

Columbia, the infrastructure spending is being used to dig up every road on my commute home, but this does create jobs and hopefully reduces the number of potholes in the longer run.

Nearly \$300 billion or 38 percent of the total went to individuals, and that may be a surprise to some. This money was received either in the form of lower taxes or in higher support payments but, either way, it was money in the pockets of American families that could be used to help them through the crisis and add to their consumption. About 17 percent of the total was used for businesses, not an especially large number.

Overall, the stimulus package was messy, and some of the spending was wasteful. But the context must be kept in mind. A sizeable stimulus had to be passed quickly to protect against an even deeper recession and there were 535 cooks stirring the pot. The stimulus package did add to aggregate demand and reduced the size of the recession.

Predictions about the Effectiveness of the Stimulus. President Obama asked his economic team—specifically Christina Romer, then CEA Chair, and Jared Bernstein, of the Vice President’s staff—to prepare an estimate of the impact of his proposed stimulus package. They predicted that the package would generate 3.3 to 4.1 million additional jobs in 2010 and add 3.7 percent to GDP growth, *compared to the counterfactual of no stimulus*. Their forecasts have been criticized because employment losses were terrible in 2009 and GDP fell sharply in the first half of that year, but that criticism reflects a misunderstanding of what they did. They looked at the incremental effect of the policy, relative to the no-policy alternative, and given the way things were going in the spring of 2009, it is certain that employment would have been even worse without the jobs created by the stimulus. (In a paper written in July, Blinder and Zandi (2010) found that the economy would have lost an additional 8 million jobs in the recession (in addition to the 8.5 million actually lost) had it not been for the combination of the expansionary fiscal and monetary policies followed by the Administration and the Federal Reserve.)

A financial crisis and recession like the one we are in represents a discontinuity in our economic path. Econometricians are very skilled at sorting out the historical patterns of economic data and using them to say what is the most likely future given past experience. This crisis is not anything like any recent history and has produced very severe economic stresses. The employment declines in the United States in this recession

have been much larger than would have been predicted given the path of GDP and much larger than in European countries with similar GDP declines. The stimulus package did not preserve as many jobs as Romer and Bernstein had hoped, but that is because the old employment patterns broke down, which is not something they could have predicted. Also, productivity soared in 2009, a very unusual occurrence in a deep recession.¹²

I do not support frequent use of discretionary fiscal policy to respond to business cycle ups and downs, but in 2008 and 2009 we were stuck in a foxhole with the shells landing all around and it was a good time to call for reinforcements. The stimulus package provided that much-needed help.

You do not expect the bear to dance well; it is a miracle if it dances at all. The policies that restored the financial sector and helped turn around this very deep recession were not pretty but they were the right policies and they helped save the U.S. economy and indeed the global economy. The high unemployment, fluctuating stock market, struggling housing market and sluggish recovery that unfortunately are still with us but that should not be a surprise.

SUSTAINING THE RECOVERY: WEAK DEMAND AND LARGE DEFICITS

The recent path of GDP growth was shown in Chart 2 together with a forecast of future growth from Macroeconomic Advisers. Theirs was not a wildly optimistic forecast, suggesting about 2 percent growth for the rest of this year and then improving growth in 2011, but it is more optimistic than some other forecasters. For example, the economic team at Goldman Sachs led by Jan Hatzius expects growth to slow in the second half of 2010 and raises doubts about the recovery in early 2011.

In the G-20 meetings this spring reportedly there was tension between the United States and Europe over continued fiscal stimulus. Understandably, President Obama is worried about the sluggish global recovery and wants to sustain fiscal stimulus. European countries argue that the fiscal crisis is too severe to allow continued stimulus and there must be a clear path to fiscal consolidation. The IMF officials at the meeting

¹² GDP is measured with considerable uncertainty, especially data from recent quarters. There is an alternative way of getting at the same concept through total income, Gross Domestic Income or GDI. Based on the income side of the National Accounts, the recession has been much deeper than is implied by the GDP data. One explanation of the huge loss of jobs is that the fall in income and output have been understated by the available GDP statistics.

supported this view. The argument is that these countries do not have the freedom to pursue expansionary fiscal policies. The debt and deficit problems in Greece and the dangers in Spain, Portugal, Italy, Ireland and the UK are enough to reduce the range of policy choices.

Standard economic policy analysis tells us that increases in government spending or cuts in taxes will stimulate aggregate demand and hence economic growth in times of recession. Leading economists, both Republican and Democrat, stressed the need for a stimulus in the U.S. recession. I applied this standard logic to the U.S. stimulus package in claiming that it helped sustain demand during the downturn. Another example where stimulus worked comes from China, which introduced a large stimulus package (mostly increased infrastructure spending) when the global downturn hit, to offset the decline in their exports. This program has been judged successful and economic growth in China has been sustained.

Does this economic logic break down when there is a threat of sovereign debt default and a fear of the financial turmoil that would result from this? Some policymakers in Europe now argue that fiscal consolidation will provide such great reassurance to markets and will so increase business and consumer confidence that the overall effect will be expansionary. And the IMF seems to be supporting this view also. They are turning the normal economic logic completely on its head.

I do not agree that the impact of tax and spending policies have been completely reversed. Fiscal consolidation in Europe will have a direct effect in taking money out of people's pockets and cutting jobs and this reduces demand and economic growth as its first-round impact. Nevertheless, I am sympathetic to a more moderate version of the European argument because the fears of renewed financial turmoil are real and potentially damaging to economic recovery and this must condition policy decisions. Europe should move as slowly as it can towards fiscal consolidation. If they act too quickly, they will shoot themselves in the foot and end up with a deeper recession and even bigger deficits. But they do have to be mindful of the limits they face on sovereign borrowing. They should take small but meaningful steps towards smaller budget deficits now and put in place policies that will continue progress towards budget balance as their economies recover from recession. Keep in mind also that European economies

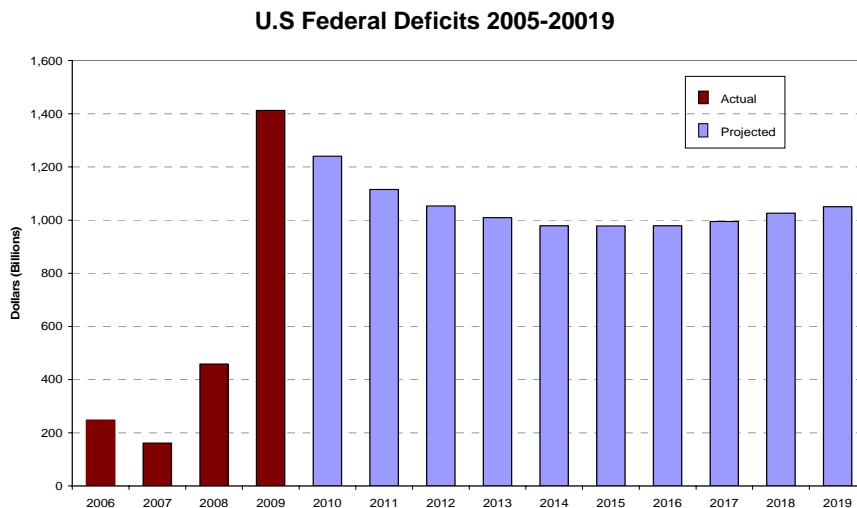
generally have much more extensive safety nets than does the United States. These social programs have created problems for them in terms of incentives, but they do have the advantage of providing strong automatic stabilizers to their economies because consumption is protected in downturns.

To what extent is the United States in the same position as Europe? Today, the yield on 10-year Treasuries is around or even under three percent, so the market is signaling that there is no immediate problem in the ability of the U.S. Treasury to borrow, indeed these rates are among the lowest in history. Does that mean policymakers are free to introduce another round of fiscal stimulus in order to provide insurance against a double dip recession?

Treasury rates are low now because lending to the US government looks good relative to global alternatives. The U.S. Treasury does have advantages relative to Europe because of the size of our economy and the depth of the financial markets. And the prospects for U.S. growth are pretty good, at least relative to Europe.

However, market views could change over the next few years and perhaps even sooner. Chart 8 shows a private forecast of likely federal deficits in the United States in the absence of any major policies to change the picture. A trillion dollars a year is a lot of money to be borrowing. No one knows if or when the U.S. Treasury might have its Greece moment. Surely, this will not happen over the next year or two, but quite possibly it could happen over the next five years if nothing is done. And it would be foolish to push the envelope and let a disaster happen.

Chart 8: Projections of the Federal Budget Deficit. Deficits are Needed Now but are a Threat for the Future.



SOURCE: Projections from Macroadvisers, LLC

Given the reality of huge deficits, I do not support a new major fiscal expansion that would increase the deficit. I do support the extension of unemployment benefits and modest additional help to the states, which will not significantly worsen the deficit. If the U.S. economy were to slip back into second dip recession later this year or next year, then it would be necessary to provide another fiscal stimulus to the economy despite the risks to Treasury funding.

As the economy and job growth slowed again over the summer, the President announced in September two separate initiatives that collectively can be considered a smaller, second stimulus. The first is a major injection of funds to upgrade America's roads, rails, and runways. The plan would take six-years, include an initial infusion of \$50 billion, and establish a federally administered "infrastructure bank," which would pool public and private capital to make infrastructure-focused loans. No figures have been released on the total cost of the package. The White House, however, did announce that it would cover the cost in full, largely by eliminating tax concessions and subsidies for the oil and natural gas industries as well as multinationals.

The second September proposal was an estimated \$200 billion cut in business taxes. The plan will make permanent a tax credit on research and development and also

allow companies to write off the full value of equipment purchases through the end of 2011.

As many economists have pointed out, the Administration and Congress should agree soon on meaningful policies to reduce the budget deficit in out years. This would create confidence in global markets that future deficits will be controlled, but it would not take purchasing power out of the economy today.¹³ With a credible program to reduce future spending, it would be easier to do additional fiscal stimulus this year, if that proves necessary. Finding good ways to reduce future deficits is a tough issue that I return to later.

Absent from this discussion has been the role of monetary policy. The Federal Reserve has had its foot flat out on the gas pedal since early in the crisis and has used quantitative easing (buying non-Treasury financial securities and providing credit guaranties) to supplement the impact of a Federal Funds rate that is close zero. The low interest rates on risk free short term assets have been a substantial help in avoiding an even worse recession, but monetary policy is not as effective in stimulating a seriously depressed economy as it is in restraining a booming economy. With inflation low and falling, real interest rates today are well above the levels that would be needed to really encourage additional spending on durable goods.¹⁴ In addition, because of the increase in the risk premium, borrowing rates stayed high for individuals or small businesses with less than impeccable credit. Moreover, many regional banks are dealing with the continued wave of mortgage defaults and problems in the commercial real estate market and both they and their regulators are unwilling to take on new risky loans.

Can monetary policy do more? Ben Bernanke's Humphrey Hawkins testimony in July stated that the Fed was on hold waiting to see where the economy was moving. If it moves up, then they will stay on hold for a while. If it moves down again, although the Fed is limited, there are some additional policies it can try, including the resumption of mortgage backed assets. Indeed, in August, the Fed moved to purchase an additional

¹³ According to the Barro-Ricardo effect, the promise of future tax increases will cut spending today and this is often cited by opponents of tax increases. The evidence to support this view is not strong.

¹⁴ The US today is basically in a liquidity trap condition where real interest rates cannot fall enough to restore full employment. As in the case of Japan, policymakers could set an inflation target at, say, 5 percent in the hope that this would lower real interest rates. Such a policy move, if it were believed, would likely create even more uncertainty than exists now.

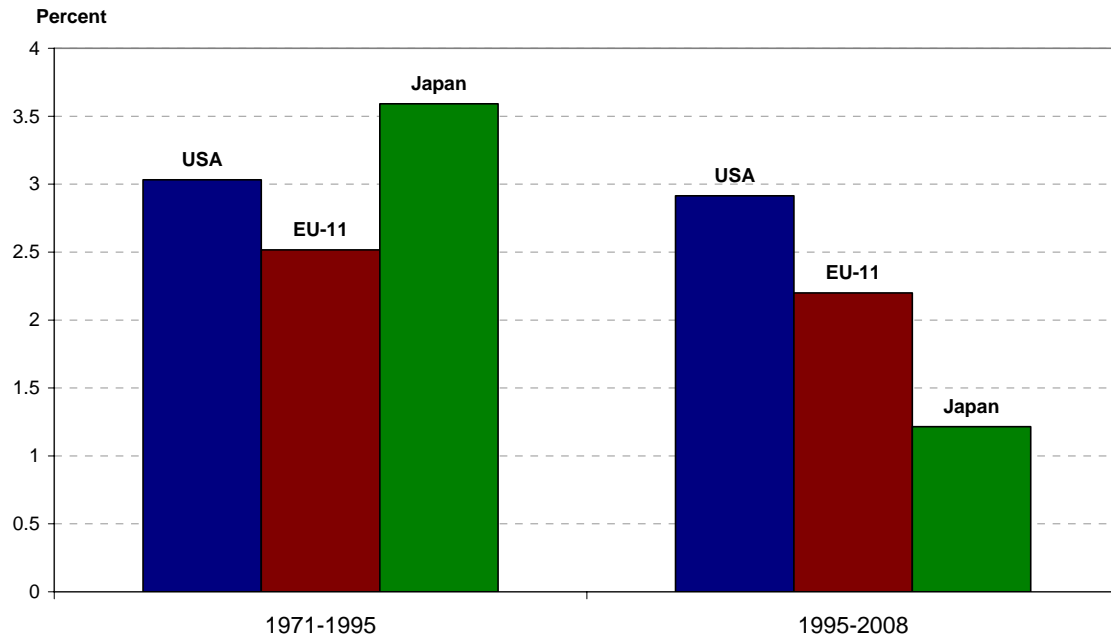
\$1.25 trillion in mortgage-backed securities through what Ben Bernanke called “credit easing.” This process reversed an earlier 2010 decision to halt mortgage-backed asset purchases due to a worsening in economic conditions.

Despite the current concerns about weak aggregate demand, it is likely that the recession will ease over the next couple of years and the policy question will become: How do we create the right kind of long term growth path? I turn now to the issue of longer run growth.

THE CHARACTER OF U.S. ECONOMIC GROWTH: LESSONS FROM THE RECENT PAST

For most of the postwar period through 1970 the economies of Europe and Japan grew much faster than that of the United States. Starting in the 1970s there was a sharp slowdown in productivity growth that persisted through 1995 in the U.S. economy and has persisted and even worsened in Europe and Japan. Through 1995, however, growth was sustained in the United States by rapid increases in the labor force as baby boomers started working and women’s labor force participation increased. As Chart 9 shows, GDP growth in the three large developed economy blocs ranged from 2.5 percent in Europe to just over 3.5 percent in Japan. Since 1995, however, growth has been lower across the board and much lower in Europe and Japan. For the United States, perhaps the strongest impression is the comparative stability of the U.S. GDP growth rate.

**Chart 9: Real GDP Growth in the US, Europe, and Japan
(Annual Average)**



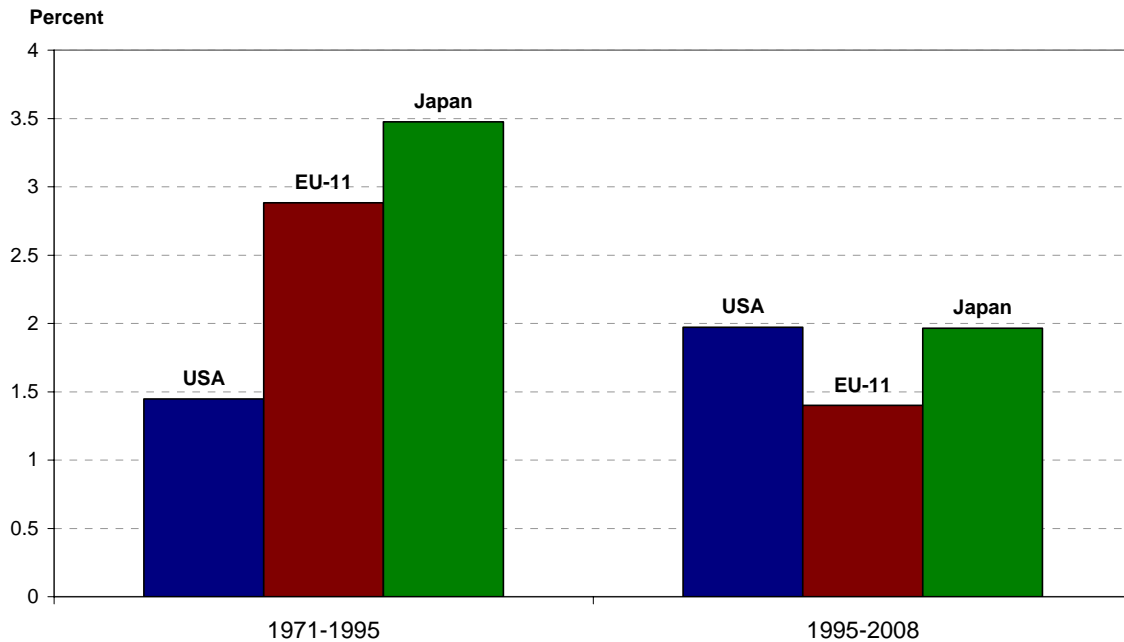
SOURCE: OECD; EU-11 includes Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Spain, Sweden and the UK

Chart 10 shows a crude measure of productivity increase for the same geographic breakdown and time periods, measured by GDP per hour worked and it shows a surprising contrast. For the U.S. economy, GDP growth from 1971-1995 was largely driven by labor input growth with very low productivity increase, whereas in the latter period, about two thirds of the GDP growth came from productivity. And if the focus had been only on the period since 2000, the contrast would have been even greater, with very little increase in hours over the period through 2008 and of course recession since then. Somewhat surprisingly, GDP per hour grew as fast in Japan as in the United States, although there was still a slowdown relative to the earlier period. The sharp slowdown of GDP growth in Japan came from a combination of slower productivity growth and much slower labor input growth. In Europe, the slowing of productivity growth that began in the early 1970s has intensified and over the period 1995-2008 labor input growth has been very slow also. Since 2000, however, European policymakers have taken steps to improve employment incentives and these had success until the onset of the recession. These policies, in various European countries, included: reforming overtime pay to make it more attractive to workers; reforming unemployment benefits to make long-term

unemployment less attractive; requiring single parents to work and implementing other work requirements to be eligible for social benefits; and new employment training programs and subsidies, among others. All three of these economic regions face changing demographics with an aging population and slower labor force growth, but the extent of these changes vary quite a bit across them. Labor force growth in the United States will be faster than in the other two regions, especially compared to Japan and parts of Europe, such as Germany, but the participation rate of women seems to have reached a plateau.

Comparing the record of GDP and productivity growth of the United States with its advanced economy peers suggests that by these aggregate metrics the U.S. economy has done well over the past 15 years, achieving faster growth than in the previous period and faster growth than the other advanced country comparators.

**Chart 10: GDP Per Hour Growth: The US, Europe, and Japan
(Annual Average)**



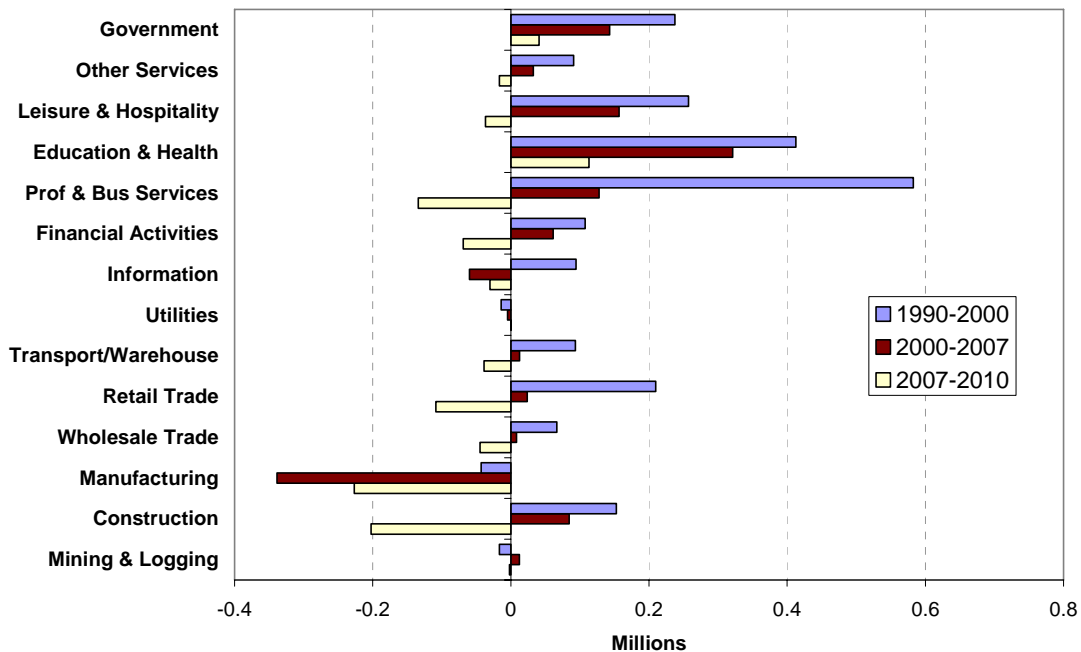
The Pattern of Employment by Industry in the U.S. Economy

From January 1990 through December 2000, nonfarm payroll employment increased by 23.3 million, or about 2.14 million a year. From December 2000 to December 2007 employment rose by 5.5 million, or only just over 780 thousand a year, so that employment growth was pretty sluggish in the recovery following the 2001 recession. From the pre-recession peak employment at the end of 2007 to the trough at

the end of 2009, employment declined by nearly 8.4 million and there has been a recovery of just over 700 thousand through August 2010.

How have these gains and losses in employment been distributed among the major industry groups? Chart 11 below shows this over the period 1990 to 2010, broken into three sub-periods. (The chart shows the total employment changes, so in making comparisons keep in mind that the periods differ in length). Most of the industries had positive employment change from 1990 to 2000 with professional and business services, education and health, leisure and hospitality and government leading the pack. The exceptions were utilities, manufacturing, and mining and logging, where the decreases in employment were small. In the period 2000 to 2007, it was again true that most industries saw employment gains, led by education and health. However, there was a massive decline in manufacturing employment over this period, as well as smaller declines in the information and utilities sectors. In the period 2007 to 2010, there were significant declines in manufacturing, construction, retail trade, and information.

Chart 11: Changes in Employment by Industry



SOURCE: BLS; 2010 data is annual average of seasonally adjusted data through June 2010

In the recession, the biggest declines by industry were in manufacturing (again!), construction following the real estate bust, professional and business services and retail trade. Government and education and health were the only broad industry categories to show employment gains.

The manufacturing sector stands out as a place that has dropped millions of employees, losing them in recessions and failing to gain employment back in recoveries—this sector is discussed in a separate section below. Historically, it was a place where young workers without college degrees could get well-paid jobs, but that has not been the case for many years now.

The construction industry provided a source of blue-collar employment over the period 1990 to 2007 that was an alternative to manufacturing employment. Spurred by easy financing and rising home prices there was a residential construction boom that paralleled the financial boom. In 1990, there were 1.3 million houses completed, and the figure rose to 1.57 million in 2000 and the peak occurred in 2006 when 1.98 million homes were constructed. The rate of home building declined after that, reaching 794,000 in 2009, down by over a million from the peak.¹⁵ Construction employment is a mixture of good and not so good jobs. Skilled workers earn good incomes but the majority of the workforce is not highly skilled and not very well paid.

Over time, the overbuilding of residential housing will be worked off and the industry will return to more normal conditions with something closer to a little more than a million homes a year built, with a corresponding increase in hiring. However, it seems unlikely that another housing and construction boom is imminent, so that residential construction will not provide the same source of employment that it did during the housing bubble.

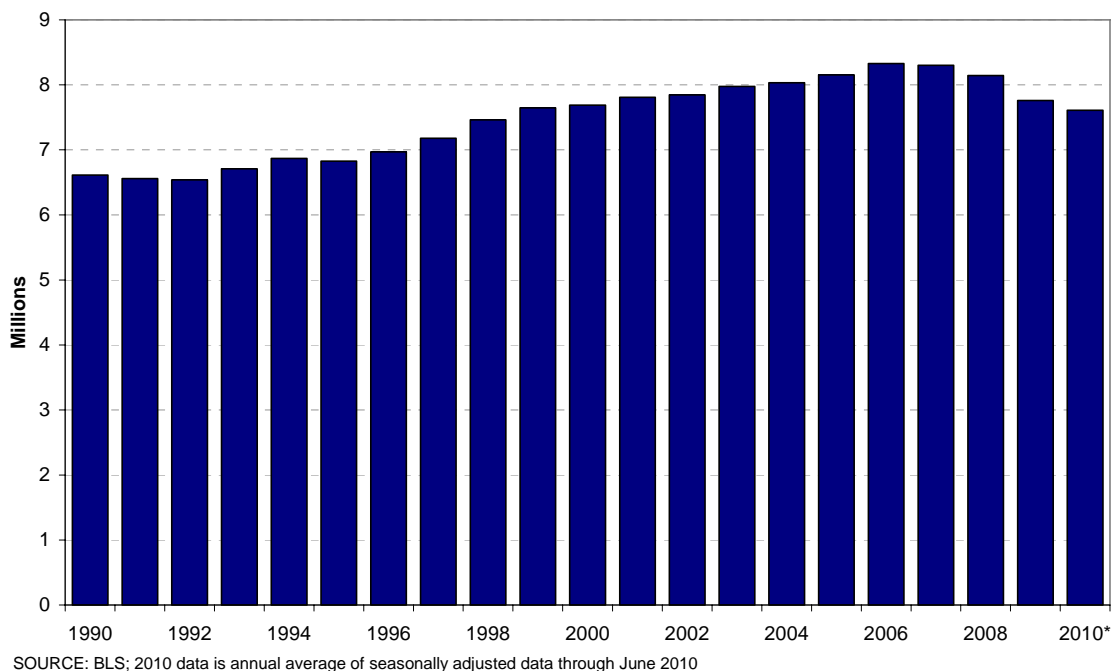
As noted earlier, the big-time job creators since 1990 have been professional and business services, education and health, leisure and hospitality, government, and retail trade and most of the job growth going forward is likely to come from these sectors also.

- Even with the most heroic efforts to restrain the growth of health care costs, this sector can be expected to continue to expand and provide a lot of pretty good jobs. Nursing home care jobs are often not very good and these are likely to expand also.
- The future growth of government employment will be constrained by budget problems at the federal, state and local levels.

¹⁵ Data are from the Census Bureau.

- The retail sector stopped increasing employment around 2000. It will probably regain some employment with the recovery but is unlikely to be a major source of new employment. High productivity, large-scale retailers will continue to gain market share and so will internet purchasing. The bulk of employment in this sector is low-wage.
- It is hard to predict the trend in the leisure and hospitality industries. Chain fast-food restaurants and hotels have proliferated across the country and the percentage of food eaten away from home has sharply increased. Employment fell with the recession and is likely to pick up with the recovery, but it appears that the U.S. economy is reaching saturation level in this category and growth going forward will be slower. The majority of jobs in this sector are low-wage.
- Business and professional services range across the gamut. There are many very well paid jobs in this sector and it is one that is a net exporter. At the same time, there are many low-end business services that have grown as other industries outsource cleaning, maintenance, and security services. Some of the lost manufacturing jobs have ended up in this sector. The trends of specialization and value-chain disaggregation are likely to continue and result in further employment growth in this sector. It is one with a very wide range of earnings.
- The financial sector does not show up as a major contributor to employment growth above. That is surprising given the boom and bust cycle in this sector, which includes realtors and mortgage brokers. Chart 12 below shows employment in the sector from 1990 to 2010 and it is indeed a large sector, one that grew pretty steadily from the early 1990s through 2007. By June of 2010, employment was down noticeably but not dramatically. It is unlikely that this sector will be a major employment contributor even with the recovery. This is also a sector with a wide dispersion of incomes. The leading financiers have made very large incomes but a typical bank teller or assistant in the industry makes a modest income.

Chart 12: Financial Activities Jobs 1990-2010



Based on the past pattern of employment creation, what is the likely shape of the recovery?

- Blue-collar workers, especially male workers, do not have an obvious place in the economy where they will be able to find jobs of the type traditionally held by this group. There will be some recovery of manufacturing and construction employment, but the pace of blue-collar job creation in manufacturing and construction is likely to be slow.
- As has been true in the past, it is virtually certain that service jobs will predominate in the recovery and beyond, and the range of earnings will be very wide. Some service jobs are essentially blue-collar in character and pay well, such as electricians, plumbers, and auto mechanics. Typically, these require training and the ability to understand basic math and computers skills. Many service jobs in the fast-food, hotel, and business services area will be routine and/or menial and will carry low wages.
- Given the high skill premium evident in market wages, there is an economic incentive to economize on highly skilled workers. Given cost pressures, nurse

practitioners substitute for doctors; Indian programmers substitute for American programmers; high-volume, specialty medical centers drive out high priced hospitals; and corporate management structures become flatter and leaner. These forces provide some countervailing pressure slowing the rise in earnings inequality.

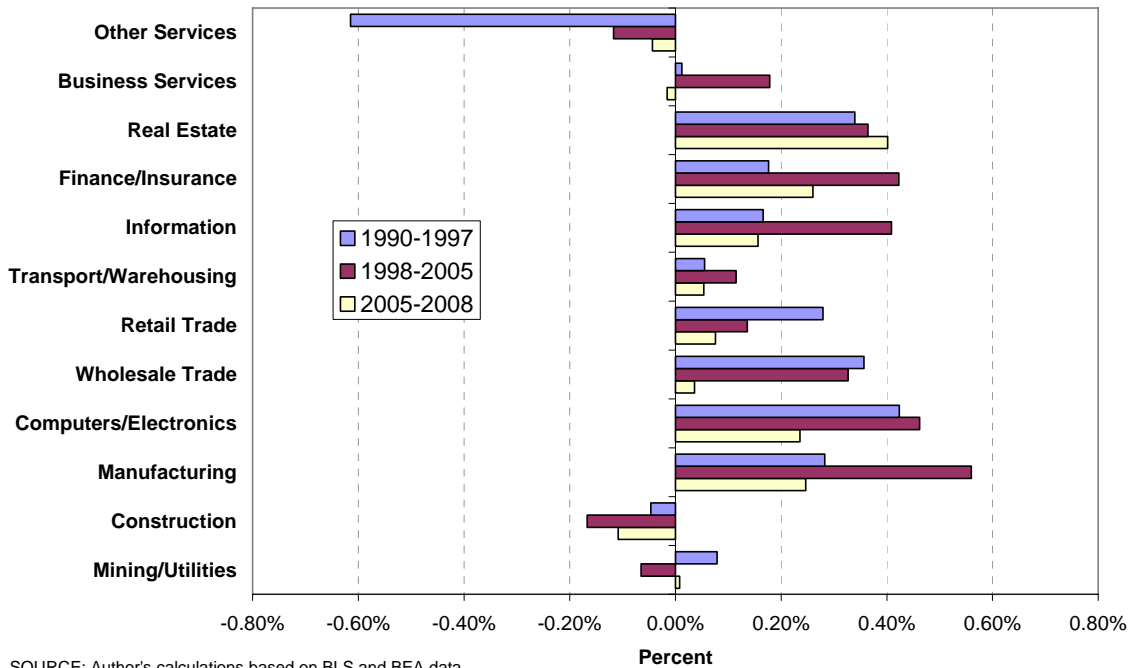
- Another market force that should be slowing the rise of inequality is that individuals can see that the skill premium has increased and respond by increasing their own investment in skill acquisition. In the aggregate this would increase the supply of skilled labor and reduce the pay differential for skill. Unfortunately, this expected market response does not seem to be happening. The fraction of the population completing two-year and four-year degrees is not rising while the dropout rate is worsening from college programs and even high schools. This is especially true for young men. U.S. companies have been very good at adapting their business processes to make use of the skills of the available workforce. If there are many low-skilled workers, then there will be many low-skilled jobs. This is different from some European countries where government supported training is much more prevalent.¹⁶

The Contributions to Productivity by Industry

Chart 13 below shows the contributions to aggregate nonfarm private sector by industry over three sub-periods between 1990 and 2008. The first period is through 1997, then the second is 1998-2005 and the final period is 2005-2008. The choice of breakpoints is not ideal and is dictated in part by the data. The BEA industry data are being revised and so far the revision has only gone back to 1998, so the series from 1990 to 1997 is not directly comparable to later years. Subject to this limitation, however, the pattern is striking in that it shows the broad contribution to productivity increase across the economy. With the notable exceptions of other services and construction, all of the major sectors have contributed to growth over some or all of the time periods. “Other services” in this dataset includes some health care and (subject to future revision) this sector was a very large drag on productivity in the first period.

¹⁶ The German apprenticeship program is facing its own challenges, however.

Chart 13: Productivity Contributions by Industry



Another striking feature of this data is the large contribution of the manufacturing sector to overall productivity growth. Computers and electronics alone made a big contribution and the contribution from the rest of manufacturing is also large. The manufacturing sector is no longer large as an employer, but it is still adding significantly to productivity.

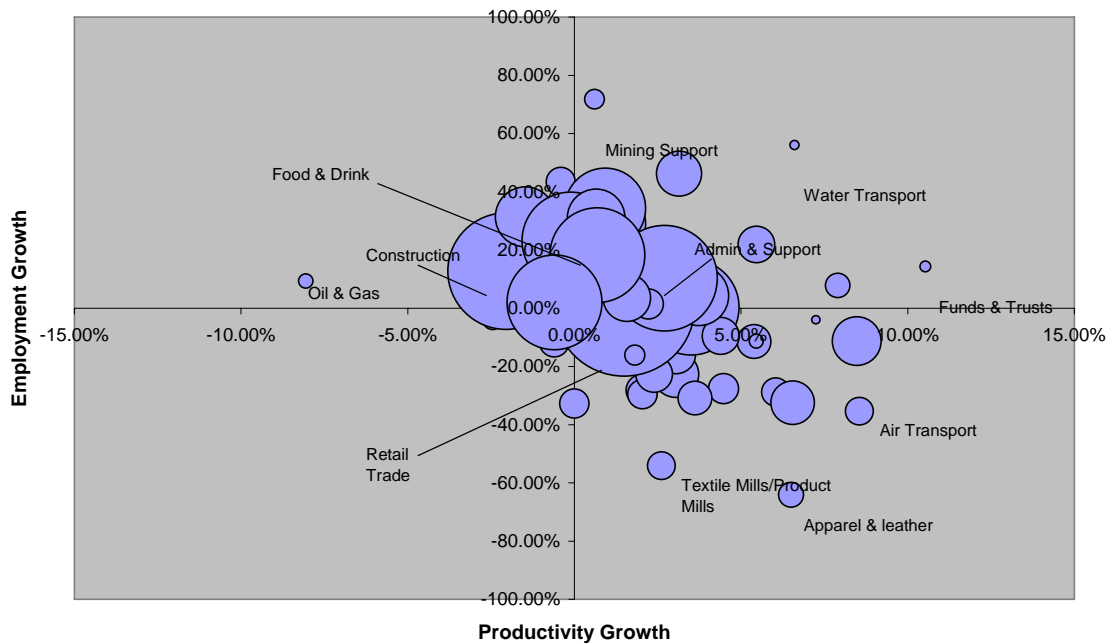
As noted earlier, overall economic growth can come either from growth in employment or from growth in productivity. An important question then is whether or not there is a tradeoff between these two. Does rapid productivity growth result in a loss of jobs? At the aggregate level the answer is clearly negative. There was rapid growth in productivity in the postwar U.S. economy until the early 1970s and this was a time of low unemployment and strong employment growth. The slowdown in productivity growth that persisted until 1995 was accompanied by much higher average unemployment and slow wage growth. When productivity accelerated again, unemployment dropped back to 4 percent for the first time since 1969. Looking at Europe, unemployment was very low during the period of strong catch up and productivity growth and has been much higher since then as productivity growth slowed.

At an industry level, however, there can be a negative effect on employment when productivity increases. Labor productivity is simply the ratio of output to labor input and its increase can be driven primarily by declines in the denominator or by increases in the numerator. An industry with rapid labor productivity increases will usually have prices that fall relative to the average, helping the increase product demand, but sometimes this effect is not strong enough to sustain output growth that is faster than productivity growth, so employment declines. Of course, there are also differences by industry that depend on the amount by which demand increases with rising income. Health care consumption keeps rising despite the fact that its relative price has gone up so much. Housing was in the same situation until the bust.

Chart 14 below, adapted from a similar chart prepared by the McKinsey Global Institute, shows employment growth against productivity growth by industry for the period 1998 to 2008. Each industry is shown by a bubble and the size of the bubble reflects the average share of employment in that industry over the period. The industry breakdown is finer than in the productivity contributions chart above. This chart shows, as expected, that most of the industries are to the right of the vertical line, indicating that they increased productivity over the period. And a good proportion of the industries are in the upper right quadrant showing both productivity increase and employment gain. However, there are also many industries where productivity growth has been accompanied by employment decline. The “worst” of these are textiles, apparel and leather and we know that the real story of these industries has been trade. These are the labor intensive parts of manufacturing that have been mostly eliminated from US production. The productivity growth in the remaining part of the industry reflects the survival of the most productive establishments. Overall, the chart does show a downward slope, suggesting that productivity growth does seem to go with employment decline more often than not.¹⁷

¹⁷ Employment growth by industry is highly correlated with hours worked by industry, the denominator of the productivity ratio. This means that if there are errors in variables, as is surely the case, the slope shown in the chart is an overestimate of any structural tendency for productivity to cause employment decline.

**Chart 14: Productivity Growth vs. Percent Change in Employment
(1998-2008; Bubble Size is Average Share of Employment over the Period)**



SOURCE: Author's calculations based on BLS and BEA data.

I have omitted one important industry from the chart—computers and electronics. That industry has had by far the largest productivity increase over the period and a modest decline in employment. The reason it was omitted is because it throws off the scale of the chart, crowding all the other industries together. This is an industry whose productivity is powered by hedonic price deflators and is often an outlier in industry analysis. It is an example of an industry with rapid productivity growth and rapid price declines that still loses jobs. It is perhaps the most globalized industry in the world with much of the design and technology done in the United States but where components are made around the world and assembled in China.

The already complex relation between employment and productivity has been made more complex in the current recession and recovery. Traditionally, business cycles saw declines in productivity during downturns so that the drop in employment was smaller than the drop in output.¹⁸ In this downturn, employers have followed a very aggressive strategy of cost-cutting, pushing up productivity and resulting in the massive employment decline seen in Chart 3.

¹⁸ See Robert J. Gordon (2010).

How do we understand the varied and somewhat conflicting findings about the relation among productivity, employment and living standards?

- The contributions by industry give insight into the puzzle of why overall productivity increase has not translated into comparable increases in living standards. Two of the most important components of the cost of living are health care and housing and the productivity in both construction and other services has actually fallen. Increases in health care costs have eroded real wages and salaries, and of course the increases in house prices were extraordinary, at least until the post-2007 collapse, making it hard for families to afford a home except by borrowing too much. Productivity gains in electronics have contributed to increased welfare—the middle class would be bereft if their i-phones and big-screen TVs were taken away. But these advantages have not offset the rising cost of health care and shelter for the median family and below.¹⁹
- Another factor contributing to the fact that productivity growth is not having a positive impact on wages is that changing technology and globalization are widening the distribution of income. The distribution has widened, especially at the very top (the “runaway top” as it has been described), and in the past few years, the share of US income going to profits has increased, reaching 13.8% in 2006 (up from an average of 10.5% from 1950 to 2000).
- If productivity growth is not flowing through to the average worker and it causes job losses in industries, what good is it? Maybe policymakers should follow social policies that help families even if they undermine incentives for productivity growth. This is a difficult social and political issue where economists do not have any particular technical advantage that gives their opinions special weight. There are tradeoffs between growth and equality and economics can only clarify what they are. My own view is that productivity increase has been the main source of economic development and rising living standards around the world and throughout US history and faster productivity growth in the aggregate has generally been accompanied by strong employment gains and low unemployment. I am not willing to give up on it now. The

¹⁹ Lawrence (2008).

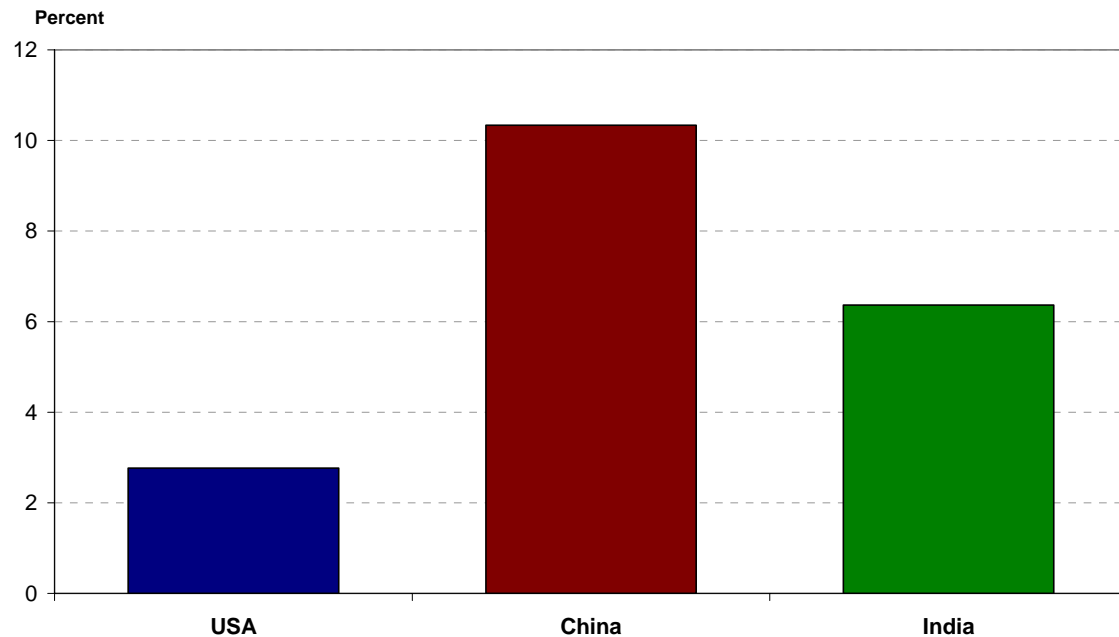
dislocation caused by shifting employment demands could be addressed by labor market policies without undermining efficiency. Providing earned income tax credits and support for universal health insurance helps put a floor under living standards and does not undermine efficiency to any significant extent.

IS IT ALL ABOUT INDIA AND CHINA?

The Center of Gravity of the Global Economy is Shifting

It probably is not necessary any more to point out that the U.S. economy is facing much stiffer global competition now than it faced in the past and that China and India and other emerging markets are becoming major players in the global economy. Chart 15 shows the comparative growth rates for the US economy and for India and China.

Chart 15: Real GDP Growth: The US, China and India
(Average Annual Growth Rate, 1991-2008)



SOURCE: World Bank World Development Indicators

The growth rate in China, in particular, has exceeded 10 percent annually since 1991. India has not kept pace with China but is still growing at over 6 percent a year. India has been held back in development by its byzantine regulatory system that distorts and

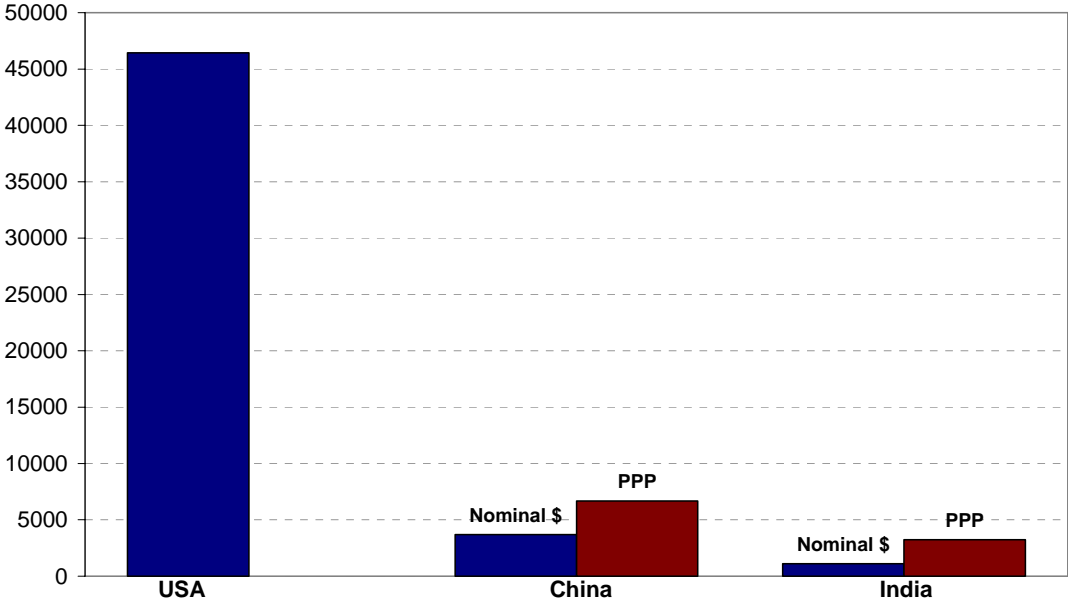
inhibits the private economy, by its creaking, overloaded infrastructure and by its failure to provide education to the mass of the population. It has an educated elite of engineers and computer experts and has used them as a base for its recent successful growth strategy. The success of the limited deregulation and privatization is building a constituency for more and its growth rate seems to be accelerating.

McKinsey & Company forecasts that GDP per capita in emerging economies will rise 140 percent from 2000 to 2020, compared to a 30 percent increase in developed countries. Since China currently has 1.33 billion people and India 1.18 billion, according to UN estimates for 2009, there really is a shifting of the locus of economic activity away from Europe, the United States and Japan. Many writers have emphasized the expanded size of the global labor force now that India and China are expanding their trade in both goods and services. But there is also a very large shift in consumer spending and demand. Consumer spending in China was 10.8 trillion Yuan or about \$1.5 trillion and if it grows at 10 percent a year over the next 10 or more years, that will make Chinese consumers a massive market (\$1.5 trillion would grow to \$3.9 trillion in 10 years and to \$10 trillion after 20 years).

Even though China and India are growing very rapidly and they are becoming formidable global competitors, it is important to recall how far they still have to go. Chart 16 shows the level of GDP per capita in the United States, China and India in 2009. At market exchange rates, and even at PPP exchange rates²⁰, the levels of income in these economies are tiny compared to the United States. (US figure is \$46,436. China is \$3,687 in exchange rate terms and \$6,675 in PPP dollars. The figures for India are \$1,122 and \$3,248) Because of its enormous population, China could well become a larger economy than the US economy over the next few years (7 to 16 years), but it will take a long time before the Chinese are as rich as Americans, in fact it probably will never happen.

²⁰ The PPP or Purchasing Power Parity figures adjust for the fact that many goods and services are much cheaper in China and India than in the United States when calculated in exchange rate terms.

Chart 16: 2009 GDP Per Capita: The US, China and India

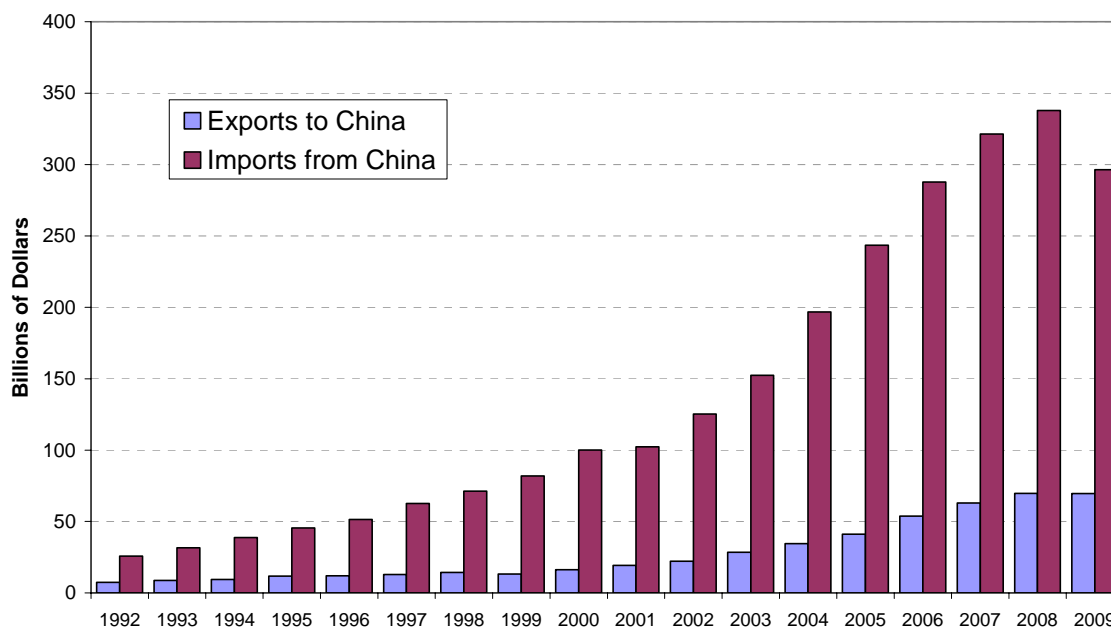


SOURCE: World Bank World Development Indicators

Trade Competition from China and India

Concerns about China are particularly strong because of the huge bilateral trade surplus with the United States. Chart 17 below shows how goods imports from China have soared over time, reaching well over \$300 billion in 2008. The fall in 2009 was the result of the recession and it seems likely that import growth will resume as the recovery takes hold. China has been an expanding market for US exports also, but the size of exports is very small compared to imports. The relation between the US and China has been described as one of co-dependency where they rely on the US market to sustain export growth while the US relies on China to buy its bonds and finance our spending.

Chart 17: US Trade in Goods with China



SOURCE: US Census Bureau

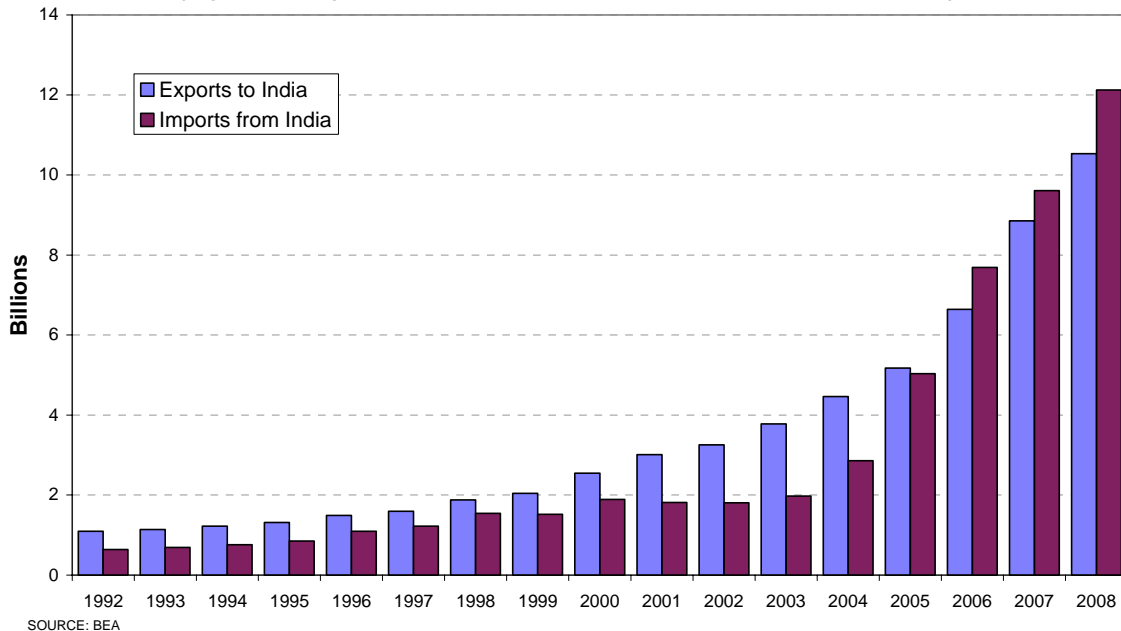
Thanks to popular writers such as Thomas Friedman, India is also seen as a threat to American jobs with its prospering business services export industry. The number of basic programming jobs in the United States declined even before the recession as companies shifted this activity to India, so that the competitive effect from India is visible in the employment data at a very fine grain level. The magnitudes involved in service trade with India are very different, however. Chart 18 below shows US service imports from India and US service exports to India. The US actually ran a services trade surplus with India as recently as 2005 and even by 2008 service imports from India amounted only to just over \$12 billion according to BEA, an amount equal to 0.08 percent of US GDP. The chart does show that service imports are rising very fast and, if this trend is extrapolated far into the future, it could result in a significant impact. But so far, this is not a big deal for the United States.

One area where India is developing skills besides business services is in health care. Indian hospitals are contracting with American hospitals to train nurses that then move to the United States. It is relatively easy to obtain US visas for nurses and to find candidates that speak English. At a Brookings conference on this issue, it seemed that both Indian and American participants were happy with the arrangement, although it

does seem an odd arrangement, slightly reminiscent of mail-order brides in the frontier days.

Chart 18: Services Trade with India has Grown Rapidly. Services Imports were Just 0.08 percent of US GDP in 2008. Only a Small Deficit

(Exports and Imports of Private Services to and from India; in Billions of Dollars)



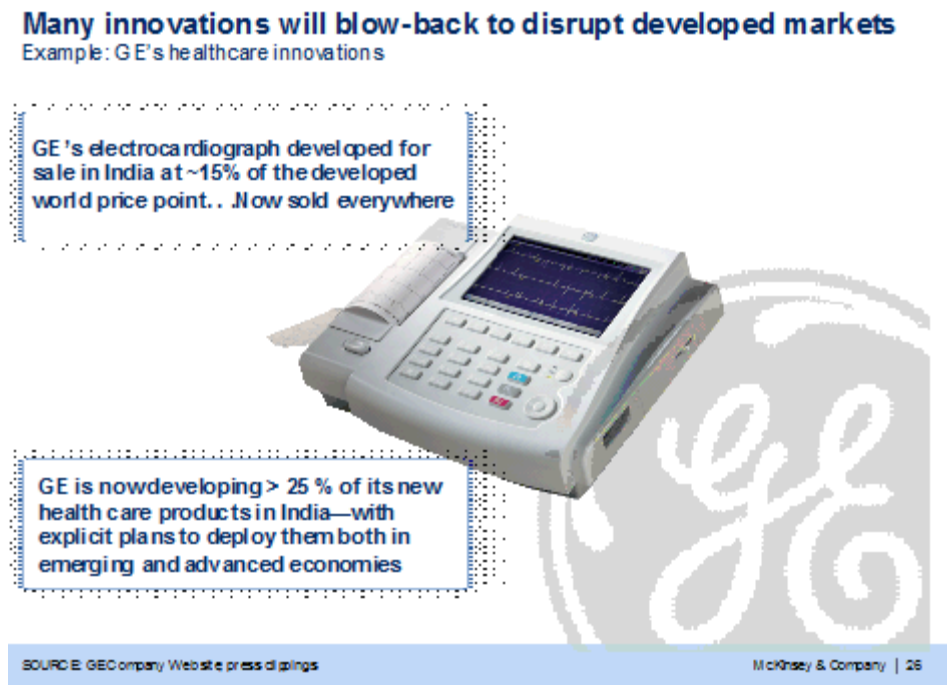
India and other Asian economies such as Thailand are also participating in the market for medical tourism. The costs of treatment are so much higher in the United States than overseas that some patients are willing to travel abroad to obtain cheaper care. A leading hospital in India can perform open heart surgery at a cost of \$2,000 per patient with a fatality rate that is lower than the average for this procedure in the United States. This hospital is opening a branch in the Caribbean with the intention of attracting US patients. There is also a market for off-shoring health services such as the reading of X-ray or MRI images. The constraint on both activities, as Frank Levy has found, is that US regulation makes it difficult for this to expand.²¹ Medical professionals have to be certified by a US state in order to provide treatment or expert opinions.

Another way in which economic forces arising in India and China are affecting the United States is through the inelegantly-titled process of “blowback innovation”. Chart 19 is taken from McKinsey & Company based on a GE website. GE realized that

²¹ Frank Levy and Kyoung-Hee Yu, (forthcoming).

they could not sell very many expensive electrocardiograph machines in India because they were not affordable. So they asked their R&D team in India to develop a lost-cost alternative and the team was able to produce a very workable product for about 15 percent of the typical price in the United States market. This low-cost electrocardiograph is now being sold to clinics here. As the chart says, GE is looking to India to develop over 25 percent of its new health care products.

CHART 19:



Globalization, Technology and the Distribution of Income

Although the current economic concern is about creating jobs, to the point where any job is better than no job for many people, the tougher question is whether the next 10 or 20 years will be a period of broad growth in incomes or one where most of the income gains go to a minority. There has been much ink spilled in academia and elsewhere as to why the distribution of income has widened so much and whether that trend will continue. I do not claim to know the answer and the remainder of this section will simply offer a brief perspective on the evidence.

It seems clear that technological change has worked against the relative demand for unskilled or low-skilled workers, a phenomenon described but not explained by the term skill-biased technical change. Many or perhaps most economists link the technology bias to the increased use of computers and communications, where, it is argued, the spectacular declines in the price of powerful electronics has undermined the market position of traditional blue-collar workers and many white collar workers in routine jobs. Not everyone accepts this view. In some of the work at the McKinsey Global Institute the role of computers was played down. Examples were highlighted where computer investment failed to cut costs or add to revenue, such as customer relations software in hotels. And other sectors, such as retail, were analyzed, where big gains were made in productivity, which were attributed much more to improved business processes and the expansion of big-box stores than to computers.

I have been on both sides of this issue at different times, but my current view is that the ability to harness different technologies together—computers, communications and automation—has indeed created a revolution in production technology. Any manufacturing plant producing goods at large enough scale has automated production using computer-controlled machinery and minimized the amount of production labor needed in the plant. There remain certain areas where skilled labor is crucial to the process, but the trend is against production workers. Computers are not the only piece of this story, however, even within manufacturing. Lean production, developed most notably by Toyota, did not come out of the computer revolution, but from making constant incremental improvements and by designing products that are easier to build (design for manufacturing). Lean production techniques have spread well beyond the auto industry to other manufacturing industries and also, increasingly, to service sectors.

So I agree with Frank Levy and Richard Murnane that classes of jobs that used to generate strong demand for workers with skills but not with high levels of education have been automated away or eliminated.²² This has been driven by business process innovation that often makes use of advances in electronics, but not always. McDonalds produces a vast number of meals each day using relatively unskilled labor, through

²² Levy and Murnane (2004).

automation, clever process design and products that are very easy to assemble—lean production.

The other piece of the income distribution puzzle is of course globalization. To what extent is the widening of the distribution of income driven by the increase in trade and foreign investment? In a series of books and articles Richard Freeman has argued that the opening up of the global labor market has put downward pressure on the wages of low skilled workers in the United States (see <http://www.nber.org/~freeman/>). Levy and Murnane (2004) describe the double whammy that workers face as either their jobs are automated away or they are moved overseas.

William Baumol and Ralph Gomery (2000) have a different but closely related viewpoint, in which they argue that American multinational companies make decisions that enhance their own profitability but do not enhance the welfare of Americans. New products and new technologies developed by these companies used to be deployed here and raised the productivity and wages of American workers, but now the technologies are taken overseas and American workers are faced with direct competition from low-wage workers in emerging economies.

On the face of it, some version of the Freeman or Baumol and Gomery story is simple and powerful. The downward pressure on wages is exactly what would be expected from the fact that the global labor pool has expanded. The returns to capital have increased while the returns to labor have been held back. There are pieces of this puzzle that do not fit together easily, however. In a simple trade model, the opening up of the global labor market would cause capital, the mobile factor of production, to migrate to emerging economies. In practice, the United States has been the recipient of massive capital inflows, receiving 85 percent of the world's available global pool of capital (McKinsey Global Institute 2007). Despite our low private saving rate and large budget deficits, the rate of investment in the U.S. economy has remained relatively strong. The globalization of capital flows has helped sustain the US capital stock despite our profligate ways.

In addition, the returns to capital part of the story do not fit perfectly either. If the return to capital is measured either by the real rate of interest or by the real return to the stock market, both of these have been very low, with leading stock market indexes being

no higher in real terms than they were ten years ago. As Ben Bernanke has pointed out, there has been a global glut of capital relative to the opportunities to invest and that is not a story where capitalists are reaping a bonanza by taking advantage of the massive increase in labor supply.²³

So the story has to be a bit more subtle. The scarce factors in the global economy are talent, technology, and business capability, or some combination of all three. For some companies also, first mover advantages allow them to create economies of scale, as Microsoft did in PC software or Google in search or Wal-Mart in big box retailing. Successful individuals and successful businesses have sharply increased their economic returns and inequality has increased. It is not so much a capital versus labor or corporations versus labor story, it is that the spread between the successful and the rest has widened. The increase in national and global competition has expanded the opportunities of the highly skilled and talented to obtain full payment for their abilities and it has broken down the older patterns of institutional wage setting through union negotiations or seniority-based wage increases, patterns that previously sustained the incomes of lower skilled workers.²⁴

In the New York Times of August 1, 2010 there is a fascinating article about Italy and its economic struggles. It features a maker of high quality suits who has refused to move production overseas and finds it increasingly difficult to sell his \$4,000 masterpieces against foreign-made products, often carrying Italian brand names. It is hard for him to buck the Baumol-Gomery trend. The article also highlights the power of the guilds and unions in Italy that have been able to sustain high wages for jobs that typically pay much less in the United States, such as taxi drivers. The Italian economy is not collapsing because of this, but seems unable to grow. Smaller companies evade the constraints on wages and other restrictions by moving underground and not reporting their activities, but this carries a growth and efficiency penalty. Italy (and Argentina before it) provides a warning about the growth consequences of an overly rigid economy that simply tries to ignore the increased global competition.

²³ Bernanke (2005) and (2007)

²⁴ See Levy and Temin (2007) for a discussion of institutional wage setting.

The challenge in the US economic recovery, therefore, is to find ways to sustain the incentives for both companies and individuals to invest here at home while at the same time improving opportunities and incomes for everyone.

CAN U.S. MANUFACTURING BE SAVED?

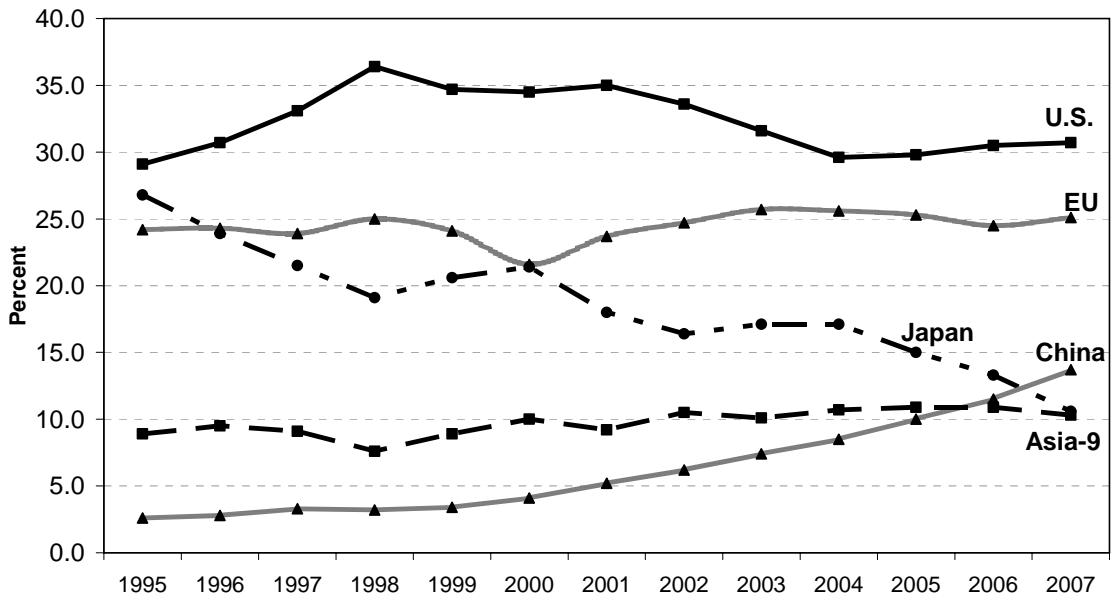
The loss of employment in manufacturing since 2000 has been dramatic. Employment remained pretty stable at around 17 million from the mid 1980s until 2000. It then fell sharply in the 2001 recession, experienced no recovery through 2007 before there was a second sharp fall in the current recession. Manufacturing employment in March 2010 was 11.6 million. A sizable part of the decline in jobs in the sector was the result of foreign competition and the rise in imports. The larger part was because the rate of growth in U.S. domestic demand for manufactured goods was slower than rate of productivity growth generated in the domestic industry. And of course the financial crisis and deep recession we are in now has caused a further large drop in domestic demand and manufacturing employment.

Although U.S. manufacturing has lost jobs across the board and lost capacity in some areas, it is far from being a hopeless case. The two charts shown below illustrate both the strength of the sector and its need to reorient towards exports. Chart 20 shows that in the high-tech manufacturing area, the United States has maintained its share of global value added surprisingly well through 2008. It has done much better in fact than Japan. China, no surprise, is moving up rapidly and gaining share.²⁵ Chart 21 shows how the U.S. share of high-tech exports has declined. The continued strength in production has not translated into the same strength in selling overseas.

²⁵ China assembles ipods, iphones, ipads and laptops, but retains only a few dollars of the total value, with the rest going to other Asian suppliers of components as well as Apple, Microsoft and Intel. China is exporting assembly more than it is exporting high technology. A forthcoming book by Edwards and Lawrence (2010) finds that China's exports to the U.S. remain concentrated in low value products.

Chart 20: The U.S. Has Maintained Its Share of Global High-Tech Manufacturing

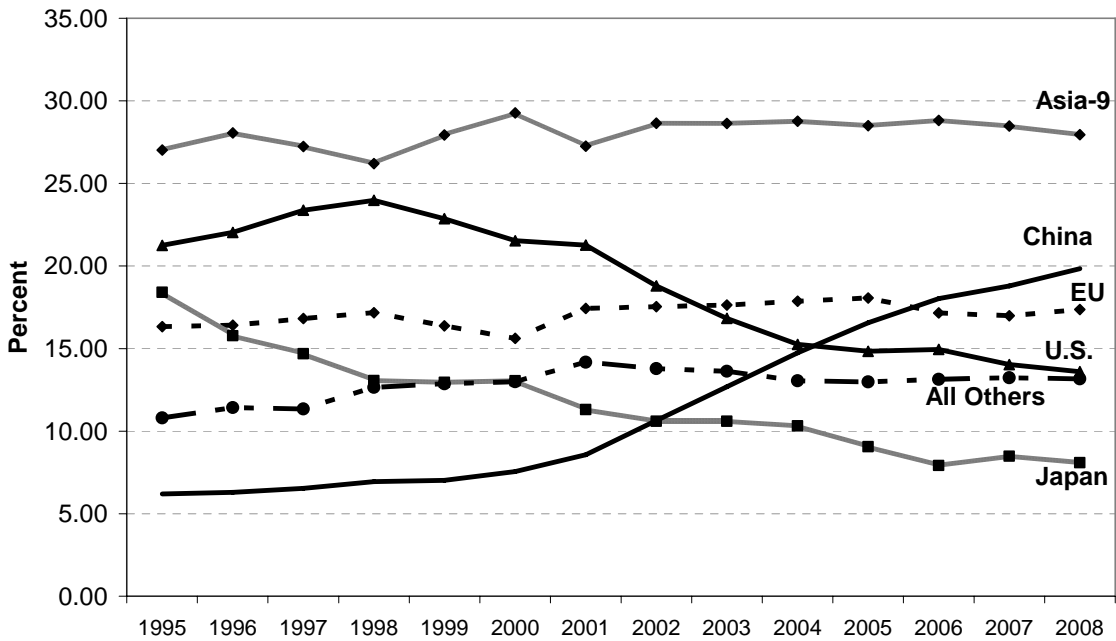
(Share of Global Value Added of High-Tech Manufacturing Industries: 1995-2007)



Source: National Science Board Science and Engineering Indicators

Chart 21: U.S. Share of High-Tech Exports Has Declined

(Share of Global Exports of High-Technology Products 1995-2008)



Source: National Science Board Science and Engineering Indicators

The challenge for U.S. manufacturing is to improve the competitiveness of the sector, so that, firstly, as domestic demand expands in the recovery, the lion's share of that demand is met with increased domestic production. And second, that U.S. manufactured exports increase rapidly, resulting in a substantial reduction in the manufacturing trade deficit or even a closing of this deficit. What policies could help reach those goals?

Increasing the Flow of Manufacturing Technology

The McKinsey Global Institute recently published a review of its past studies with an assessment of which policies had worked to improve productivity and competitiveness and which had not and one of the most interesting findings was about high-tech industries. In the many industry case studies that had been carried out over the past 10 years or more, there was no example of a major high-tech sector that had developed successfully without significant help from government. This was clear in the United States where, for example, Fairchild Semiconductor sold 75 percent of its output to the government in its early days before it evolved into Intel, serving the private sector. The biotech industry here is also heavily reliant on NIH or other government funding. Overseas, successful high-tech industries have been developed in Korea and Taiwan and government support was crucial in both cases.

Another important finding, however, was that several efforts by governments to create high tech industries failed. These include the computer industry in Japan, which had strong government support and developed good mainframe computers before being largely wiped out by the PC revolution. The technology corridor in Malaysia is also a failure, and the efforts by the Brazilian government to create a technology hub in Manaus in the Amazon region have not succeeded.

In short, government support for technology development appears to be necessary but not sufficient. It can help an industry get started but a competitive advantage has to be created that allows companies to be profitable without government support after a period of time. Trying to locate a technology hub in Manaus, which has over the top humidity and a low number of skilled workers, was an unwise decision. Taxpayer support

for technology can provide a good payoff to the economy but it can also be an easy way to lose money. So the question becomes whether the United State can provide more assistance to manufacturing technology and avoid dropping money down a well.

Establish a Fund to Support Manufacturing Innovation. At present there are several government programs that support innovation and technology development, such as the Technology Innovation Program and the Manufacturing Extension Partnership. In addition, there is an R&E tax credit that is renewed each year, but never seems to be made permanent. This proposal suggests that in addition to or instead these programs there be a Manufacturing Innovation Fund that provides substantial grants on a competitive basis to companies for innovation projects. The level of funding would be increased compared to the programs it is replacing, pushing the total funding available up to \$15-20 billion per year. Some part of the funding would be given in the form of angel investments to start-up companies with good ideas. Some part would go to small companies that had proven the viability of a new technology but that lacked the resources to scale up. Funds would also be available for established companies with plans to develop new products or new or substantially improved processes.

The selection of projects would be made by independent experts, skilled in technology and business and paid appropriately for their services. Their independence would be required under the rules established in the statute. The funds would be made available as loans with repayment terms geared to the type of company and project being funded. Recipients would be encouraged to obtain private funding in addition to the loans from the Innovation Fund, including bank lending, private angel investments or venture capital. The funding proposals would specify the nature of the manufacturing product and process being developed and this should be located in the United States for the duration of the loan, although restrictions should be avoided on the global sourcing of components.

A portion of the funding would be allocated to proposals that contribute to urgent national needs, notably the conversion to a lower carbon economy. However, only projects with a chance of commercial success, yielding a solid expected rate of return, would be included. Only after commercial considerations are evaluated would panelists select a portion of the projects that helped meet social or environmental goals. Under the

rules of the peer review process, special requests from politicians at the federal or local level would not be considered and decisions would be made blind to gender and ethnicity. The criteria for selection would be based purely on the business and economic rationale.

Avoiding industrial policy has been a long-held tenet of U.S. economic policy and a valuable one that allowed our economy to avoid the problems faced in Europe as governments propped up failing businesses and slowed down the process of economic adjustment (see Baily and Farrell, March 2006). This policy proposal does not suggest preserving failing enterprises, nor does it put the government in the position of picking winners and losers. It puts the government in the position of providing new funding for innovative manufacturing projects judged on the basis of peer review, but unlike funding for science, the reviewers would be business experts with practical experience.

Increase the Funds for Science and Technology Research. The National Science Foundation, the Office of Science in the Department of Energy and the National Institute of Standards and Technology were slated for increased funding in the 2010 budget proposals and the stimulus package included additional funding for R&D. Increased support for scientific research must be provided on a long-term basis, however, to maximize its impact. There is a clear economic case for support for basic research and the United States would be foolish to surrender its supremacy in this area. At present, most of the top universities in the world are located here and this gives an advantage to our economy that needs to be nurtured.

Improving the Skills of the Workforce

In the past, workers in manufacturing could achieve middle-class salaries by joining a union and negotiating for improved pay. Today, almost all manufacturing workers must compete, either against non-union workers in the United States, or against import competition, or both. The only way to sustain middle-class jobs for American production workers is to ensure that their skills and productivity justify a middle-class wage.

Find Out What Works and Apply It. Grover “Russ” Whitehurst, the director of the Brown Education Center at Brookings and former director of the Institute of Education Sciences within the Department of Education argues that innovation in schools is

impeded by the fact that most school systems are close to monopoly providers and subject to restrictions that make it difficult or impossible to evaluate teacher effectiveness. He suggests four ideas for improvement that he believes are supported by research.

- Choose K–12 curriculum based on evidence of effectiveness. There have been a limited number of studies funded on the relative effectiveness of different curricula, but there is enough evidence to suggest large gains are possible. In one trial of alternative math curricula, the best moved the students three months ahead of the worst over a nine month school year. More such comparative evaluations need to be carried out.
- Evaluate teachers in ways that meaningfully differentiate levels of performance. Good teachers get much better results than poor teachers but research has not yet determined exactly what it is that good teachers do, or how one could train and evaluate teachers to improve performance.
- Accredite online education providers so they can compete with traditional schools across district and state lines. The possibilities for computer assistance to education have barely been touched. At present no one has the economic incentive to develop computer programs that will allow individual students to go at their own pace and allow teachers to get instant feedback on what each student knows or does not know.
- Provide the public with information that will allow comparison of the labor market outcomes and price of individual postsecondary degree and certificate programs.

I am not an expert on education and cannot provide a critique of the specific ideas proposed by Whitehurst, but his analysis of the problems in our current education is compelling, particularly the lack of understanding of what makes some teachers more effective and what makes some curricula better than others.

Community Colleges. Nearly 6 million students enroll in these colleges and most of them are taking classes in practical job-related skills. The National Association of Manufacturers has identified community colleges as the place where production workers can receive training to equip them for modern manufacturing techniques. Bob Davis and David Wessel, in their book *Prosperity*, make a compelling case that community colleges

can help workers obtain middle-class jobs. Good community colleges work closely with local employers to ensure the training they provide matches the needs of the workplace. Community colleges can also provide remedial learning for students that did not acquire adequate reading, writing and math skills in high school.

Additional federal funding for community colleges has been proposed by the Administration. Such funding can increase access to training to improve the skills available to manufacturers. There should also be a sustained effort by state and county governments to improve the quality of community colleges. Many classes do not provide high quality instruction and some of the colleges are badly operated. Dropout rates are high for students starting community college programs. Whitehurst proposes using public information on the earnings of graduates to provide an incentive for colleges to improve. I am not sure if that is enough.

Fund Specialty Math and Science High Schools. Manufacturers look for high-ability math, science and engineering graduates, so that such individuals provide a catalyst for manufacturing jobs. Specialty high schools are one way to increase the flow of high-ability students into our colleges to study technical subjects. Students in these high schools are able to cover curricula that go well beyond the level taught in regular high schools. Currently there are only 100 math and science high schools in the United States, a number that could be expanded through additional funding at very modest cost.

Increase the Availability of Visas for Highly Skilled Foreign Nationals. At the Brookings CEO meeting last fall it was judged a no-brainer that H1B visas should be made more available. Another proposal is to allow any foreign student receiving a PhD in a technical subject to receive a Green Card. Highly skilled foreign nationals are catalysts for broader job creation just like high-ability Americans.

Fiscal Consolidation over the Next Ten Years as a Pro-Manufacturing Strategy

Micro-level policies such as the ones just described will not succeed in improving the manufacturing trade deficit on a sustained basis unless they are reinforced by the right macroeconomic conditions.

There is a simple identity that links the volume of saving to the level of investment and the flow of foreign capital. If saving is below the level of investment, the

difference is made up by an inflow of capital from overseas. And matching that inflow of capital is a trade deficit. To oversimplify a bit, *once the economy returns to full employment, if the level of saving is inadequate to fund the level of investment, there will be a manufacturing trade deficit. The larger the saving investment gap, the larger the deficit.*

The saving-investment-foreign capital identity is one way to focus on the implications of different fiscal choices. The investment side is made up of business investment and residential investment. On the saving side there is private saving (personal saving plus business saving) minus the government budget deficit (a subtraction from national saving).²⁶

In the past some economists thought there was an automatic link from budget deficits to trade deficits, but that turned out to be false. It is possible to run a budget surplus and a trade deficit (like the U.S. in 2000) and it is possible to run a budget deficit and a trade surplus (Japan over many years). Unfortunately, that led a lot of people to believe that “deficits don’t matter”, but that is also false. The purpose of the exercise that follows is to explore which combinations of economic outcomes are possible and which are not. It will show that the U.S. economy cannot have full-employment (with the level of investment this implies) together with a low private saving rate and a budget deficit, and still have balanced trade. Those economic pieces simply do not fit together.

Over the past twenty years, gross private business investment has averaged a little less than 11 percent of GDP and, in what follows, it is assumed to continue at this rate. Rebuilding manufacturing might well require a higher rate of investment in the future and that would only strengthen the case for fiscal consolidation being made here. Residential investment rose to extraordinary levels in the housing boom and then fell during the crisis. It might seem that we have built enough houses in the past few years to satisfy our needs for the next decade, but with a rising and mobile population, that is not the case. I assume that residential investment in the future is around 4 percent of GDP, its historical

²⁶ It is possible to classify the terms differently, for example by adding government investment (like roads and bridge) into the investment side of the identity. That is fine, but does not change the size of the potential gap that has to be filled by foreign capital. It makes the budget deficit smaller but investment larger, so the difference stays the same. In what follows, I will use the conventional measure of the government budget deficit, but that does not mean I want to downgrade the importance of infrastructure spending.

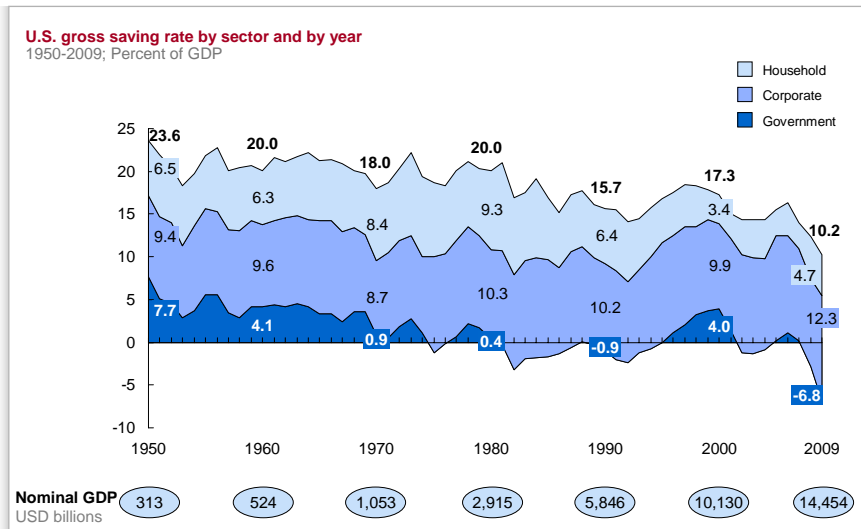
average. In order to use the saving investment relationship it is necessary to adjust for depreciation. I insert a level of capital depreciation that matches the average for the past 20 years.

Private saving has varied substantially in the recent past. Net private saving stayed at around 7 percent of GDP over the period 1990 to 1997, but trended lower after that, hitting 4.9 percent of GDP in 2007. In what follows I look at two alternative paths for private saving going forward: the low saving outcome, which is a return to 4.9 percent of GDP, or the high saving outcome where it reaches the 7 percent of GDP achieved in the 90s. The government sector adds to or, more often recently, subtracts from the total level of saving in the economy. Budget deficits are a subtraction from saving. Chart 22 below shows the decomposition of saving in the US economy from 1950 through 2009 which shows the decline in household saving over time, the growth in corporate saving and shift of government budgets (federal, state and local) from surpluses in the early years to deficits starting in the 1980s

CHART 22:

UNITED STATES

Households and government has driven down savings in the U.S. but corporate savings has increased

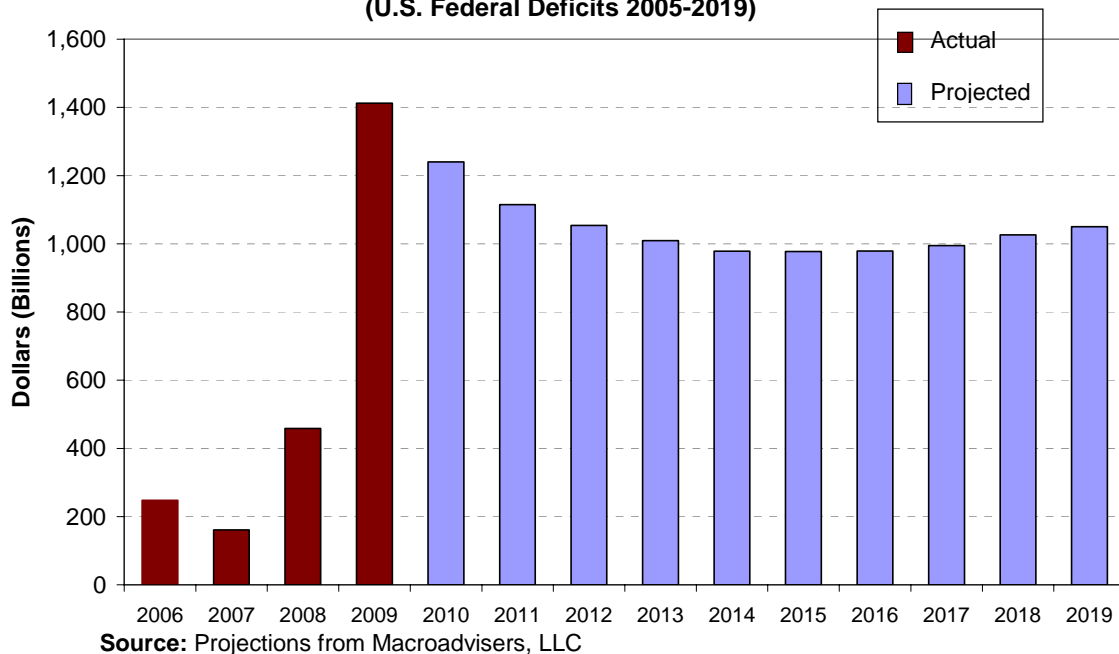


SOURCE: Bureau of Economic Analysis; Haver Analytics; team analysis

McKinsey & Company | 6

The future prospects for federal budget deficits are not very good. Chart 23 below shows the estimates made by Macroeconomic Advisers of federal budget deficits over the next 10 years, which they see as running at about \$1 trillion a year (CBO estimates are similar). With rising GDP over time, the trillion dollar deficits become smaller percentages of GDP, moving from 8.7 percent in 2009 to 4.9 percent in 2019. I will look at two possibilities for the deficit, with the first option being the trillion dollar deficit values shown in the chart²⁷ and the second being a fiscal consolidation path that assumes the budget deficit trends down to 1 percent of GDP by 2019.

Chart 23: Federal Budget Deficits are Projected to be about \$1 Trillion through 2019
(U.S. Federal Deficits 2005-2019)



States and localities spend a lot, but in the past they have never, as a group, run much in the way of deficits or surpluses. I assume here that over the next 10 years state and local budget surpluses will be at the same low level they have averaged over the past 20 years. Given the situation in California and the impending public pension crisis, this

²⁷ Any concerns about the ability of the Treasury to finance trillion dollar deficits reinforce the case made here for the need for fiscal consolidation.

could change. If in practice there are sizable state and local deficits, this would also strengthen the case for federal fiscal restraint.

To summarize: business investment, residential investment, depreciation, and state and local budget surpluses in 2019 are all assumed to be the same percentages of GDP that they have averaged over the 20 years prior to today. I then look at four options, based on either high or low private saving and either trillion dollar budget deficits or fiscal consolidation. Each of the four options implies a different level of net exports and these are shown in Table 1 as percentages of GDP. Negative values mean that imports exceed exports, that is to say, there is a trade deficit.

Table 1: U.S. Net Exports with Alternative Savings Rates

Scenarios	Net Exports in 2019
Trillion dollar budget deficits and Private Saving at its 2007 level of 4.9 percent of	-6.7% of GDP
Trillion dollar budget deficits and Private Saving at 7 percent of GDP.	-4.2% of GDP
Federal Budget deficit trends down to 1 percent of GDP. Private Saving at 4.9 percent of GDP.	-2.9% of GDP
Federal Budget Deficit trends down to 1 percent of GDP. Private Saving at 7 percent of GDP.	-0.3% of GDP

The first scenario shows the case of low private saving and trillion dollar deficits. In this scenario net exports become large and negative, implying a huge trade and current account deficit of nearly 7 percent of GDP. The following scenarios show increasingly more favorable outcomes. If private saving were to move to 7 percent of GDP this would drop the trade deficit close to 4 percent of GDP, an improvement but hardly a good outcome. U.S. manufacturing would still be fighting to compete and the level of foreign debt would keep rising. In the third scenario, with a small budget deficit, the trade deficit has dropped below 3 percent of GDP, even with low private saving. And if fiscal consolidation were to be combined with higher private saving, there would be roughly

balanced trade. In fact in this fourth scenario there would probably be a modest manufacturing trade surplus. As a large importer of oil, the U.S. manufacturing and services sectors should be sending goods and services overseas to pay for the oil imports.

Today the limit on economic growth is the pace of demand growth. Consumption growth is helpful and increased savings could threaten the recovery. However, that situation is changing. It will take several years to get back to full employment, so it would be a mistake to actually achieve fiscal consolidation quickly—which is just as well because it is not going to happen quickly. If we want a more export-oriented, manufacturing-oriented recovery, an essential condition is that some combination of higher private saving and lower budget deficits provide room in the economy for strong export growth and slower import growth than the pace of the past. Setting a process in motion now that will result in lower budget deficits over the next few years should be very much part of current thinking.

Saving Policies? It is pretty hard to find policies that do much to change private saving. The saving rate may change over time but it is what it is. There are large differences across countries, some of which may be because of differential access to borrowing or even differences in character. It is possible that private saving in the United States will go back to the 7 percent range that it had in the 90s as households rebuild their wealth and businesses finance their investment with retained earnings. It is even possible that the savings rate could climb even higher, and that would make it possible to run budget deficits without relying on an inflow of private capital. But it is wishful thinking to count on this happening. Federal budget planning should be based on a private saving rate in the 5-7 percent range. If private saving moves even higher over time, that is all the better because the fiscal challenge is then easier than we thought.

Policies to Reduce the Federal Deficit. We know it is possible to balance the budget because it was done in 1999 and 2000. The task is harder now than it was then because there is no peace dividend to use and because the aging population will expand Medicare and Social Security spending. On the other hand, the federal budget was in surplus by nearly 2 percent of GDP in 2000 and we do not have to get that far.

On the spending side, the key is Medicare. The health care reform bill contained many good ideas for cost containment short of moving away from the fee-for-service

model. CBO did not score these measures because they have not been proven, but we can certainly hope they work, because it would make life a lot easier. I am doubtful they will be enough on their own. My own favorite way to slow the growth of Medicare spending is to create a clearer link between Medicare spending and Medicare taxes.

Americans do not support restrictions on Medicare spending but at the same time they will march in the streets to protest increases in taxes. Consequently, I support the proposal by my colleague Gary Burtless to institute a value added tax to pay for federal health care spending, over and above the amount now collected in Medicare taxes.

I would then argue that Congress should require that the valued added tax rate for the next two fiscal years be set a level that would fully pay for expected Medicare and other federal health spending over the same period, with CBO doing the scoring.

Medicare would be subject to a balanced-budget rule and hence would not contribute to future federal budget deficits. If the CBO forecasts turned out to be wrong, the taxes for the following years would be adjusted up or down to restore balance and make up for past shortfalls. This approach would set the two immovable forces of American politics against each other, resistance to taxes and resistance to controls on Medicare spending.

Conclusion on Manufacturing

The US manufacturing sector is stronger than many people believe. Many companies are sitting on large pools of cash and deciding whether or not they should invest and hire in the United States.

There are many good ideas to help the manufacturing sector that cost money. My suggestions are described above: create a fund to support manufacturing innovation and provide greater assistance in developing worker skills. Fiscal consolidation does not preclude increased government support for innovation and education. The amounts of money that would make a difference in technology support and education support are small compared to the budget deficit problem. Controlling federal spending on health is the biggest item and is important in part because it would make room for needed spending elsewhere. Tax revenues will also have to be increased.

It is important to make the link between budget policy and the success of the American manufacturing sector. Unless private saving surges to new heights, federal

deficits will come at the expense of manufacturing employment. And of course moving items off-budget does not change their impact.

POLICIES FOR THE REST OF THE ECONOMY

However successful are the efforts to revive the U.S. manufacturing sector and increase its level of employment, the bulk of job growth in the future will come in the service sector and from construction, mostly the former. Even the most successful advanced manufacturing economies such as Germany and Korea have experienced a down trend in manufacturing employment. China achieved rapid growth in manufacturing from 1978 to 1996, according to the US Bureau of Labor Statistics, but has lost employment since then. The high of 125.47 million in 1996 fell to 100.88 million in 2002 before rising to 111.61 million in 2006, the latest year available.

Some of the policies suggested in the previous section to help manufacturing apply equally well to service industries, in particular, the efforts to improve education and the occupational training provided in many community colleges. These policies can help provide the skills needed to expand the better-paid jobs in services and construction. But are there any additional policies that should be used to help the US economy leapfrog into the twenty first century?

A MAJOR PUSH TO EXPAND INFRASTRUCTURE SPENDING

Many of my colleagues at Brookings make a forceful case that the American infrastructure is in bad shape and in urgent need of increased investment. Bruce Katz, the Director of the Metropolitan Policy Program said the following in a speech in 2009:

“From our nearly 2,000 "high hazard potential" dams, to the 60% of urban roadways that are in less than "fair" condition, to the 72,000 bridges that are considered "structurally deficient." It is not hyperbole to say that our infrastructure is crumbling before our eyes. And the tragic reminders of that are all too familiar for me to recite here. But in addition to its condition, the very design of our nation's infrastructure is becoming obsolete.

“Take our nation's air traffic control system. It is so outdated that it is considered one of the primary reasons we haven't been able to make a dent in our airport congestion problems.

“Or our transit systems that are laying off hundreds of workers—literally—in major metropolitan areas because they don't have the ability to cope with skyrocketing demand or the resources to operate the existing system.

“Or our water systems that are in such bad shape that leaking pipes lose seven billion gallons of clean drinking water each day – at the same time aging sewer systems discharge billions of gallons of untreated wastewater because they are too old or insufficient to meet demand.

“But all this is still only part of the story. The average driver in metropolitan America wastes 26 gallons of fuel each year due to traffic congestion. If we add this up, that's 3 billion gallons every year—the equivalent of one-fifth of the oil imported annually from the Persian Gulf. But the problem is not just our wasting fuel – infrastructure-related expenditures continue to cost American households a trillion-and-a-half dollars each year, mostly in categories such as utilities and transportation.

“In fact, after housing, transportation is the second-largest component of the average family's household budget: 18 cents out of every dollar. Utilities such as electricity and natural gas consume seven percent but are a disproportionately larger burden for low income families.”

Bruce's colleagues Emilia Istrate and Robert Puentes propose the creation of a National Infrastructure Bank to address this problem. There two big advantages seen in the creation of such a bank: First, it would remove the specific decisions about which projects to fund from the Congressional process and entrust it to an independent board that would assess the greatest needs and best investments to make. In the past, powerful committee chairs have been able to channel federal spending to their own states or districts, creating a flawed selection process. The authors also point to problems such as a bias against maintenance spending and insufficient long term planning.

The second key aspect of the proposal is that federal capital spending would be treated differently from other federal spending, so that borrowing to invest in roads and dams would not be counted as additions to the federal deficit. Depreciation would be counted as an operating expense. In practice, the national infrastructure bank would be able to issue bonds guaranteed by the federal Treasury that were then used to finance the infrastructure investment.

A closely related proposal has been made by former FCC Chairman Reed Hundt (2010). He argues that it will take a very large investment in new power generation and distribution to shift our electricity infrastructure from fossil fuels to nuclear, solar and

wind in order to reduce carbon dioxide emissions. He judges that financing this transition through higher electricity rates would be politically impossible and suggests the alternative of creating a Green Bank, operating somewhat like the Infrastructure Bank. The Green Bank would be able to borrow with a Treasury guarantee at low interest rates and pay back those loans using the normal electricity bills paid by households and businesses.

Another Brookings colleague, Clifford Winston, has offered a radically different approach to infrastructure problems (in a series of papers to be found at <http://www.brookings.edu/experts/winstonc.aspx>). He finds the biggest problem is that the services provided by infrastructure are not priced properly and not managed well. He says that airport congestion results because airlines are not charged correctly for landing rights, and do not have to pay a penalty for landing at congested times. Current pricing also gives a price break to general aviation including corporate jets that land at peak times while paying low fees.

Winston also argues that monopoly control over urban transit systems works against users, resulting in poor bus service and the safety and reliability problems in mass transit systems that have been very visible in Washington's Metro system. Allowing private operators to run urban bus services, he argues, would increase availability and service quality. One anecdote to support this view comes from the expansion of private bus service in the northeast corridor. For the price of about \$25 it is possible to ride a clean comfortable bus from Washington DC to New York with frequent service. Similar bus service is also available for Philadelphia, Boston and other cities.

In terms of funding expanded infrastructure, Winston point to other countries, including those in Europe, that have used private funding to build roads, bridges, tunnels and other projects without government guarantees. With the proper pricing of infrastructure, there would not be a need for government funding. Winston proposes to privatize everything possible.

Commentary on the Infrastructure Issue

- With millions of workers unemployed and critical needs in the economy for improved infrastructure, the case for a major push in this area is a

powerful one. After all, this is what China did to avoid a deep recession. Unfortunately, I do not think the U.S. government can undertake such an effort yet. There was an irresponsible fiscal policy followed in the early years of this century and these bad policies carry consequences for choices made now. China has a large fiscal surplus plus over a trillion dollars in cash reserves and hence is in a very different situation from our own. The infrastructure bank proposals have merit, but they do not change the basic arithmetic of deficits. Infrastructure investment has to be paid for just like any other form of investment. Once the future path of federal deficits has been brought under control, a push on infrastructure investment becomes very attractive provided there is funding provided for it.

- Comparisons between China's infrastructure spending and our own are alarmist and misleading. The US economy has been building modern infrastructure for a long time and has, for example, a developed interstate highway system and a very productive and effective rail freight system. The amount of capital per capita currently available in China is a tiny fraction of the amount in the United States so their needs are very different from ours.
- Many of Winston's proposals to improve the pricing of infrastructure, notably airports, are no brainers. It is politics that stands in the way of the productive expansion of market forces. Congestion pricing for motor vehicles in urban areas works well in London and Singapore and could be used here as well.
- I support efforts to enlist private funds to make infrastructure investments. Not all such projects have worked well—the Channel tunnel has had financial problems—but this is an approach that is well worth expanding. It is important to avoid privatizing gains and socializing losses from such projects.
- There are substantial externalities in infrastructure investment and these suggest a role for government in their provision. One important externality is that providing urban mass transit reduces road congestion,

giving benefits even to those who drive to work. It is hard to imagine the traffic congestion that would result in New York City or even Washington without their subway systems. There are also network effects that can make it inefficient to have several competitors running an urban system.

- The distributional consequences of infrastructure spending need to be examined carefully. Well-developed mass transit systems like those in New York, London, Paris or Moscow allow low and moderate income workers to commute to jobs at reasonable cost and in reasonable time. High-speed intercity rail links may be valuable and reduce emissions, but judging by the Acela system, they may serve primarily affluent riders. On the few occasions I have ridden the French TGV trains, I did not see a lot of poor people either.
- The Build America Bonds that were part of the ARRA seem to have done well. They have been able to attract private funding that is a multiple of the public funding to finance state infrastructure needs. They should be continued.

IMPROVING THE BUSINESS CLIMATE

Given the follies and greed evident in the financial crisis, not to mention BP, it must seem strange to worry about the poor relationship between the Obama Administration and the business community. But in fact it is an area of concern. The McKinsey Global Institute recently released a study of American multinational corporations, looking at the contribution they make to growth and employment and also reporting the results of a survey of CEOs of these companies talking about their future plans and their willingness to invest and hire in the United States.

There were three economic advisors to the project, Laura Tyson, Matthew Slaughter and myself, and we came away from the project concerned that business perceptions of the US environment (whether justified or not) may have an adverse effect on the speed of economic recovery. A summary of our position was printed in the Wall Street Journal July 1, 2010, and is given below.

For generations, coal miners gauged the health of their workplace with a critical leading indicator: canaries. Any buildup of carbon monoxide and other gases would silence the singing canaries before reaching levels toxic to humans.

Today there are widespread and legitimate concerns about the health of the U.S. economy. And a new McKinsey report advised on by the three of us rightly argues that all Americans should heed the message of another leading indicator: multinational companies headquartered in the United States.

U.S. multinational companies have long been among America's strongest firms. Although far less than 1% of U.S. companies, in America today they account for about 19% of all private-sector jobs, 25% of all private-sector wages, 48% of total exports of goods, and a remarkable 74% of private-sector R&D spending. For decades U.S. multinationals have driven an outsized share of U.S. productivity growth, the foundation of rising standards of living for everyone: 41% of the increase in economy-wide labor productivity since 1990.

And, despite the common allegation that U.S. multinationals simply "export jobs" out of the United States, research shows that expansion abroad by these firms has tended to complement, not substitute for, their U.S. operations. More investment and employment abroad has, to date, tended to create more American investment and jobs as well.

There is no guarantee that past will be prologue, however. McKinsey conducted in-depth interviews with senior executives from 26 of America's largest and best-known multinationals. Their message is sobering: Today the United States is in a new era of global competition to attract, retain, and grow the dynamic operations of multinational companies.

These leading executives laud many long-standing economic strengths of the United States, such as its large and competitive domestic market. But they also see dozens of other countries—not just fast-growing countries such as the BRICs but advanced countries, too—are making dramatic improvements in the infrastructure, policies, and overall economic environment they present to the world's leading companies. These improvements are not simply a matter of tax abatements and other financial subsidies. Rather, these improvements have come in many areas, both near-term and long-term, that are collectively redefining where in the world U.S. multinationals can successfully operate.

These leading executives worry that many current U.S. policies—e.g., high and complex corporate taxation, limits on skilled immigration, and bureaucratic hurdles and inconsistencies—handicap their companies. Moreover, poor U.S. economic policies cause many of these executives to voice concern about the future ability of the United States to attract and grow corporate investment, R&D, and jobs. U.S. multinationals will not aggressively invest and hire in the United States if they cannot realize attractive returns from doing so.

It is the strong belief of us three authors that these concerns of leading U.S. business executives must be taken seriously by U.S. policy makers at all levels. We are not saying that America's economic policy should be driven by the considerations of U.S. multinational firms alone. Far from it. Millions of American workers have faced severe hardship in recent years and need help—but not by driving overseas our strongest companies with the best-paying jobs. American policy makers must acknowledge both the outsized contributions multinationals have made to America's economic strength and the worrisome signs leaders of these firms are now providing.

The world and the options it presents to global firms have changed dramatically in recent years. The United States cannot rest on past success and take its multinationals for granted. U.S. policy makers must partner with business leaders to craft policies aimed at maintaining America's economic strength by, in part, sustaining an environment in which U.S. multinationals can thrive both at home and abroad. The alternative? If current trends continue, then we all should expect smaller contributions to the U.S. economy by less-vibrant U.S. multinationals: less R&D, less investment, fewer exports, fewer jobs.

There are several deep challenges now facing the U.S. economy in the wake of the World Financial Crisis. Perhaps most important, U.S. companies have yet to resume vigorous job creation. Peak to trough thus far, the U.S. economy lost 8.47 million private-sector payroll jobs—a remarkable 7.3%. In the past five months the U.S. economy has regained only 495,000 private-sector jobs—more than a third in temporary help services. More broadly, America's economy needs to be rebalanced away from consumption demand towards capital investment and exports, per President Obama's aspiration to double U.S. exports over the next five years.

U.S. multinational firms are uniquely positioned to help America meet these challenges, given their propensity to create high-paying jobs involving lots of knowledge creation, capital investment, and exporting. But this will require far-sighted policy initiatives driven by true political leadership; for example, liberalizing trade and protecting intellectual property.

These firms are now the canaries in the U.S. economic coal mine. Who will pay attention?

Policy Implications

- Why should the ordinary citizen worry about large multinationals many of which are sitting on large cash hoards? The answer is that those companies are essential to the broad recovery of the economy and unless they grow their operations in the US market it will be hard or impossible to get back to full employment. Small companies do employ a large fraction of the workforce, but very often they are providing parts or services to larger companies.

- The CEOs are demanding lower taxes but with a huge budget deficits, we cannot afford to lower the corporate tax rate. The answer is that the current corporate tax is very inefficient with a high marginal rate on new earnings but a plethora of deductions which mean the average rate of tax collected is very low. Corporate tax reform would be helpful to expand the base and lower the rate.
- The United States is one of the very few countries that taxes corporations headquartered in this country on their world-wide earnings. Combined with the high marginal tax rate on corporate profits, this encourages companies to shift profits overseas and discourages them from repatriating profits to finance expansion in the United States. One possible policy to help the recovery is to grant a partial tax holiday for repatriated earnings for companies that can demonstrate that the funds are used for U.S. expansion.
- One of the most frequently cited concerns by multinationals concerns their ability to attract the talented people they need to innovate and manage their activities in the United States. Research facilities and innovation centers are being cited overseas in large part because this increases the companies' access to talent. In the long run, increasing the supply of well-educated Americans is the best way to meet this concern. In the short run it is important to ease the restrictions on HIB and related special visas to allow talent to come to the United States. Allowing foreign graduate students to get US work visas more easily would also be helpful. High skill workers will provide competition for high skill Americans but they will also help expand jobs for many other Americans.
- Because of data limitations, the McKinsey study excluded foreign-owned multinationals operating in the United States. President Obama visited a battery factory recently to demonstrate how the Administration's technology policies were helping. That factory was owned by a Korean company. Most of the policies that help American multinationals to expand in the United States will also encourage foreign multinationals expand here also.
- President Obama's proposals to make permanent a tax credit on R&D would appeal to multinationals. However, funding that tax credit by reducing tax breaks for multinationals would obviously discourage their expansion.

CONCLUSIONS

The immediate growth prospects are uncertain. This has been a very serious crisis and recession and we cannot expect to return to full employment quickly. The two key policies that were followed, the rescue of the financial sector and the stimulus package were the right policies and now we have to see if they are enough. If there is a double-dip, then a further fiscal stimulus must be considered and would be easier to implement if steps had already been taken to ensure lower future budget deficits.

Assuming there is a recovery and the weakness of demand in the economy abates, there are many vital issues the American economy must confront. In this paper I have discussed policy proposals to improve worker skills increase technology availability, invest in infrastructure and allow foreign skilled workers to come to the United States.

Implementing some of these proposals would require additional federal funding and there are plenty of others that add to the list. How do we deal with the problem of global warming? How do we afford a quality education for all students? Can we sustain or even expand programs that provide a safety net to the poorest Americans? Meanwhile, all of this must be done while financing private domestic investment without relying on huge capital inflows from abroad.

David Stockman, the Reagan protégé and former head of OMB, wrote an op-ed recently criticizing his own Republican party for its failure to face up to the budget deficit problem.²⁸ He pointed out that tax cutters had reduced federal revenues to 15 percent of GDP by 2009 well below the postwar historical norm and Republicans had not restrained spending either: after “engaging in two unfinanced military adventures, George W. Bush surrendered on domestic spending cuts too....” I did not agree with everything Stockman said, but he is right to condemn the transformation of the Republican party from budget balancers to wild tax cutters.

At a recent panel on the future of the American economy one of the speakers was Eric Schmidt of Google. He asked the question: Do we want an economy that is more and more focused on health care or do we want growth to come from other places? Schmidt, naturally enough, saw the benefits from other forms of private or public

²⁸ The New York Times, July 31, 2010.

spending and expects technology to transform education, help solve the global warming problem and add to productivity in many other ways. Schmidt's question is the right one, however.

The health care reform policy that set the foundation for universal health care coverage was an important step forward but hard as it was to do this, controlling costs is going to be even harder and just as important. Providing basic health care to all citizens is a sign of a civilized country but allowing unlimited access to expensive and inefficient medical procedures and sending taxpayers the bill is folly. Hard and unpopular choices will have to be made around health care if this recovery is to be solid and more balanced.

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