OFFICE OF SPEAKER NANCY PELOSI

Democratic Steering and Policy Committee Forum

Wednesday January 7, 2009
10:00 a.m. – 12:00 p.m.
Longworth House Office Building Room 1100

Chaired by Rep. George Miller and Rep. Rosa DeLauro
(Steering and Policy Committee Co-Chairs)

Agenda

The purpose of this forum is to focus on the economic outlook and the components of an economic recovery plan necessary to spur job creation and create long-term growth. Also participating in the hearing, which will feature a panel of economists and experts in infrastructure investments, will be the Chairs of the House Science and Technology, Energy and Commerce, Transportation and Infrastructure, Budget, Appropriations and Ways and Means Committees.

Opening Statement: Speaker of the United States House of Representatives Nancy Pelosi

Introduction of Panelists: Rep. George Miller and Rep. Rosa DeLauro

Testimony of Panelists:

Mark Zandi – Dr. Zandi is chief economist and cofounder of Moody's Economy.com, where he directs the company's research and consulting activities. Moody's Economy.com, a division of Moody's Analytics, provides economic research and consulting services to businesses, governments and other institutions. Mark's research interests include macro, financial and regional economics. His recent research has studied the determinants of mortgage foreclosure and personal bankruptcy, analyzed the economic impact of various tax and government spending policies, and assessed the appropriate policy response to bubbles in asset markets. Mark also conducts regular briefings on the economy. He is quoted often in national and global publications, is frequently interviewed by major news media outlets, and is the author of *Financial Shock*, an exposé of the subprime financial crisis.

Robert B. Reich – Dr. Reich is Professor of Public Policy at the Goldman School of Public Policy at the University of California at Berkeley. He has served in three national administrations, most recently as secretary of labor under President Bill Clinton. As the nation's 22nd Secretary of Labor, Reich implemented the Family and Medical Leave Act, led a national fight against sweatshops in the U.S. and illegal child labor around the world, headed the administration's successful effort to raise the minimum wage, secured worker's pensions, and launched job-training programs, one-stop career centers, and school-to-work initiatives. Under his leadership, the Department of Labor won more than 30 awards for innovation. A 1996 poll of cabinet experts conducted by the Hearst newspapers rated him the most effective cabinet secretary during the Clinton administration. Reich has been a member of the faculties of Harvard's John F. Kennedy School of Government and of Brandeis University.

Martin Feldstein – Dr. Feldstein is the George F. Baker Professor of Economics at Harvard University and President Emeritus of the National Bureau of Economic Research where he served as President and CEO from 1977-82 and 1984-2008. From 1982 through 1984, Martin Feldstein was Chairman of the Council of Economic Advisers and President Reagan's chief economic adviser. He served as President of the American Economic Association in 2004. In 2006, President Bush appointed him to be a member of the President's Foreign Intelligence Advisory Board. Dr. Feldstein is a member of the American Philosophical Society, a Corresponding Fellow of the British Academy, a Fellow of the Econometric Society and a Fellow of the National Association of Business Economics. He is also a member of the Trilateral Commission, the Council on Foreign Relations, the Group of 30, and the American Academy of Arts and Sciences.

Norman R. Augustine – Mr. Augustine joined the Douglas Aircraft Company in 1958 as Program Manager and then Chief Engineer. Beginning in 1965, he served in the Office of the Secretary of Defense as Assistant Director of Defense Research and Engineering. He joined LTV Missiles and Space Company in 1970, serving as Vice President, Advanced Programs and Marketing. In 1973 he returned to government as Assistant Secretary of the Army and in 1975 as Under Secretary of the Army, and later as Acting Secretary of the Army. Joining Martin Marietta Corporation he served in various capacities until 1995. He served as President of Lockheed Martin Corporation upon the formation of that company in 1995, and became its CEO in January 1996, and later Chairman. Upon retiring from Lockheed Martin in August 1997, he joined the faculty of the Princeton University School of Engineering and Applied Science where he served as Lecturer with the Rank of Professor until July, 1999. He is a member of the President's Council of Advisors on Science and Technology and the Advisory Board to the Department of Homeland Security and was a member of the Hart/Rudman Commission on National Security. Mr. Augustine has been presented the National Medal of Technology by the President of the United States and has five times been awarded the Department of Defense's highest civilian decoration, the Distinguished Service Medal, and has received the Joint Chiefs of Staff Distinguished Public Service Award.

Maria T. Zuber – Dr. Zuber is the E. A. Griswold Professor of Geophysics at the Massachusetts Institute of Technology and the first woman to lead its Department of Earth, Atmospheric, and Planetary Sciences. She has studied the structure and evolution of the terrestrial planets and has been an innovator in the application of spacecraft laser-ranging and radio-tracking systems to map the topography and gravity fields of the planets. Dr. Zuber has led spacecraft instrument investigations that have flown to the Moon, Mars, and asteroids. The topographic map of Mars produced by her laser altimeter on the Mars Global Surveyor spacecraft is the most accurate topography model for any planet. She has been honored by NASA and many professional scientific organizations, and in 2002 *Discover* magazine named her one of the 50 most important women in science.

Question and Answer: Moderated by Rep. George Miller and Rep. Rosa DeLauro

Closing Remarks: Rep. George Miller and Rep. Rosa DeLauro

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UPDATED - January 7, 2009

Economic Conditions Worsen, Comprehensive, Robust and Urgent Action on Economic Recovery & Jobs Needed

Nearly two million Americans have lost their jobs this past year -- and millions more are working harder in jobs that pay less and come with fewer benefits. Nearly $7 trillion in wealth has been lost in the stock market, including the retirement savings of many American families. And the economic news continues to worsen, with some noting that we are facing the "the bleakest economic outlook since World War II."

To face these serious and growing economic challenges, the 111th Congress is hitting the ground running to help President Obama pass his American Recovery and Reinvestment Plan to create and save 3 million jobs over two years, and reinvest in our future by rebuilding our infrastructure from bridges to broadband, making our health care system more efficient and cost-effective, modernizing our schools for 21st century learning, and investing in a cleaner and more efficient energy future.

The following economic news demonstrates the growing need for this robust economic recovery and jobs package.

- **JOB LOSSES:** America has suffered 11 straight months of American jobs losses totaling nearly 2 million this year -- with 1.3 million job losses in the last three months alone. The job losses totaled 533,000 in November - the biggest one-month jump in 34 years.

- **UNEMPLOYMENT:** In November, the unemployment rate surged to 6.7 percent -- the highest level in 15 years – up from 4.7 percent the year before. The number of Americans looking for work climbed to 10.3 million in November - the highest number in 25 years (since September 1983). The number of unemployed has increased 2.7 million during the recession and 2.7 million more Americans have been forced into part-time work. Jobless rates are up in 49 states and the District of Columbia over the past year, and they increased in 37 states and D.C. in the month of November alone.

- **ECONOMY SLOWS:** This fall, the Gross Domestic Product, the measure of goods and services produced in the United States, fell at an annual rate of 0.5 percent in the third quarter of 2008 – the largest drop in seven years and down from the 2.8 percent increase in the 2nd quarter.

- **RECESSION:** The U.S. economy has officially been in recession since December 2007 according to the National Bureau of Economic Research. That already makes it the longest downturn since the 16-month slump of 1981-82, which is tied for the longest recessions since World War II. Analysts say the downturn could be the most severe since the Great Depression.

- **CONSUMER SPENDING:** Spending by consumers plunged at an annual rate of 3.8 percent this fall, for the biggest decline in nearly three decades. Consumer spending is crucial to the health of the American economy, accounting for two-thirds of all economic activity.

- **DECLINING FAMILY INCOME & BENEFITS:** This recession comes after seven years of the American people working harder, but making less with fewer benefits. Since 2000, worker productivity is up, but the purchasing power of the typical working age family's income is down by more than $2,000. The share of people with employer-provided health insurance dropped from 64% in 2000 to 59% in 2007. And the portion of private-sector workers with a pension dropped from 50% to 45% from 2000 to 2007.

- **RISING COSTS:** Since 2001, premiums for family health coverage have climbed 78 percent, with workers paying more than $3,200 per year. And nearly 46 million Americans are without health insurance. Food prices have also risen nearly 6 percent this year.

- **GROWING BANKRUPTCIES & CONSUMER DEBT:** With greater stress on family finances, 1.03 million Americans filed for bankruptcy in 2008, a 32 percent increase from the prior year -- almost certainly due to the unprecedented level of consumer debt, the distressed economy, and the housing crisis. Consumer debt now totals more than $2.6 trillion or about $8,500 in debt for every man, woman and child in the United States. In addition, 64,318 businesses filed for bankruptcy in 2008, a 50 percent increase from the prior year.

- **HOUSING CRISIS:** There were 2.25 million home foreclosures this year, more than double the annual pace before the crisis set in and a record 1 in 10 U.S. homeowners was delinquent on mortgage payments or in foreclosure this fall. American homeowners were projected to collectively lose more than $2 trillion in home value by the end of 2008. In November, existing and new home prices dropped about 13 percent, for the biggest annual drop since 1968 for existing home prices. With falling housing prices, nearly one in six U.S. homeowners owe more on a mortgage than their home is worth.

- **RETAIL SALES:** Sales at U.S. retailers fell for a fifth straight month in November, the longest decline in at least 16 years, -- down 7.4% compared with a year earlier. [Reuters, 12/12/08] And early data shows that holiday sales, which are critical to the success of American retailers, fell 2.3 percent.

- **MANUFACTURING:** U.S. factory activity fell to a 28-year low in December, with the demand for such products as cars, appliances and furniture at the lowest level since at least 1948.

- **AUTO SALES:** Ford Motor Co. and General Motors Co. reported a 30 percent decline in U.S. vehicle sales in December, while Chrysler saw its sales decline by 52 percent. Toyota posted a 36 percent sales drop and Honda Motor Co. reported a 35 percent decline in US sales in December.

- **STOCK MARKET:** 2008 was also the worst year on Wall Street since the Great Depression, wiping out $6.9 trillion in stock market wealth and endangering thousands of investors' nest eggs. The Dow dropped by more than 33 percent in 2008, its worst performance since 1931, during the Great Depression.

The Economic Outlook and Need For an Economic Recovery Plan

Presented by:

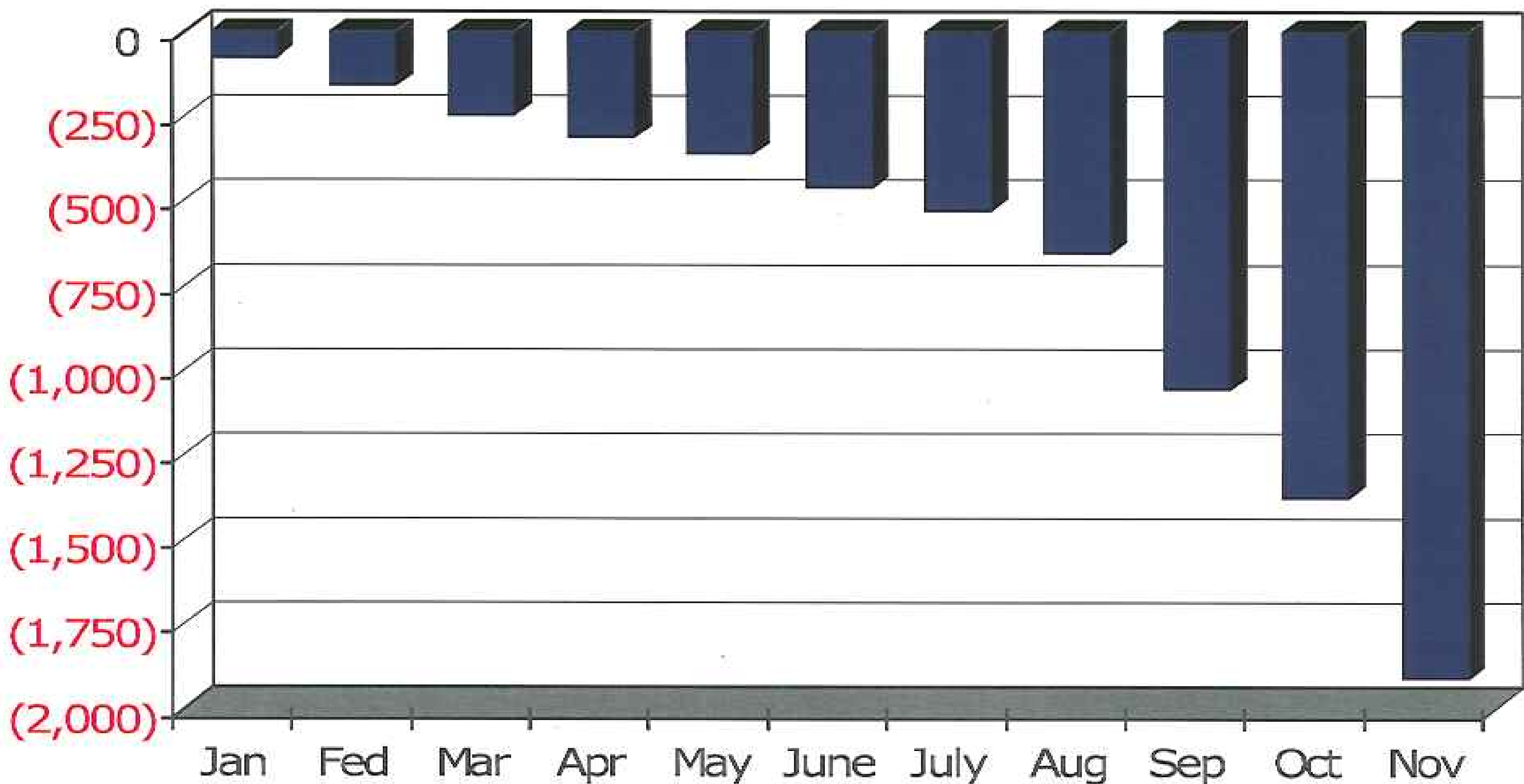
Mark M. Zandi,
Chief Economist

January 7, 2009

Moody's | Economy·com

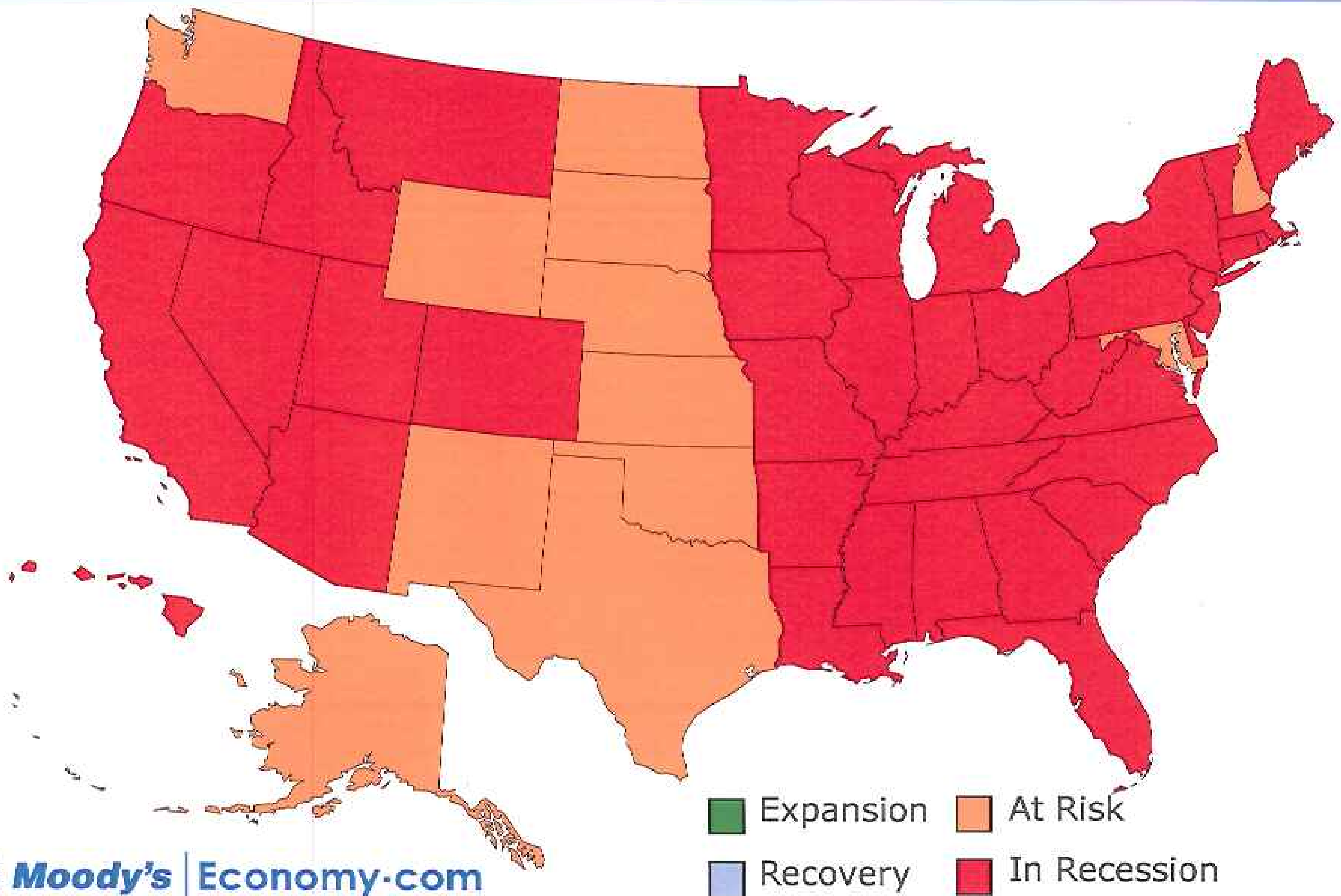
The Economic Downturn Is Intensifying…

Cumulative job loss, thousands, Source: BLS



Moody's | Economy·com

...Across The Country



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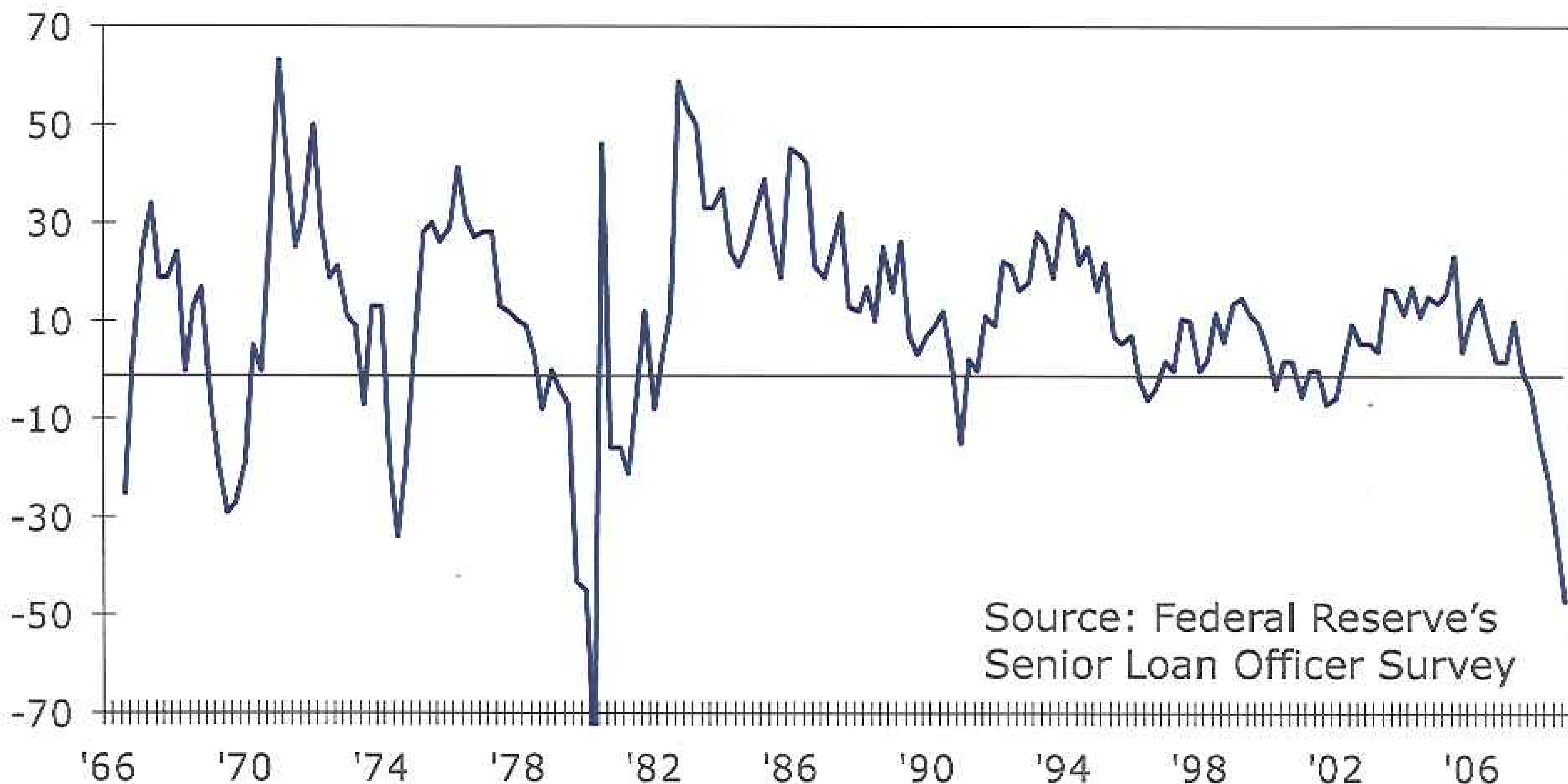
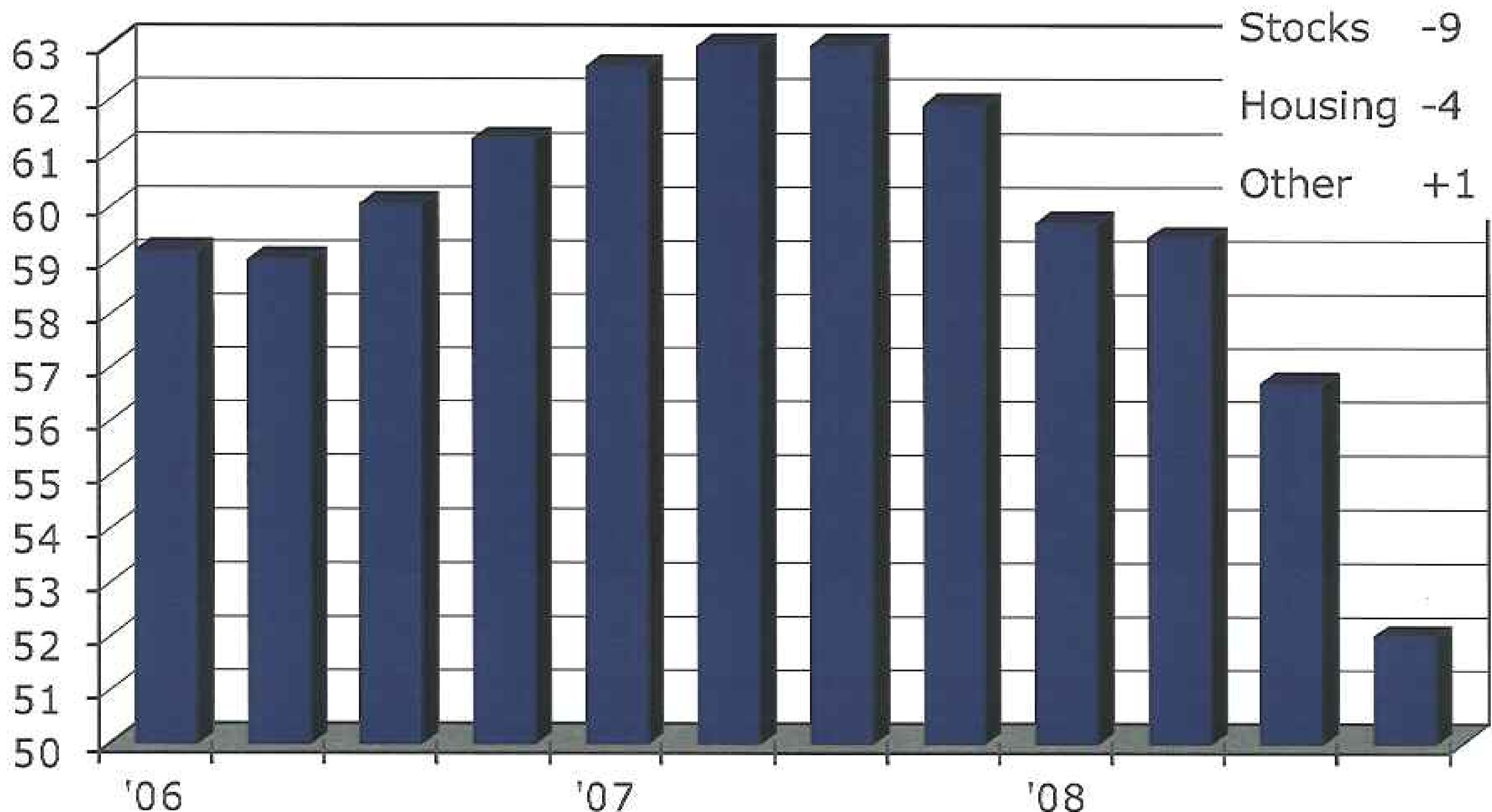
The Credit Spigot is Closing...

Net % of lenders willing to make a consumer loan



...and Nest Eggs Are Cracking

Household net worth, $trillion, Source: Federal Reserve



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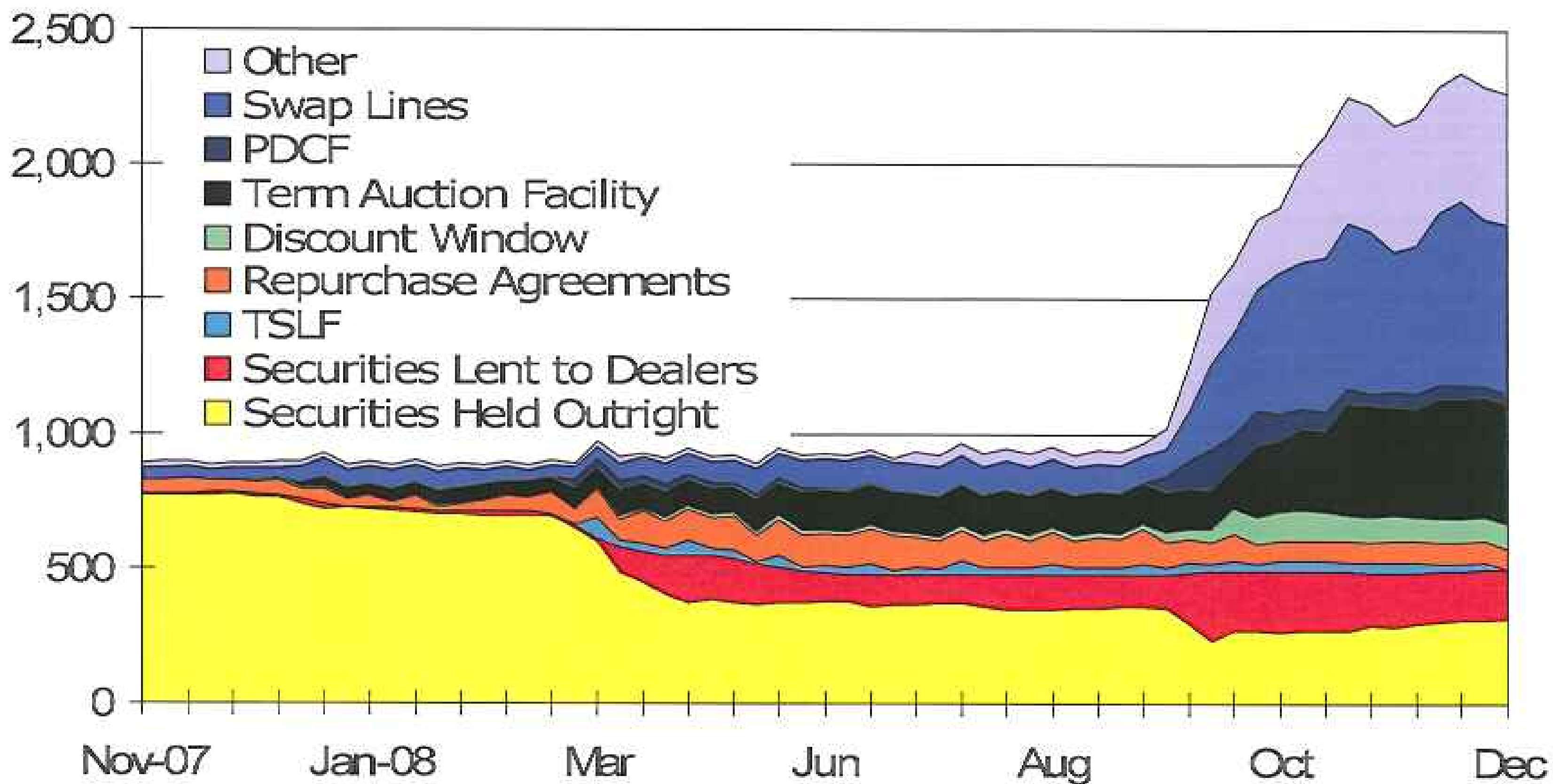
Monetary Stimulus Is Not Enough

Federal Reserve's Balance Sheet, $billions



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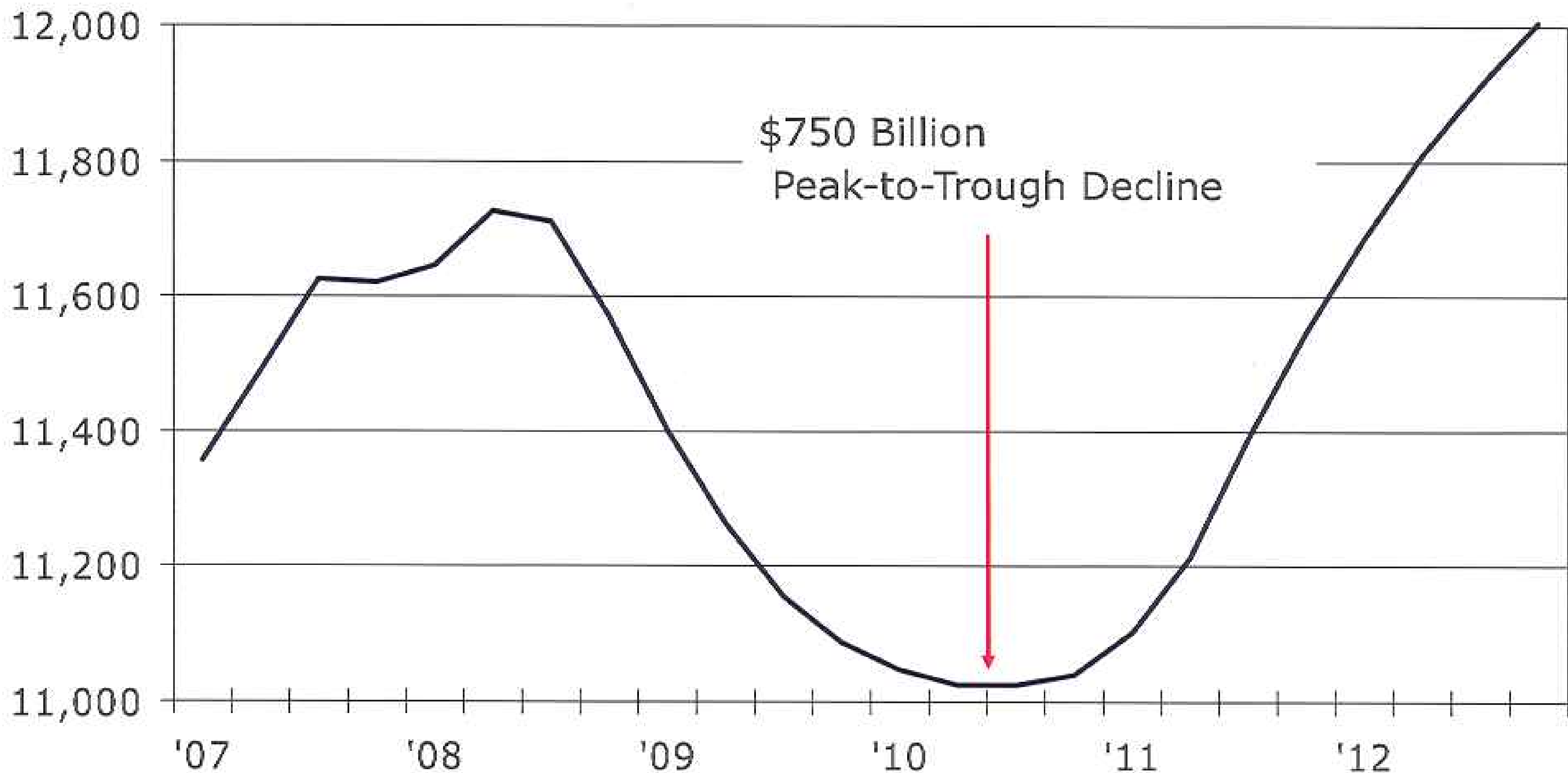
$750 Billion In Economic Stimulus...

Real GDP with no economic stimulus, Billions 2000$



Moody's | Economy·com

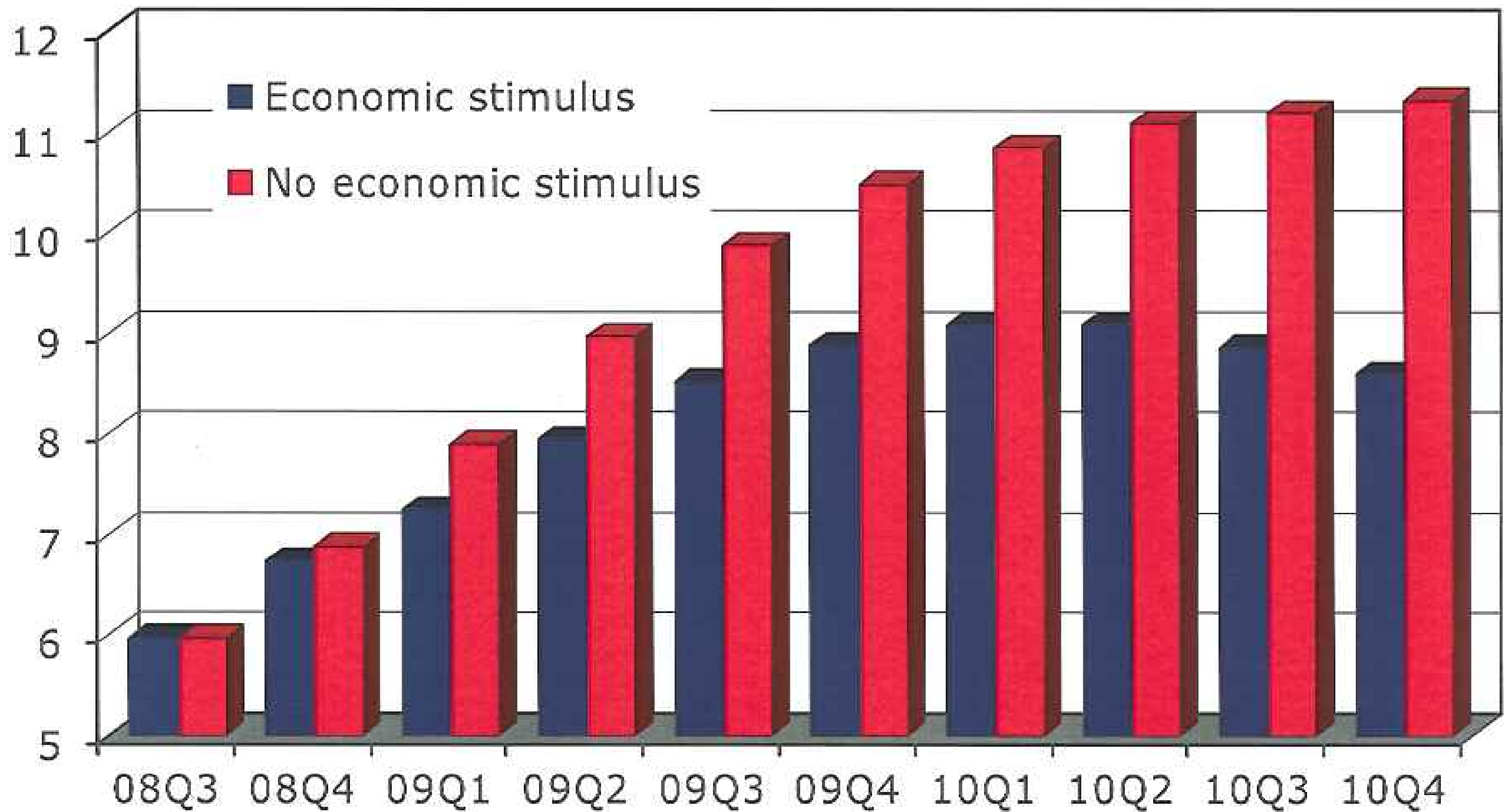
...Balanced Between Tax Cuts and More Spending...

Billions $

	2009q1	2009q2	2009q3	2009q4	2010q1	2010q2	2010q3	2010q4	2009	2010	2009-'10
Total Stimulus	5	143	96	128	99	105	92	82	372	378	750
Government Spending	5	23	51	62	83	88	74	64	129	322	450
Unemployment Insurance Benefits	1	2	3	4	4	5	4	3	10	16	26
Food Stamps	1	2	3	4	4	3	2	2	10	11	21
Infrastructure Spending	1	5	11	16	35	40	30	24	33	129	162
Traditional Infrastructure	1	3	7	10	20	20	15	12	21	67	88
Green Infrastructure	0	2	4	6	15	20	15	12	12	62	74
Aid to State Government	2	9	20	20	20	20	18	15	39	86	125
Health Care/Education Spending	0	5	14	18	20	20	20	20	37	80	117
Tax Cuts	0	120	45	66	16	17	18	18	231	69	300
Business Tax Benefits	0	20	30	50	0	0	0	0	100	0	100
Inividual Tax Benefits	0	100	15	16	16	17	18	18	131	69	200

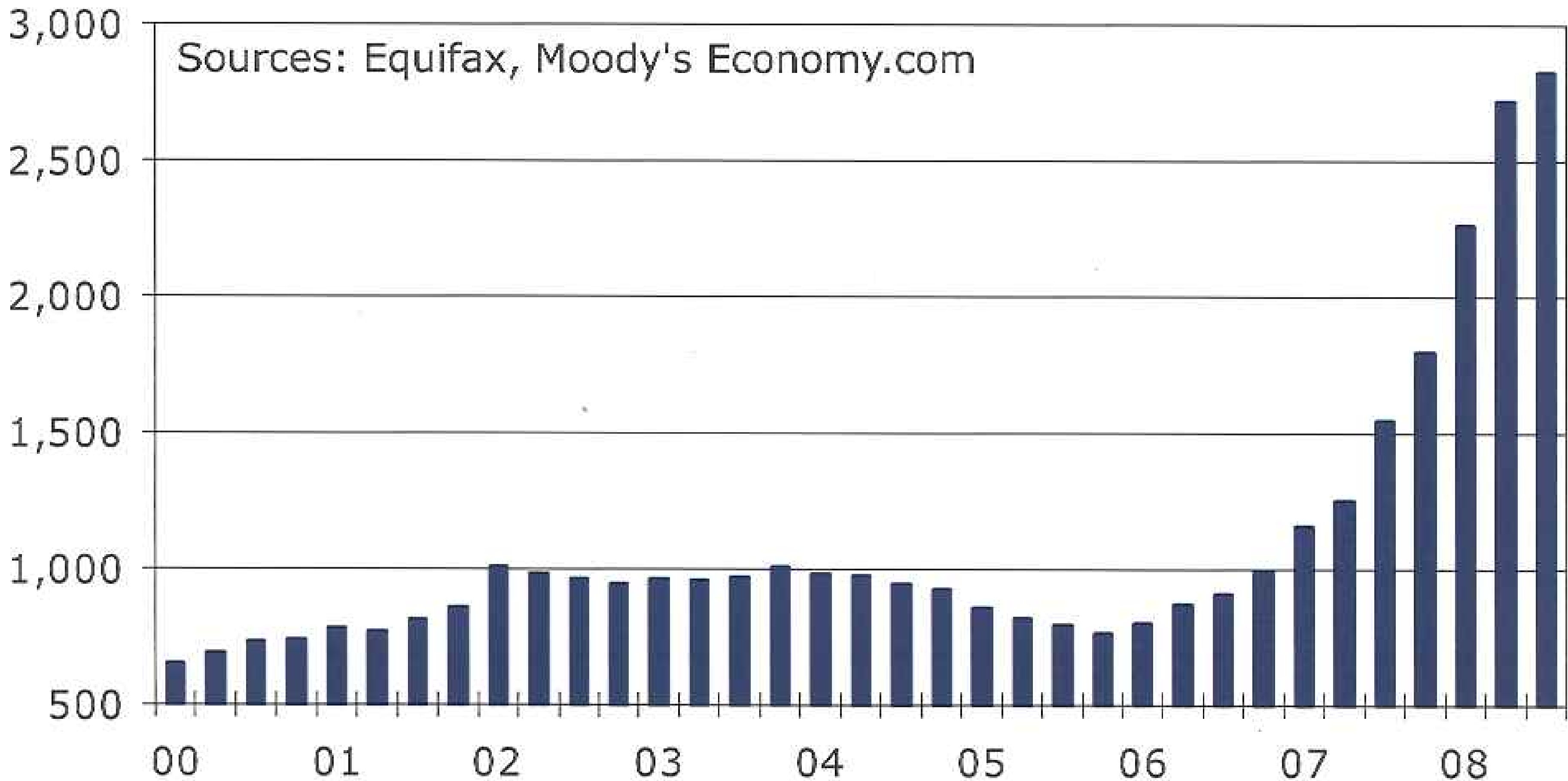
...Makes A Substantial Difference to the Outlook

Unemployment rate



Another Foreclosure Mitigation Plan is Vital

First mortgage loan defaults, ths, SAAR



www.economy.com

The 2009 Economic Outlook

Mark Zandi
Chief Economist
Moody's Economy.com

January 6, 2008

This will likely be the worst year for the U.S. economy since the end of the 1930s. The recession that began 13 months ago will plague much of 2009, particularly during the first half of the year.

Real GDP is expected to fall 2.6% peak to trough, and close to 5 million jobs will be lost (see Table 1). The unemployment rate will surge to over 9%. The drop in manufacturing will be especially severe, but the hallmark of this downturn will be its breadth across industries, occupations and regions. More than 300 of the nation's 381 metropolitan areas will be in recession; unlike in past recessions, which were regionally concentrated, there is no obvious place to move for better prospects in this downturn.

U.S. Business Cycle Since World War II

		Duration in Months		Peak-to-Trough % Change		Jobless Rate		
Peak	Trough	Recession Peak to Trough	Expansion Trough to Peak	Real GDP	Nonfarm Employment	Low	High	Change
December 2007	**September 2009**	**21**	**--**	**-2.6%**	**-3.6%**	**4.4%**	**9.1%**	**4.7%**
March 2001	November 2001	8	120	-0.4%	-1.2%	3.9%	6.3%	2.4%
July 1990	March 1991	8	92	-1.5%	-1.3%	5.2%	7.8%	2.6%
July 1981	November 1982	16	12	-2.8%	-3.2%	7.2%	10.8%	3.6%
January 1980	July 1980	6	58	-2.2%	-1.2%	5.6%	7.8%	2.2%
November 1973	March 1975	16	36	-3.4%	-1.8%	4.6%	9.0%	4.4%
December 1969	November 1970	11	106	-0.2%	-1.2%	3.4%	6.1%	2.7%
April 1960	February 1961	10	24	-0.5%	-2.3%	4.8%	7.1%	2.3%
August 1957	April 1958	8	39	-3.2%	-4.0%	3.7%	7.4%	3.7%
July 1953	May 1954	10	45	-1.9%	-3.0%	2.5%	6.1%	3.6%
November 1948	October 1949	11	37	-1.6%	-5.0%	3.4%	7.9%	4.5%
Average		**10**	**57**	**-1.8%**	**-2.4%**	**4.4%**	**7.6%**	**3.2%**

Sources: NBER, BEA, FRB, BLS, Moody's Economy.com

The outlook for 2009 has rapidly eroded. Just a few months ago we expected the recession would be well over, with unemployment peaking at or below 6.5% by this summer. But the jobless rate is already nearly 7%. This was the largest change over such a short period since Moody's Economy.com began forecasting the macroeconomy nearly 20 years ago.

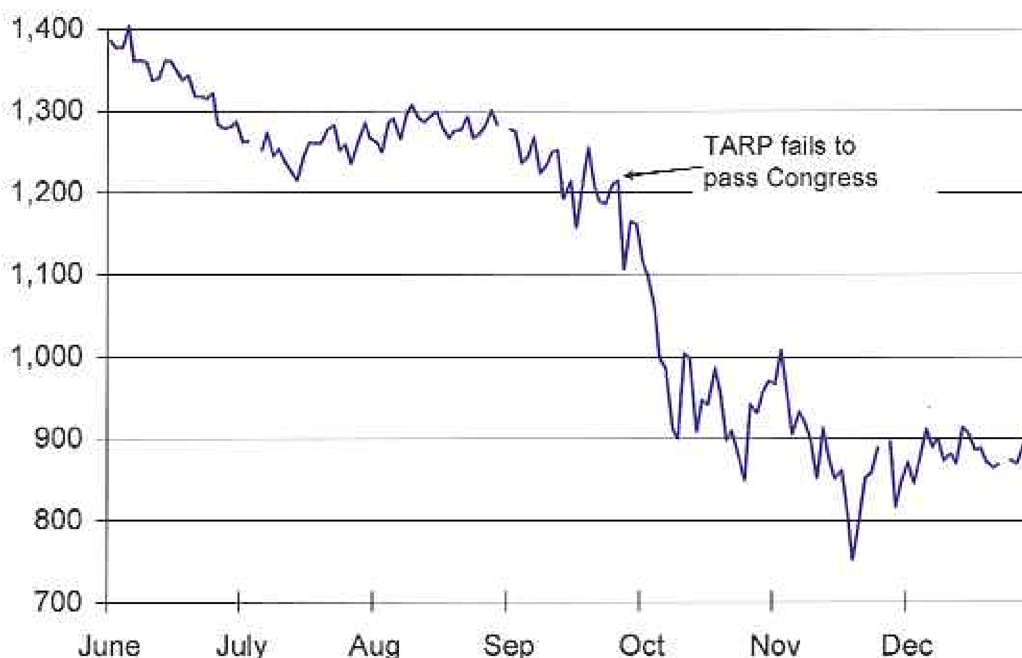
Prospects shifted dramatically this past fall, when the financial crisis worsened into financial panic. We had long warned that preconditions for a crisis were in place and were not surprised when it hit in summer 2007. We had expected the ensuing recession as early as November 2007. But we expected both the crisis and the recession to fade by mid-2008 after a strong monetary and fiscal response. As it happened, the panic intensified the downturn, making it inherently difficult to forecast the length and extent of the economic fallout. What is clear is that as long as the panic continues, risks to the outlook are all to the downside.

Policy missteps. The crisis resulted from excesses throughout the financial system, but the panic was precipitated by policy missteps, beginning with the government takeover of Fannie Mae and Freddie Mac in early September. When the Treasury Department put the GSEs into conservatorship, wiping out shareholders, it signaled to global investors that all financial institutions were at significant risk of failure. While Fannie and Freddie were probably insolvent on a mark-to-market basis, they still had sufficient

capital to meet regulatory requirements. In past financial crises, policymakers had shown forbearance to large institutions in similar situations: The precursor to today's Citigroup was likely insolvent during the early 1990s Savings & Loan crisis, but it was not taken over by regulators, to avoid unnerving investors.

Policymakers reinforced investor fears when they allowed Lehman Brothers to fail, one week after taking over the GSEs. That collapse forced a money market fund that had invested in Lehman debt to break the buck—the fund's net asset value fell below the $1 per share its investors had put in. This was a shock to ordinary investors who thought money funds were as safe as the proverbial mattress, and who began withdrawing their savings. To meet such redemptions, money funds had no choice but to sell their own assets, including commercial paper—short-term IOUs of major businesses. Firms that issue commercial paper to finance their basic operations in turn scrambled for funds. At this point, the panic jumped to equity markets as stock investors realized that no business was safe from the credit crunch (see Chart 1).

Chart 1: Stock Investors Lose Faith
S&P 500 stock index



Investor sentiment received another sharp blow in late September when Congress initially failed to muster enough votes to pass legislation establishing the Troubled Asset Relief Program. Neither the need for the $700 billion TARP nor how the money was to be used and overseen had been well explained by Treasury and the Fed. There was widespread confusion about how the government would purchase distressed mortgage loans and securities, and about how this would ease the financial panic. Congress did pass the legislation a few days later, after market turmoil had grown too loud to ignore, but not before significant damage had been done. There was no longer time to begin asset purchases; the TARP money was instead used to put capital into teetering financial institutions.

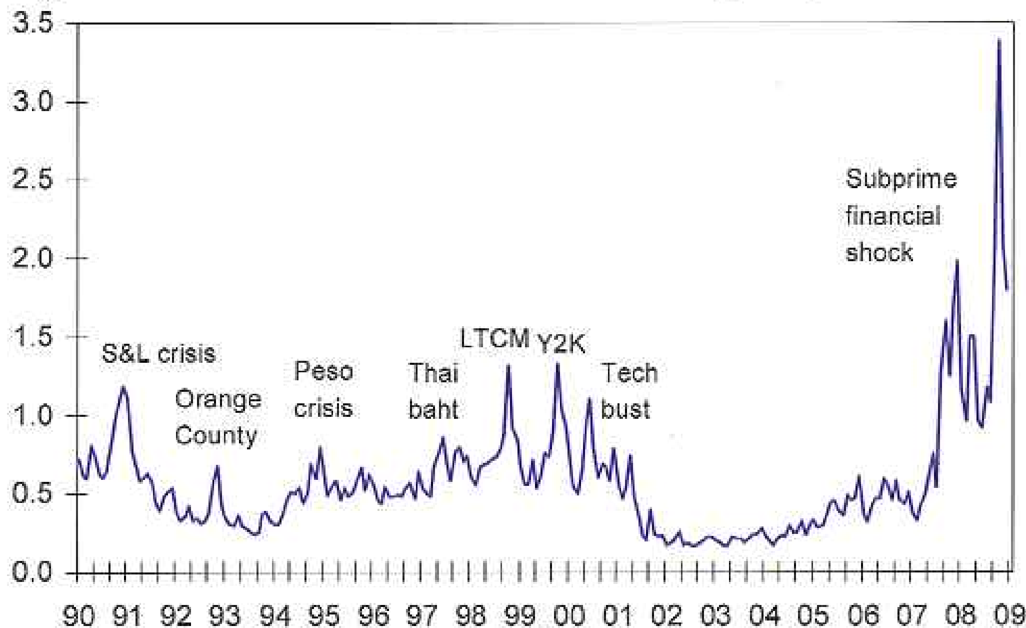
While providing capital was essential, abandoning the distressed asset purchases altogether was a mistake. When Treasury Secretary Paulson announced in November that TARP funds would not be used to buy mortgage assets after all, prices of those assets caved further. The collateral damage from this decision was the near-collapse of Citigroup, which held hundreds of billions of dollars worth of these loans and securities. Ironically, the only way to avert this calamity was for the Federal Reserve to guarantee Citi's bad assets, the same assets the Treasury had decided not to buy.

Printing money. Policy missteps precipitated the financial panic and deepened the recession; but given the current situation only a concerted, comprehensive and consistent policy response will forestall a collapse of the financial system and economy. Indeed, unless policymakers can quickly quell the financial panic, our already-somber 2009 outlook will turn measurably darker.

There are some reasons to be optimistic in this regard as the Federal Reserve's recent unprecedented actions take effect. The Fed has adopted a zero-interest rate policy for overnight interbank lending, and to bring down longer-term interest rates, the central bank has made it clear it intends to keep the fed funds rate there indefinitely. The Fed is also ramping up a policy of so-called quantitative easing, in which it effectively prints money to purchase securities and extend loans to financial institutions. It is already purchasing commercial paper and will soon buy debt issued by Fannie Mae and Freddie Mac and the mortgage securities they insure. The Fed will next buy long-term Treasury bonds and perhaps eventually even municipal bonds, corporate bonds and corporate equity if conditions worsen.

Long-term Treasury yields and fixed mortgage rates have fallen to record lows in response. Ten-year Treasury yields are near 2.5% and prime, 30-year, fixed rate mortgage loans are going for close to 5%. This is having an immediate economic benefit, lowering interest payments for strapped households and sparking a massive mortgage refinancing boom. Most prime mortgages have coupons near 5.5%; at a 5% rate, refinancing becomes profitable for some $1.25 trillion in outstanding mortgages. An additional $1 trillion can be profitably refinanced if rates fall to 4.5%. Subprime and alt-A borrowers will not get any relief, nor will some prime borrowers whose equity has been eroded by falling house prices. But it is a start.

The massive liquidity provided by the Fed to the financial system has also begun to unclog money markets. Interbank lending has improved as the three-month Libor-Treasury spread has narrowed, from more than 400 basis points in early October to around 100 basis points recently (see Chart 2). Commercial paper rates have fallen and issuance of commercial paper has increased. While the financial system remains far from normal, the panic appears to be past its apex.



Economic stimulus. Even if the panic further ebbs in coming weeks, as expected, serious economic damage has been done. Congress and the new Obama administration will need to respond aggressively.

A large economic stimulus is expected soon after the new administration takes office. The package will total some $750 billion over 2009-2010 and include aid to state and local governments, greater infrastructure spending, tax cuts for lower- and middle-income households, and some business tax cuts as well (see Table 2).

$750 Billion Economic Stimulus Package

Sources: BLS, BEA, Moody's Economy.com

	2009q1	2009q2	2009q3	2009q4	2010q1	2010q2	2010q3	2010q4	2009	2010	2009-'10
Total Stimulus	5	143	96	128	99	105	92	82	372	378	750
Government Spending	5	23	51	62	83	88	74	64	129	322	451
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Infrastructure Spending	1	5	11	16	35	40	30	24	33	129	162
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Green Infrastructure	0	2	4	6	15	20	15	12	12	62	74
Aid to State Government	2	9	20	20	20	20	18	15	39	86	125
Health Care/Education Spending		5	14	18	20	20	20	20	37	80	117
Tax Cuts	0	120	45	66	16	17	18	18	231	69	300
Business Tax Credits	0	20	30	50	0	0	0	0	100	0	100
Payroll Tax Credit	0	100	15	16	16	17	18	18	131	69	200

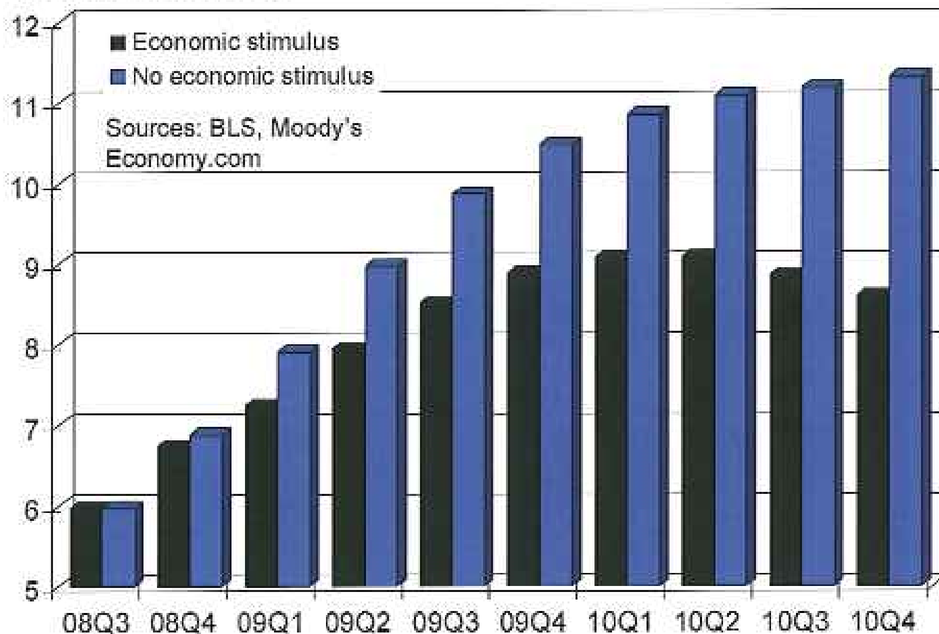
The package equals approximately 5% of GDP, making it smaller than the public works projects of the 1930s, but larger than the 3% of GDP spent on stimulus during the early 1980s. The cost of the current package would thus be consistent with expectations regarding the relative severity of this downturn. Five percent of GDP would also ensure that the economy stops contracting by the end of 2009, and that GDP returns to its pre-recession peak by the end of 2010; these are reasonable goals.

The mix of tax cuts and spending expected in the stimulus package is designed to provide both quick relief and a substantial boost to the struggling economy. The tax cuts will not pack a big punch, as some of the money will be saved and some used to repay debt, but they can be implemented quickly. Aid to state and local governments will not help lift the economy, but it will keep states from having to cut programs and payroll to balance their budgets. Infrastructure spending will not help the economy quickly—it will take time to get even "shovel-ready" projects going—but it will provide a significant boost. Given that the economy's problems are not expected to abate soon, this spending will be especially helpful this time next year.

To measure the benefits of the stimulus package, the Moody's Economy.com U.S. macroeconomic model was simulated, assuming no added fiscal stimulus except for that provided by the automatic stabilizers already in place. In this scenario, real GDP declines for eight straight quarters, falling by 3.7% in 2009 and another 1.5% in 2010. Some 7.6 million jobs would be lost from late 2007 to late 2010, pushing the unemployment rate to 11.5% by early 2011 (see Chart 3). Such a jobless rate would qualify this downturn as a depression.

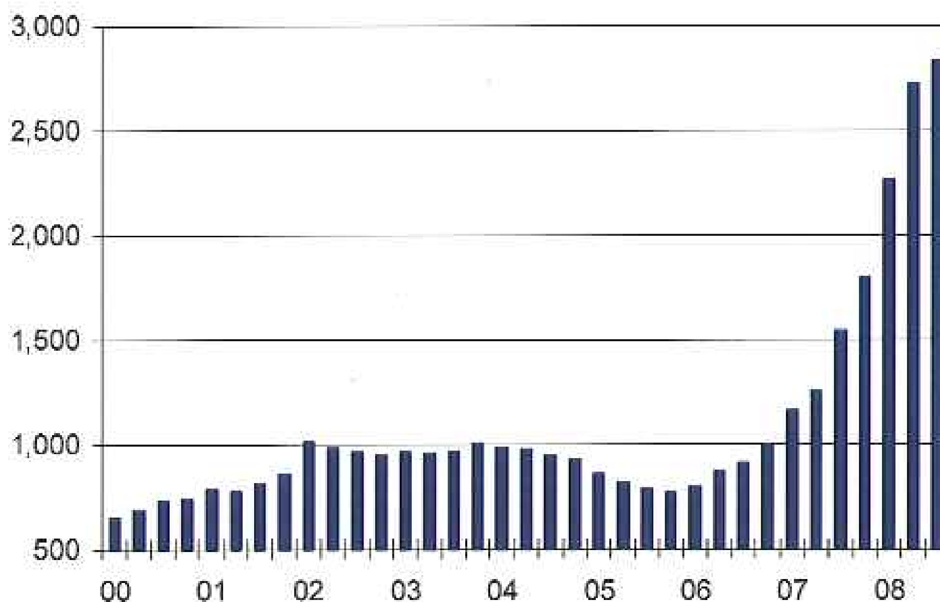
Foreclosure mitigation. The government will also need to deploy the $350 billion remaining in the TARP quickly. Some portion will keep the domestic automakers out of bankruptcy and help them restructure into more viable companies. A more significant portion will likely be spent on a large foreclosure mitigation plan helping millions of distressed homeowners.

Chart 3: Fiscal Stimulus Makes a Significant Difference
Unemployment rate



This is necessary as the foreclosure crisis is exacerbating pressure on the financial system and adding to the recession's severity. Since large numbers of homeowners began to miss mortgage payments three years ago, nearly 5 million have received default notices—the first step in the foreclosure process—and 3 million have lost homes in foreclosure sales, short sales or deeds-in-lieu (see Chart 4). With falling house prices and rising unemployment in much of the country, foreclosures are sure to accelerate in the coming year, devastating families, communities, the financial system, and the wider economy.

Chart 4: The Foreclosure Crisis Intensifies
First mortgage loan defaults, thousands



Policymakers are working to stem the surge in foreclosures. In late 2007, FHA Secure was established to help put distressed homeowners into FHA-insured loans. Hope Now, a consortium of mortgage servicers and lenders, was created soon after to streamline foreclosure mitigation efforts. Hope for Homeowners was established this past summer to encourage mortgage owners to reduce principal owed by distressed homeowners and to refinance them into FHA loans. The FDIC has also been aggressively modifying mortgage loans of institutions it seized and controls in receivership, and Fannie and Freddie have recently announced plans to modify loans they own and insure, where the borrowers are seriously delinquent.

These efforts have been helpful, but have been overwhelmed by the magnitude of the problem. Particularly worrisome is evidence that modification efforts to date have not been very successful. The Office of the Comptroller of the Currency recently reported that more than half the loans modified in early 2008 were back in delinquency within six months. The problem appears to be that most modifications have been limited to lowering interest rates and extending terms. These measures can lower monthly mortgage payments, but are ineffective when homeowners owe significantly more than their homes are worth in the market. Such people are likely to lose hope of ever building equity, and thus have little incentive to keep paying on their loans.

A consensus is building for a much larger foreclosure mitigation plan, including mortgage principal write-downs funded by taxpayers. There are many potential ideas for such a plan, although none has yet been forthcoming from the Obama transition team. While no plan solves all the fairness, moral hazard and other problems that arise with such an effort, such problems grow less important as the damage grows from so many foreclosures. At the same time, efforts to change bankruptcy laws to allow mortgage write-downs in some Chapter 13 filings—which have long been opposed by banking interests—appear to have a growing chance of success.

Swing factors. The unprecedented monetary and fiscal policy stimulus is expected to end the recession by late this year. Yet, beyond the speedy restoration of a more stable financial system, the length and severity of the downturn hinges on several key swing factors.

The deepening global economic recession—arguably the first synchronized global downturn since the early 1980s—poses a substantial threat to U.S. exports. Real exports are expected to remain flat in 2009, but will decline outright unless overseas markets find their footing later this year. It is thus encouraging that policymakers across the globe are acting vigorously to shore up their economies. Central banks are slashing interest rates almost everywhere. The average nominal target interest rate set by global central banks—weighted based on relative GDP—has fallen from 4.25% to nearly 1% over the past two years, and the real target rate has turned firmly negative. Large fiscal stimulus plans will soon be implemented in Germany, France, Japan, and the United Kingdom.

The U.S. is still the globe's safe haven, and must remain so. Although the global turmoil began here, the U.S. dollar has strengthened significantly, and investors are still willing to buy 10-year Treasury bonds at close to 2.5% and shorter-term Treasury bills for almost no yield at all. This gives policymakers significant latitude when considering the size of the economic recovery package and other costly fiscal stimulus. It would be disconcerting if global investors were spooked by the size of the U.S. government's borrowing needs, causing the dollar to weaken and interest rates to rise.

Continued low prices for oil and other commodities are also essential to the economy's prospects. With oil falling below $50 per barrel, the cost of a gallon of regular unleaded gasoline is approaching $1.50. This compares with almost $150 oil and $4 for a gallon of gasoline this past summer. Oil prices are expected to stay near $50 this year, saving American households a whopping $200 billion on their energy bills in 2009 compared with 2008. Any significant increase in oil prices—because of more significant OPEC production cutbacks, for instance—would be a very heavy weight for the economy to bear.

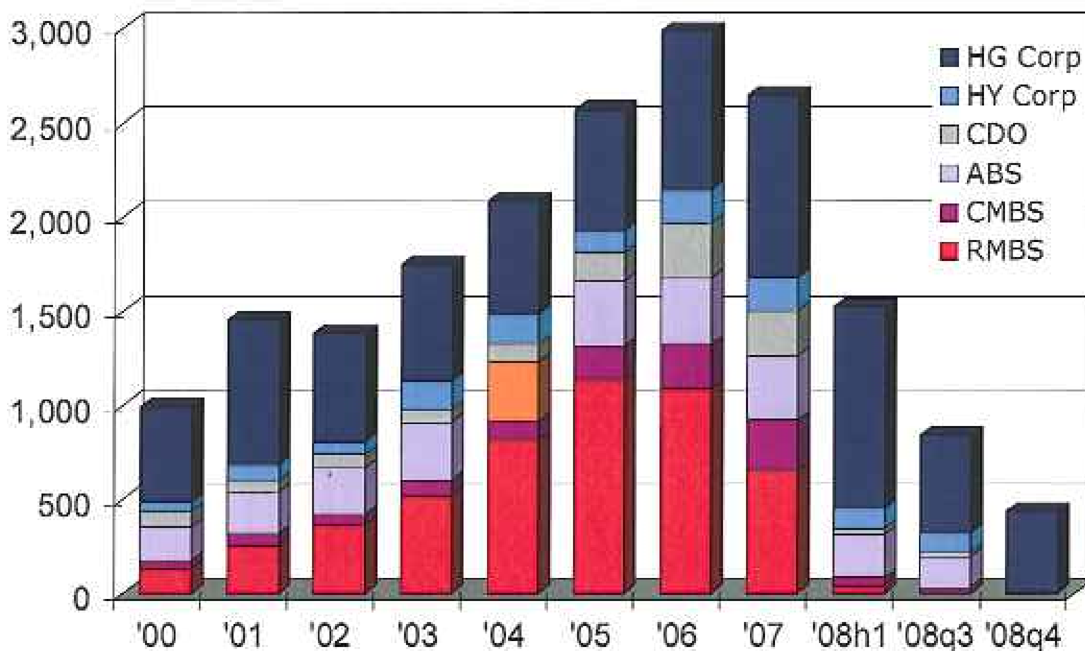
What then? Even if the recession ends late this year, as expected, the subsequent recovery looks to be lackluster. Real GDP is not expected to return to its pre-recession peak until late 2010, and the nation will not approach a full-employment jobless rate of 5% before President Obama's term nears its conclusion in

2012.

The principal impediment to a stronger recovery is the hobbled financial system and what will likely be a prolonged aversion to risk-taking. The current credit crunch will eventually abate, but it will take at least several years for credit to flow freely again. The banking system has more losses to digest—from deteriorating consumer, commercial real estate, and corporate loans—and it will be difficult for banks to attract new private capital. Lending will not normalize until capital positions are fully restored.

Credit markets will also be difficult to resurrect. Since securitization collapsed, it has become clear that this process was fundamentally flawed: No one, from lenders to investment banks to rating agencies to investors, thought they had enough at stake to make sure the underlying loans were prudently made (see Chart 5). To fill the void left by securitization, there are nascent efforts to establish a covered bond market, in which lenders would retain a larger share of the risk in loans they originate, but these have made little headway so far.

Chart 5: Credit Markets Are Broken
Bond issuance, millions $



Even when lending resumes, lenders will demand substantial risk premia, in the form of higher interest rates and fees, raising the cost of capital for household and corporate borrowers. Tighter credit and higher costs mean less investment and risk-taking. Start-up companies will have a harder go of it, stifling innovation and ultimately constraining productivity gains. The economy's longer-term prospects thus appear dimmer.

Washington's eroding fiscal situation also threatens the economy's long-term growth prospects. The federal government has committed nearly $9 trillion to address the current crisis, and while not all of it will end up as part of the national debt, taxpayers' ultimate bill could very well exceed $2 trillion. By comparison, the Savings & Loan crisis of the early 1990s cost taxpayers $275 billion in today's dollars. With Social Security, Medicare and Medicaid costs set to increase substantially in coming years, policymakers will have to make very difficult tax and spending decisions.

While it is easy to be pessimistic, it is worth noting that the problems at the root of the economic crisis are being addressed. Falling house prices make homes more affordable, idled construction thins the inventory of unsold houses, the personal saving rate is rising rapidly, and the trade deficit is narrowing as consumers retrench. It was hoped that these imbalances would be corrected gradually over years, even decades, rather than months. But while working through them in such a short period is painful, it could be the catalyst for fundamental changes in our financial system and regulatory framework, and perhaps even spark an effort to finally address the nation's long-term fiscal challenges. Some economic good can still come out of all the bad that has befallen the nation.

The Economic Impact of a $750 Billion Fiscal Stimulus Package

Mark Zandi
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January 6, 2009

The global financial system has effectively collapsed, undermining investor, household and business confidence, and pushing the economy into an increasingly lengthy and severe recession. Real GDP, employment, industrial production and retail sales are falling sharply, and unemployment is rising quickly. Policymakers must quickly implement a large fiscal stimulus package to support the rapidly eroding economy. Without such a stimulus, the economy appears headed toward the worst downturn since the Great Depression.

The proximate cause of the global economic crisis is the collapse of the U.S. housing market and the resulting surge in mortgage loan defaults. Hundreds of billions of dollars in losses on these mortgages have undermined the financial institutions that originated and invested in them, including some of the largest and most venerable in the world. Many have failed, and most others are struggling to survive. Banks are fearful about extending credit to one another, let alone to businesses and households. With the credit spigot closing, the global economy is withering. Global stock investors have dumped their holdings as they come to terms with the implications for corporate earnings. A self-reinforcing adverse cycle has begun: The eroding financial system is upending the economy, putting further pressure on the financial system as the performance of everything from credit cards to commercial mortgage loans sours.

This cycle can be mitigated only by aggressive and consistent government action. In the United States, the public policy response to the financial crisis has been without precedent. The full faith and credit of the U.S. government now effectively backstop the financial system, significant parts of which have been nationalized. With the takeover of Fannie Mae and Freddie Mac, the government makes nearly all the nation's residential mortgage loans. And as the $700 billion Troubled Asset Relief Program is deployed, the government is gaining sizable ownership stakes in the nation's largest financial institutions.

In an effort to restart money and credit markets, the Federal Reserve has vastly expanded its role. The Fed has adopted a zero interest rate policy, and in an attempt to bring down long-term interest rates, it has made it clear that the funds rate will remain there indefinitely. The Fed is also ramping up a policy of quantitative easing in which it effectively prints money to purchase securities and to extend loans to financial institutions that use their securities as collateral. It is already purchasing commercial paper and will soon buy debt issued by Fannie Mae and Freddie Mac and the mortgage securities they insure. It will then turn to buying long-term Treasury bonds and perhaps eventually even to municipal bonds, corporate bonds, and even corporate equity, if conditions become more dire.

Policymakers have also worked directly to shore up the housing and mortgage markets and broader economy. A number of programs have been put in place to enable stressed homeowners to avoid foreclosure. These include FHA Secure, Hope Now, and Hope for Homeowners. Fiscal stimulus measures, including last summer's refundable tax rebates and investment tax incentives, have provided some economic support.

Much more needs to be done to quell the financial panic and mitigate what threatens to become the worst economic setback since the Great Depression. The remaining $350 billion in TARP funds need to be deployed aggressively and more broadly. The equity infusions should be extended beyond commercial banks to other institutions whose failure would threaten the financial system and broader economy. Using the funds to shore up the consumer lending market will be helpful, but failing to follow through on purchases of distressed assets via reverse auctions or other mechanisms as initially envisaged for the TARP is a mistake. In theory, the auctions are an elegant way to determine market values for these now-impossible-to-price assets. With price discovery would come clarity about which financial institutions are

undercapitalized and by how much. Clarity, in turn, would attract the private capital ultimately needed to bolster the financial system. In practice, the auctions may not go as well, given the complexity of the assets to be purchased. If so, then the cost of trying will have been small.

A much larger and more comprehensive foreclosure mitigation plan funded by the remaining TARP money is also needed. Millions of homeowners owe more than their homes are worth, and unemployment is rising quickly. Foreclosures, already at record-high levels, are sure to mount. The Hope Now and Hope for Homeowners programs face severe impediments and even under the best of circumstances will likely be overwhelmed by the wave of foreclosures still coming. No plan will keep house prices from falling further, but quick action could avoid the darker scenarios in which crashing house prices force millions more people from their homes, completely undermining the financial system and economy.

The most important policy step needed soon is the implementation of a very large fiscal stimulus package. The package should both cut taxes and increase spending beginning this spring, when the economy is likely to be at its most vulnerable. The stimulus must be large, totaling approximately $750 billion, equal to close to 5% of the nation's gross domestic product. This is not as costly as the public works projects of the 1930s, but it is costlier than the 3% of GDP spent to stimulate the economy during the tough downturn in the early 1980s. The cost of the current package would thus be consistent with expectations regarding the severity of this downturn. A stimulus of 5% of GDP would also be about enough to ensure that the economy stops contracting by the end of this year and that GDP returns to its pre-recession peak by the end of 2010—reasonable goals.

The mix of tax cuts and spending increases in the stimulus package should be designed to provide both quick relief and a substantial boost to the struggling economy. The tax cuts will not pack a big economic punch, as some of the money will be saved and some used to repay debt, but they can be implemented quickly. Aid to state and local governments will not lift the economy, but it will forestall imminent cuts in programs and payrolls that many governments will be forced to make given their states' constitutional obligations to balance their budgets. Infrastructure spending will not help the economy quickly, as it will take time to get even "shovel-ready" projects going, but it would provide a significant economic boost. Given that the economy's problems are not expected to abate soon, this spending will be especially helpful this time next year.

With government making so many monumental decisions in such a short time, there will surely be unintended consequences. Some may already be evident: Nationalizing Fannie Mae and Freddie Mac while not rescuing Lehman Brothers from bankruptcy may very well have set off the financial panic and the Treasury Secretary's reversal on the use of TARP to purchase troubled assets set off the chain of events resulting in the near-failure of Citigroup. And policymakers need to be wary of the costs of their actions, as global investors will eventually demand higher interest rates on the soaring volume of U.S. Treasury debt. Any measurable increase in long-term interest rates would be counterproductive; its effect on the housing market and the rest of the economy would offset the economic benefits of the fiscal stimulus.

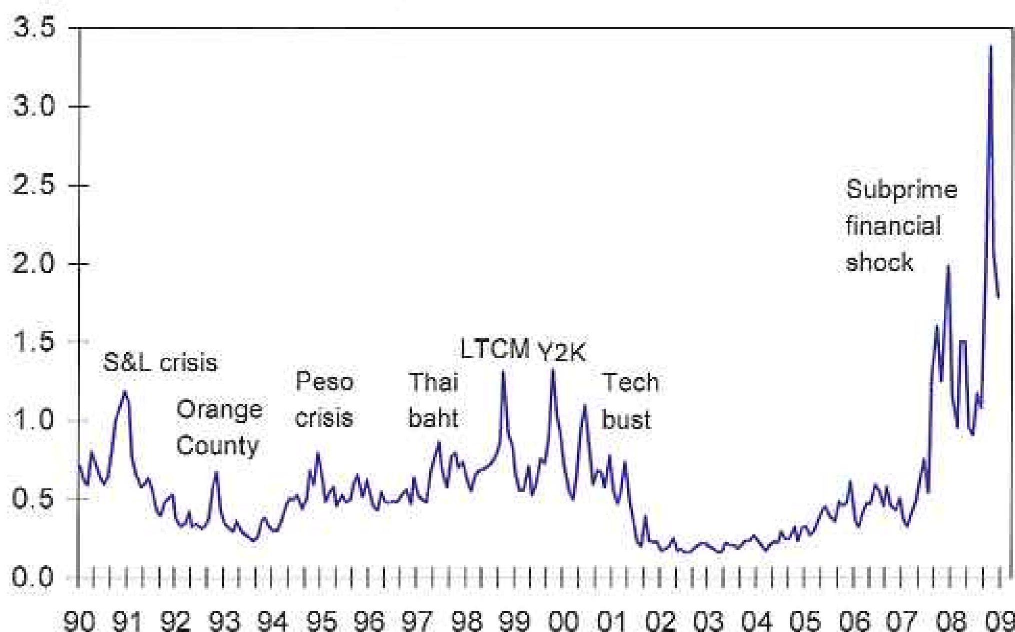
But policymakers' most serious missteps so far have come from acting too slowly, too timidly, and in a seemingly scattershot way. Early on in the crisis, there were reasonable worries about moral hazard and fairness: Bailing out those who took on, originated or invested in untenable mortgage loans would only encourage such bad behavior in the future. And a bailout would certainly be unfair to those homeowners still managing to make their mortgage payments. But as the crisis deepened and continued, those worries hindered policymakers far too long, allowing the panic to develop. With so many people suffering so much financial loss, moral hazard is no longer an issue. Debate over whether it is fair to help stressed households stay in their homes appears quaint. Their problems are clearly everyone's problems. Only concerted, comprehensive and consistent government action will instill the confidence necessary to restore financial stability and restart economic growth.

The economic backdrop

The need for more policy action is evident in the increasingly dark financial and economic backdrop. The financial panic that began in early September with the nationalization of Fannie and Freddie may have

passed its apex, but the collective psyche remains frazzled. And even if the panic soon subsides, substantial economic damage has been done. The collapse in confidence, the massive loss of wealth, and the intensifying credit crunch ensure that the U.S. economy will struggle for some time to come.

Money markets are improving—thanks to massive intervention by global central banks—but remain far from normal. The difference between three-month Libor and three-month Treasury bill rates—a good proxy for the angst in the banking system—is still an extraordinarily wide 130 basis points (see Chart 1).[i] This is down from the record spreads of mid-October, which topped 450 basis points, but it is still stratospheric compared with past financial crises, not to mention the average 50-basis point spread that prevails in normal times. The Fed's program to purchase commercial paper directly from issuers has pushed those short-term rates down as well, but they, too, are still very high.



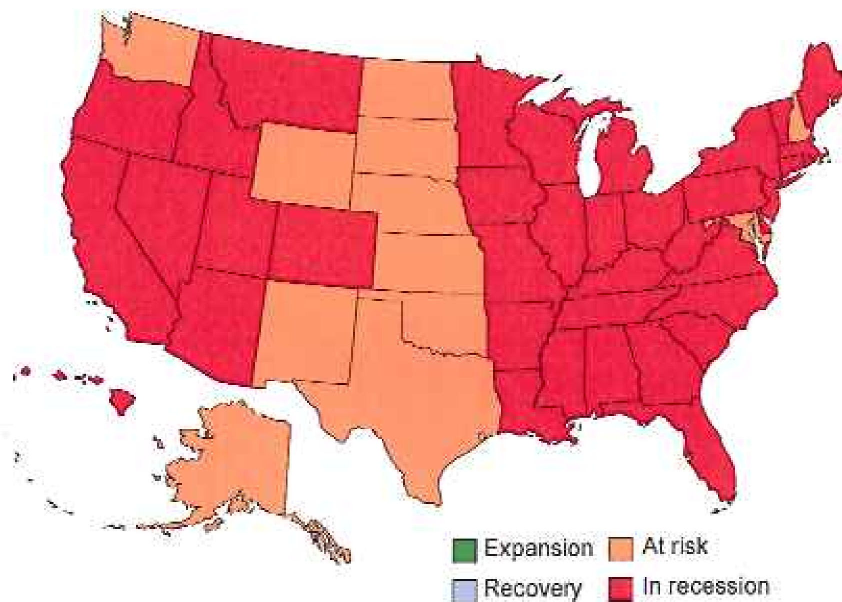
Credit markets remain badly shaken. Bond issuance has come to a standstill. No residential or commercial mortgage-backed securities have been issued in recent months, and there has been very little issuance of junk corporate bonds and emerging market debt. Asset-backed issuance of credit cards and vehicle and student loans, and issuance of municipal bonds also remain severely disrupted. Investment-grade bond issuance has held up somewhat better, but even that all but dried up in October and early November. Credit spreads—the extra yield investors require to be compensated for investing in riskier bonds—also remain strikingly wide as investors shun anything but risk-free Treasury bonds. The difference between yields on junk corporate bonds and 10-year Treasuries had ballooned to over 2,000 basis points, and the difference between emerging debt and Treasuries to over 1,200 basis points. Historically, yield spreads for both have averaged closer to 500 basis points.

Commodity and foreign currency markets have been roiled. Oil prices have fallen more than 50% from their record peaks in early July, and prices for commodities from copper to corn have plunged. Global commodity demand is weakening rapidly as the global recession undercuts the financial demand that had sent prices surging this past summer. Economies reliant on commodity production have been hit hard, and their currencies have rapidly depreciated. The Canadian dollar, which had been close to parity with the U.S. dollar as recently as this summer, has dropped below 80 U.S. cents, and the Brazilian real has fallen more than 40% against the U.S. dollar since the panic began.[ii]

Volatility in global stock markets has been unprecedented and the price declines nerve-wracking. Since the downdraft began a few months ago, global stock prices are off a stunning 30% in local currency terms and more than 40% from their year-ago highs. No market has been spared. The declines have been so precipitous that U.S. and European bourses have tried imposing limits on short-selling, and Russia has suspended trading for days at a time. All of this has been to no avail. Mutual fund, 401(k) and hedge fund investors simply want out of stocks, regardless of the losses and any associated penalties.

Even if the global financial system stabilizes soon, substantial damage has already been done. The U.S. economy was struggling before the financial panic hit; it has been in recession for over a year. Real GDP fell in the last quarter of 2007 and again in the third quarter of 2008.[iii] Some 1.9 million jobs have already been lost so far on net, and the unemployment rate has risen by over 2 percentage points to 6.7%. The downturn is broad-based across industries and regions, with 33 states now in recession (see Chart 2).[iv] Data since the panic hit have been uniformly bad, suggesting that the downturn is intensifying. Retail sales, vehicle sales and industrial production have plunged, and the increase in unemployment insurance claims in December is consistent with monthly job losses of 500,000.

Chart 2: Recession From Coast to Coast



The panic's most immediate fallout is the blow to confidence. Consumer confidence crashed in October to its lowest reading since the Conference Board began its survey more than 40 years ago. This is all the more surprising given the plunge in gasoline prices during the month; cheaper motor fuel in times past has always lifted households' spirits. Small business confidence as measured by the National Federation of Independent Businesses has also plunged (see Chart 3). Current events have so soured sentiment that they are sure to have long-lasting effects on household spending and saving, as well as on business decisions regarding payrolls and investment.

The pessimism will magnify the effect of evaporating household wealth. Net worth has fallen close to $12 trillion since peaking a year ago. Of that, $4 trillion results from the 20% decline in house prices, while the rest is due to the 40% decline in stock prices (see Chart 4). Every dollar loss in household net worth reduces consumer spending by 5 cents over the next two years.[v] If sustained, the wealth lost over the past year could thus cut $300 billion from consumer spending in 2009 and a like amount in 2010. More than in past recessions, the financial pain of this recession is being felt by all Americans, from lower-income households losing jobs to affluent households with diminished nest eggs.

Chart 3: Confidence Has Been Shattered
Indices

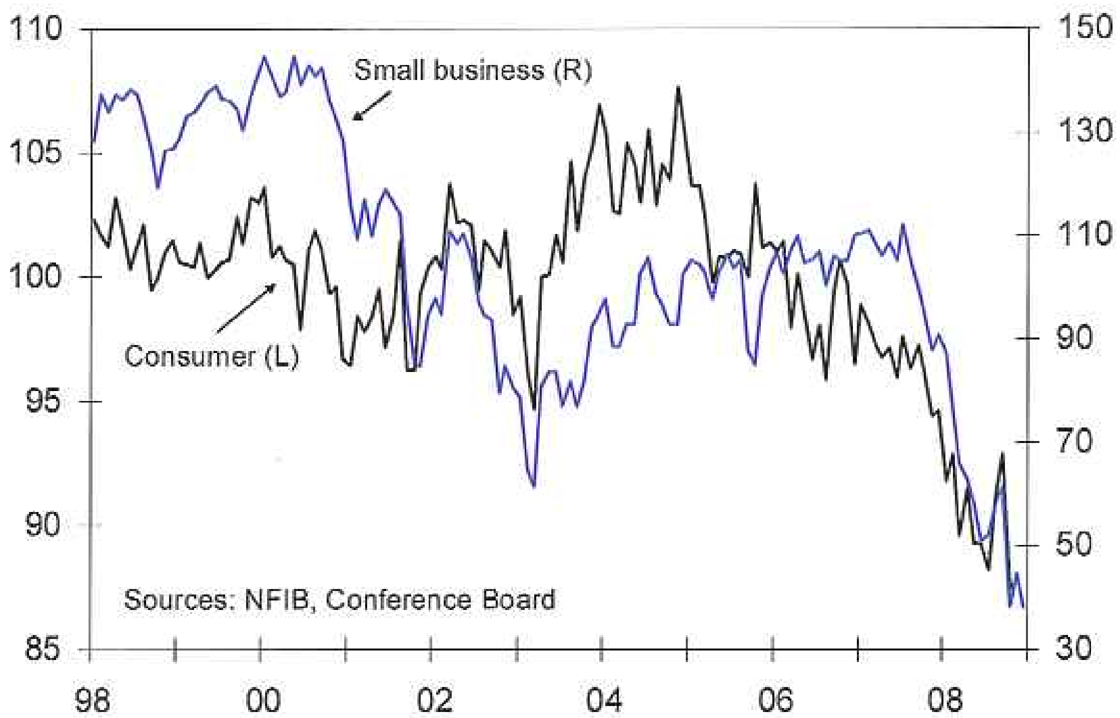
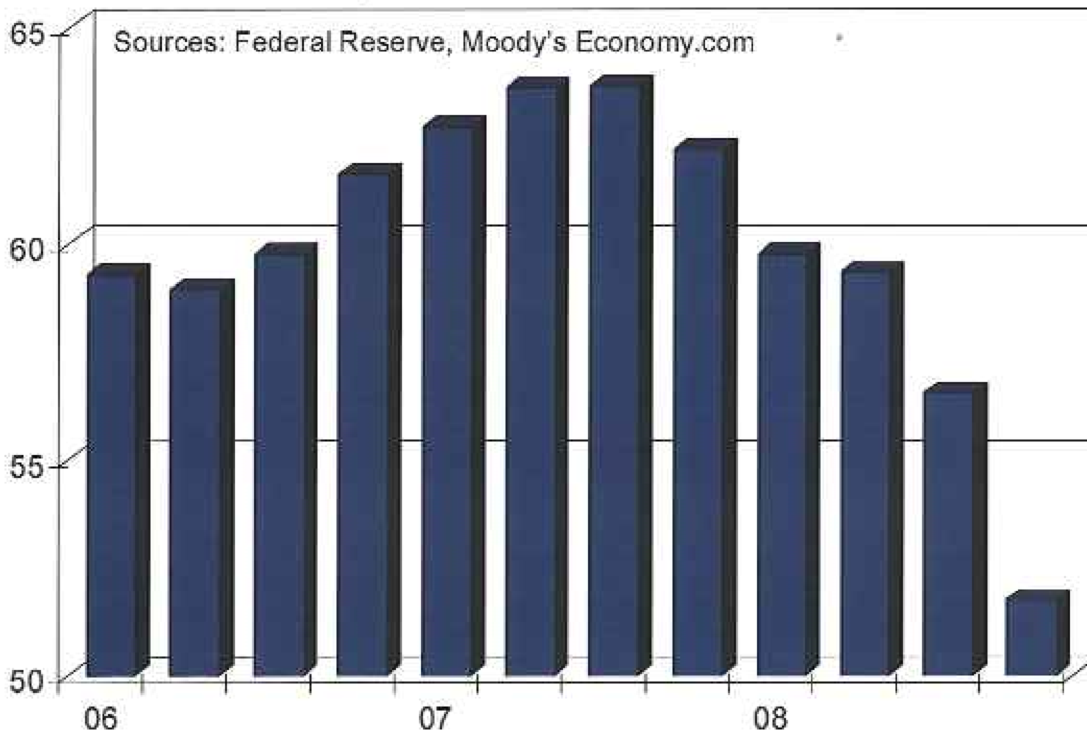
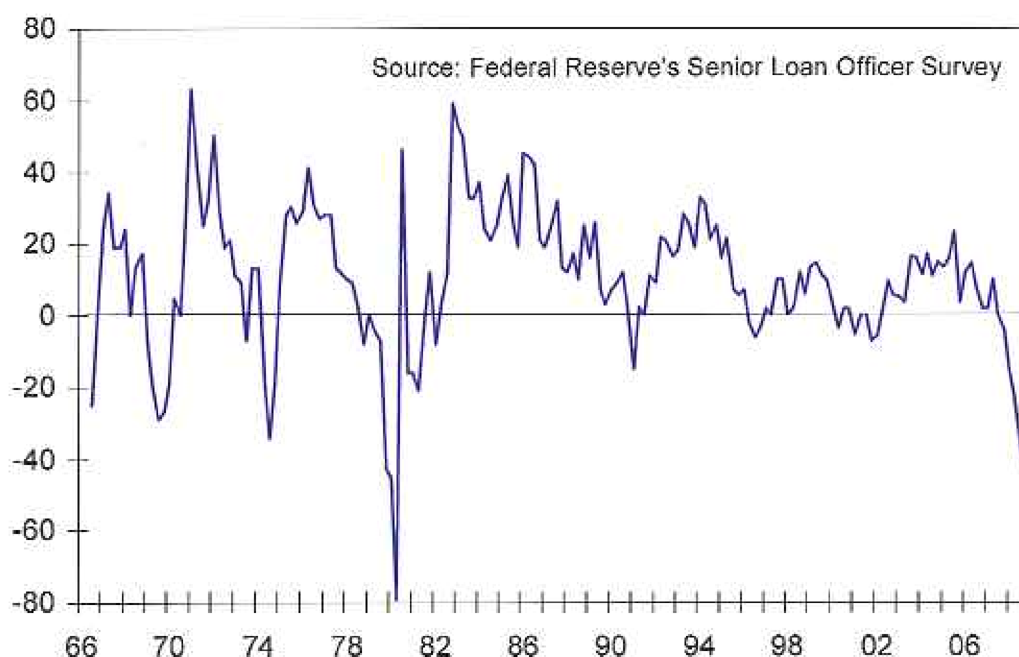


Chart 4: Household Nest Eggs Have Been Cracked
Household net worth, $ tril



The financial panic is also reducing the availability of credit and raising its cost. Credit growth was weakening rapidly even before recent events. The Federal Reserve's Flow of Funds shows debt owed by households and nonfinancial corporations actually fell in the second quarter of 2008 after inflation (the most recent data available) for the first time since the savings and loan crisis of the early 1990s. To date, the weakening in credit growth is largely due to disruptions in the bond and money markets. Lending by banks, S&Ls and credit unions has remained sturdy. But this is probably only because nervous borrowers have pulled down available credit lines, and with banks now battening down their underwriting standards and cutting lines, this source of credit is drying up. According to the Fed's senior loan officer survey, lenders have tightened credit over the past year as aggressively as they ever have. The net percent of loan officers who say they are willing to make a consumer loan is the lowest ever, with the exception of 1980 when the Carter administration briefly imposed credit controls (see Chart 5).[vi]

Chart 5: Banks Fight to Survive, Not to Make Loans
Net % of lenders willing to make consumer loans



The pernicious impact of a credit crunch on the economy is difficult to quantify, but the economy's performances during the early 1980s and early 1990s suggest it can be substantial. The 1980s downturn was the most severe in the post-World War II period, and while the 1990s downturn was not as bad, the economy struggled long after the recession formally ended. Using these two periods as a guide suggests that for every 1 percentage point decline in real household and nonfinancial corporate debt outstanding, real GDP declines by approximately 35 basis points. Thus, if real debt outstanding declines 12.5% from its early 2008 peak to a trough in mid-2010, which seems plausible, then this credit effect will cut almost $650 billion from GDP in 2009-2010.

One significant positive for the U.S. economy has come out of the financial panic: lower energy and commodity prices. With oil now trading near $50 per barrel, a gallon of regular unleaded gasoline should cost about $1.75. Gasoline prices peaked last summer above $4 per gallon and have averaged closer to $3 last year. Every penny-per-gallon decline in the cost of gasoline saves U.S. consumers just over $1 billion a year. Assuming gas remains below $2 per gallon through the coming year, Americans will save well more than $100 billion in 2009 compared with fuel costs in 2008. There will also be measurable savings on home heating and food bills as agricultural and transportation costs fall. Total savings next year compared with this year will thus approach $200 billion.

Calculating the costs to the economy from the wealth and credit effects, less the benefits from lower commodity prices, puts the net direct cost of the financial panic at $750 billion in 2009-2010, or 5% of GDP (a $300 billion wealth effect plus a $650 billion credit crunch effect minus $200 billion in savings due to lower commodity prices). This is, of course, a simplistic analysis; it does not account for all the indirect costs of the panic to the economy and the multipliers, but it gives a sense of the magnitude of the fallout.

Muted monetary stimulus

Reinforcing the need for fiscal stimulus measures is monetary policy's increasing inability to revive the economy. Stimulative monetary policy supports the economy by lowering the cost of credit and promoting the availability of credit. Even though the Federal Reserve has adopted a zero federal funds rate and is providing massive liquidity to the financial system, these efforts have yet to get credit flowing again or to measurably lower its cost. The Federal Reserve's unprecedented efforts will ultimately succeed, but given the severe disrepair of the financial system, this will occur very slowly.

Just how hard the Federal Reserve is working to restore stability in the financial system and economy is evident in its recent adoption of a policy of quantitative easing, in which it effectively prints money to buy financial securities. It is already buying commercial paper and will soon buy significant amounts of debt and mortgage securities guaranteed by Fannie Mae and Freddie Mac. Policymakers have also signaled that they will soon buy long-term Treasury bonds, thus monetizing the nation's debt.

In addition to stepping up its security purchases, the Fed is expanding its lending facilities. The first such facility—the Term Auction Facility—was established well over a year ago to allow banks to raise short-term cash. The newest facility is the Term Asset-Backed Securities Loan Facility, which beginning early next year will provide loans collateralized by newly issued securities backed by credit card debt and student, vehicle and small business loans. The Fed has made it clear this lending program could be extended to residential and commercial mortgage-backed securities.

The Fed is also willing to provide guarantees on troubled assets to backstop struggling financial institutions. Problems at Bear Stearns, AIG and Citigroup were resolved before they overwhelmed the broader financial system in part through guarantees on bad assets from the Fed.

Money markets have responded to the Fed's unprecedented actions. Libor has fallen, suggesting that the interbank lending market is performing better. Commercial paper rates have fallen, and the volume of new issuance has sharply increased. Residential mortgage rates have also declined, with 30-year fixed rates for prime conforming borrowers falling from over 6% to closer to 5%. Despite the better money market conditions, they remain far from normal, and even after financial institutions begin lending more freely to one another, they will be slow to extend credit more freely to households and businesses, given their mounting worries over the creditworthiness of all borrowers in a severe recession. Moreover, lower mortgage rates will do little to quickly revive home sales, given rising unemployment and plunging house prices.

How large a fiscal stimulus?

The goal of fiscal stimulus measures is to maximize the near-term boost to economic growth without weakening the economy's longer-term prospects. This requires that the stimulus be implemented quickly and that its benefits go first and predominately to those hurt most by the economy's problems. The amount spent on the stimulus should be large enough to provide a measurable boost but not so large that it harms the nation's long-term fiscal condition. The likely severity and length of the current recession means the stimulus plan should be very large: Given that the direct economic costs of the financial panic are estimated at $750 billion, this would be a good benchmark. Such a stimulus plan would be four times the size of the tax rebate checks mailed this past summer and would equal more than 5% of GDP.

To provide the largest bang for the buck, a well-designed stimulus plan should include a temporary increase in government spending. Spending increases benefit the economy as soon as the money is

disbursed, and the economic benefit is less likely to be diluted by increased imports. The most efficacious spending includes extending unemployment insurance benefits, expanding the food stamp program, and increasing aid to hard-pressed state and local governments. Increasing infrastructure spending would also greatly boost the economy, particularly in the current downturn, as the economy's problems are expected to last for an extended period and most of the money will be spent on hiring workers and on materials and equipment produced domestically.

Tax cuts should also be part of a well-designed fiscal stimulus plan, as they can be implemented relatively quickly. Particularly helpful would be tax cuts that benefit lower- and middle-income households, perhaps in the form of payroll tax credits. Investment and job tax benefits for businesses are less economically efficacious but are not particularly costly and could be included to more widely distribute the benefits of the stimulus package. Assuring higher-income households that their tax rates will not increase any time soon would also be helpful.

UI and food stamps

Extra benefits for workers who exhaust their regular 26 weeks of unemployment insurance benefits and expanded food stamp payments have been part of the federal response to most recessions, and for good reason: They are the most efficient ways to prime the economy's pump. Simulations of the Moody's Economy.com macroeconomic model show that every dollar spent on UI benefits generates an estimated $1.63 in near-term GDP.[vii] Boosting food stamp payments by $1 increases GDP by $1.73 (see Table 1). People who receive these benefits are hard-pressed and will spend any financial aid they receive very quickly. Another advantage is that these programs are already operating and can quickly deliver a benefit increase to recipients. The virtue of extending UI benefits goes beyond simply providing financial aid for the jobless to more broadly shoring up household confidence. Nothing is more psychologically debilitating, even to those still employed, than watching unemployed friends and relatives lose their sources of support.[viii] Increasing food stamp benefits has the added virtue of helping people ineligible for UI such as part-time workers.

Table 1: Fiscal Stimulus Bang for the Buck
Source: Moody's Economy.com

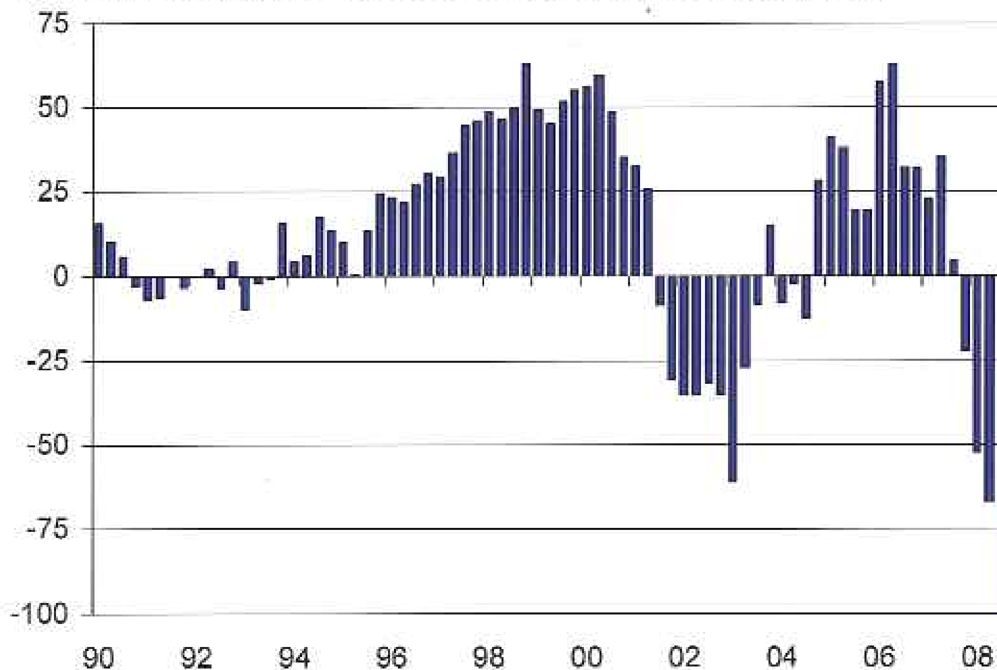
	Bang for the Buck
Tax Cuts	
Nonrefundable Lump-Sum Tax Rebate	1.01
Refundable Lump-Sum Tax Rebate	1.22
Temporary Tax Cuts	
Payroll Tax Holiday	1.28
Across the Board Tax Cut	1.03
Accelerated Depreciation	0.25
Permanent Tax Cuts	
Extend Alternative Minimum Tax Patch	0.49
Make Bush Income Tax Cuts Permanent	0.31
Make Dividend and Capital Gains Tax Cuts Permanent	0.38
Cut in Corporate Tax Rate	0.30
Spending Increases	
Extending Unemployment Insurance Benefits	1.63
Temporary Increase in Food Stamps	1.73
General Aid to State Governments	1.38
Increased Infrastructure Spending	1.59

Note: The bang for the buck is estimated by the one year $ change in GDP for a given $ rec

Aid to state and local governments

Another economically potent stimulus is to provide additional aid to financially pressed state governments. This could take the form of general aid or a temporary increase in the Medicaid matching rate to ease the costs of healthcare coverage.

Over 40 states and a rapidly increasing number of localities are already grappling with significant fiscal problems. Tax revenue growth has slowed sharply along with falling home sales, property values, retail sales and corporate profits. Personal income tax receipts have also begun to suffer as the job market slumps. Big states including California and Florida are under severe financial pressure, and smaller states including Arizona, Minnesota and Maryland are struggling significantly. The gap between state and local government revenues and expenditures ballooned to over $100 billion—a record—in the third quarter of 2008, according to the Bureau of Economic Analysis (see Chart 6).



Because most state constitutions require their governments to quickly eliminate deficits, most have drawn down their reserve funds and have already begun to cut programs ranging from healthcare to education. Cuts in state and local government outlays are sure to be a substantial drag on the economy in 2009 and 2010. Additional federal aid to state governments will fund existing payrolls and programs, providing a relatively quick economic boost. States that receive checks from the federal government will quickly pass the money on to workers, vendors and program beneficiaries.

Arguments that state governments should be forced to cut spending because they have grown bloated and irresponsible are strained, at best. State government spending and employment are no larger today as a share of total economic activity and employment than they were three decades ago. The contention that helping states today will encourage more profligacy in the future also appears overdone. Apportioning federal aid to states based on their size, rather than on the size of their budget shortfalls, would substantially mitigate this concern.

Infrastructure spending

Increased infrastructure spending is also a particularly effective way to stimulate the economy. The boost to GDP from every dollar spent on building bridges and schools is large—an estimated $1.59 and there is little doubt that major infrastructure investment is needed. The case against including such spending as a part of a stimulus plan, however, is that it generally takes substantial time for funds to flow to builders and contractors and into the broader economy.[ix] Infrastructure projects can take years from planning to completion. Even if the funds are used to finance only projects that are well along in their planning, it is very difficult to know just when projects will get under way and when the money will be spent. Although this caveat is important in many cases, the economy's problems could extend well into 2010, weakening the argument against infrastructure spending in the current downturn.

Personal tax cuts

A measurable economic boost would be provided by implementing the Making Work Pay credit proposed by President-elect Barack Obama. This new refundable tax credit for wage earners and the self-employed would equal 6.2% of up to $8,100 of earnings, resulting in a maximum credit of $500 and $1,000 for spouses filing jointly. The credit would be phased out as adjusted gross income rises. To get some money into people's pockets quickly, the tax credit could be made retroactive to 2008 and rebate checks could be sent out this spring based on income earned last year.

Under current law, personal marginal tax rates and capital gains and dividend income tax rates are set to increase in 2011, when the 2001 and 2003 tax cuts start to expire. At expiration, 1) the top marginal tax rate for individuals will increase from 35% to 39.6%; 2) the maximum long-term capital gains tax rate will increase from 15% to 20%; and 3) the top tax rate on divided income will increase from 15% to 39.6%. A modest stimulus would be provided by codifying the currently lower tax rates for individuals who make less than $250,000 annually as Obama has promised. Although taxpayers earning more than $250,000 annually likely expect their tax rates to rise, it would be beneficial if they are assured that this increase will be phased in over several years.

Business tax incentives

Temporary tax incentives to support business investment and hiring do not provide a particularly large economic benefit, but they are generally not very expensive and they do distribute the benefits more widely. Accelerated depreciation by large businesses and expensing of investment by small businesses were included in last year's fiscal stimulus. These benefits have expired, however, and extending these tax benefits through 2010 would forestall a badly timed additional factor depressing business investment.

Economic impact of stimulus measures

Unless policymakers quickly implement a very large and effective fiscal stimulus plan, the economy appears headed for the worst downturn since the Great Depression. The Moody's Economy.com macroeconomic model's simulation results support this assessment. Simulating the model assuming that there is no added fiscal stimulus except for that provided by the automatic stabilizers already in place, real GDP would decline for eight straight quarters, falling by a stunning 3.7% in 2009 and another 1.6% in 2010. This would be more severe than the early 1980s recessions, which combined were the worst since the Depression. Some 7.6 million jobs would be lost from the peak in employment at the start of 2008 to the bottom in employment by late 2010, pushing the unemployment rate to over 11% by early 2011.

The implementation of a fiscal stimulus plan beginning in early 2009 would make a substantial difference in the economic outlook. This can be seen by simulating the macro model assuming that a $750 billion stimulus program is implemented in 2009 and 2010 (see Table 2). The plan includes $450 billion in increased government spending, composed of nearly $45 billion in additional spending on UI benefits and foods stamps, $125 billion in increased aid to state governments, $160 billion in greater infrastructure spending, and $120 billion on healthcare and education programs.

$750 Billion Economic Stimulus Package
Sources: BLS, BEA, Moody's Economy.com

	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1	2010Q2	2010Q3	2010Q4	2009	2010	2009-10
Total Stimulus	5	143	98	128	99	105	92	82	372	378	750
Government Spending	5	23	51	62	83	88	74	64	129	322	451
Unemployment Insurance Benefits	1	2	3	4	4	5	4	3	10	16	26
Food Stamps	1	2	3	4	4	3	2	2	10	11	21
Infrastructure Spending	1	5	11	18	35	40	30	24	33	129	162
Traditional Infrastructure	1	3	7	10	20	20	15	12	21	67	88
Green Infrastructure	0	2	4	6	15	20	15	12	12	62	74
Aid to State Government	2	9	20	20	20	20	18	15	39	86	125
Health Care/Education Spending		5	14	18	20	20	20	20	37	80	117
Tax Cuts	0	120	45	68	16	17	18	18	231	69	300
Business Tax Credits	0	20	30	50	0	0	0	0	100	0	100
Payroll Tax Credit	0	100	15	16	16	17	18	18	131	69	200

The plan also includes $300 billion in tax cuts, composed of $100 billion in business tax benefits and $200 billion in tax cuts to individual. Rebate checks are assumed to be mailed in the second quarter of 2009. The stimulus also includes changes to the tax law to make permanent current marginal tax rates for taxpayers who make less than $250,000 a year and to allow for a phase in from 2011 to 2014 of higher marginal rates for taxpayers who make more. [x]

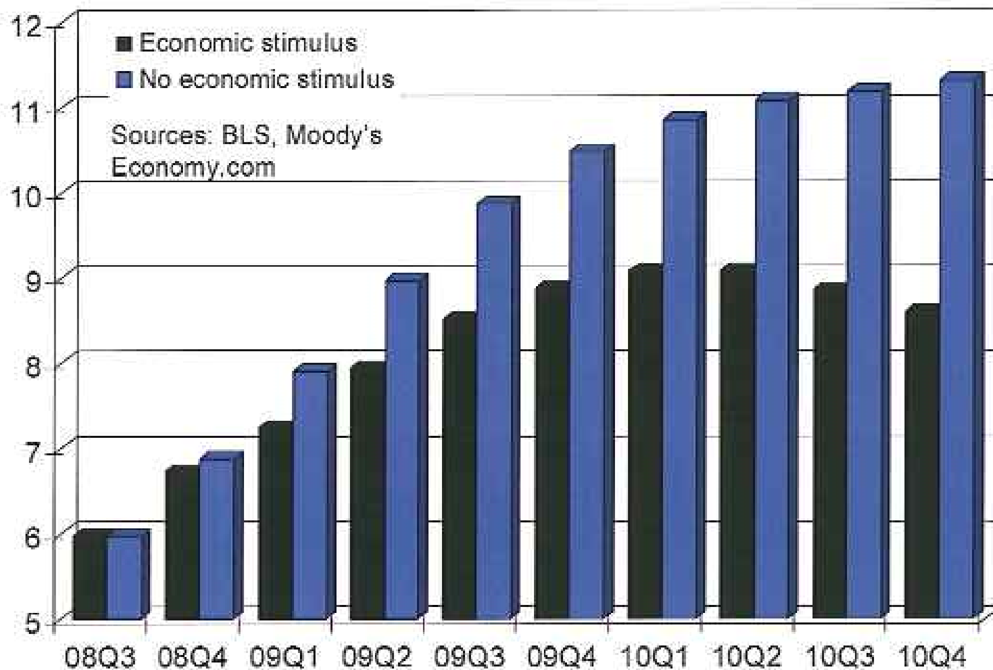
The $750 billion stimulus plan would not forestall a sizable decline in real GDP in 2009, but it would ensure that real GDP returns to its previous peak by the second half of 2010 (see Table 3). The fiscal stimulus limits the peak-to-trough decline in jobs to some 5 million, and the unemployment rate peaks at nearly 9% in early 2010. With the stimulus, the unemployment rate falls back to its full employment rate of close to 5% by late 2012. Without the stimulus, the unemployment rate rises to well over 11% by mid-2010 and ends 2012 at over 8%, still extraordinarily high (see Chart 7).

Table 3: The Economic Benefit of $750 Billion Fiscal Stimulus Package
Sources: BEA, BLS, Moody's Economy.com

	Real GDP, 2000$ bil			Real GDP, % change		
	No Stimulus	Stimulus	Difference	No Stimulus	Stimulus	Difference
2007	11,523.9	11,523.9	-	2.03	2.03	-
2008	11,664.2	11,664.2	-	1.22	1.22	-
2009	11,227.4	11,473.5	246.0	-3.74	-1.64	2.1
2010	11,034.7	11,702.8	668.0	-1.72	2.00	3.7
2011	11,313.4	12,263.1	949.7	2.53	4.79	2.3
2012	11,852.9	12,905.7	1,052.8	4.77	5.24	0.5

	Unemployment Rate			Payroll Employment, mil		
	No Stimulus	Stimulus	Difference	No Stimulus	Stimulus	Difference
2007	4.64	4.64	-	137.6	137.6	-
2008	5.74	5.74	-	137.2	137.2	-
2009	9.31	8.15	(1.2)	132.8	133.9	1.1
2010	11.11	8.91	(2.2)	130.6	134.3	3.8
2011	10.77	7.62	(3.2)	131.7	137.6	5.9
2012	9.07	6.10	(3.0)	135.6	141.9	6.3

Chart 7: Fiscal Stimulus Makes a Significant Difference
Unemployment rate



Despite the added federal government borrowing necessary to finance the stimulus, it would not lead to excessively higher long-term interest rates. Given all the current demands on the Treasury, total bond issuance with the stimulus would approach a record $2 trillion in fiscal 2009 and about the same in fiscal 2010, but private bond issuance would remain extraordinarily depressed during this period. The moribund issuance of corporate debt, emerging market debt, and private-label mortgage and asset-backed debt will eventually revive, but total credit market needs including the record Treasury issuance will remain modest enough that the 10-year Treasury yield would remain below 4% through 2010. It is now firmly below 3%. Other long-term rates, including corporate bond and mortgage rates, would rise by even less as credit spreads narrowed, reflecting the stronger economy and reduced credit concerns.

All regions of the country will measurably benefit from the fiscal stimulus, but some will benefit more than others. The most significant boost will be provided to states that are being hit hardest by the housing and foreclosure crisis, such as Florida and Nevada; that rely heavily on the financial services industry, such as New York and New Jersey; and that also depend on the auto industry, such as Michigan and Ohio. Without a fiscal stimulus, the job market suffers significantly, inducing more foreclosures in those parts of the country where house prices have fallen most sharply, and undermining the demand for big-ticket items such as vehicles and discretionary activities such as tourism. Layoffs on Wall Street will also intensify as financial markets and institutions are hammered by the impact of a much weaker economy on stock prices and credit markets. The economic benefits of the fiscal stimulus are less pronounced in the nation's agricultural and energy-producing regions. The economies of these areas are boosted by more infrastructure spending and the increased federal aid for their state governments, but agricultural and energy prices will remain low, because they are determined in global markets and not materially lifted by the fiscal stimulus.

Conclusions

A long history of public policy mistakes has contributed to this crisis. Although there will surely be more missteps, only through further aggressive and consistent government action will the U.S. avoid the most severe economic downturn since the Great Depression.

In some respects, this crisis has its genesis in the long-held economic policy objective of promoting homeownership. Since the 1930s, federal housing policy has been geared toward increasing homeownership by heavily subsidizing home purchases. Although homeownership is a worthy goal, fostering stable and successful communities, it was carried too far, producing a bubble when millions of people became homeowners who probably should not have. These people are now losing their homes in foreclosure, undermining the viability of the financial system and precipitating the recession.

Perhaps even more important has been the lack of effective regulatory oversight. The deregulation that began during the Reagan administration fostered financial innovation and increased the flow of credit to businesses and households. But deregulatory fervor went too far during the housing boom. Mortgage lenders established corporate structures to avoid oversight, while at the Federal Reserve, the nation's most important financial regulator, there was a general distrust of regulation.

Despite all this, the panic that has roiled financial markets might have been avoided had policymakers responded more aggressively to the crisis early on. Officials misjudged the severity of the situation and allowed themselves to be hung up by concerns about moral hazard and fairness. Considering the widespread loss of wealth, it is now clear they waited much too long to act, and their response to the financial failures in early September was inconsistent and ad hoc. Nationalizing Fannie Mae and Freddie Mac but letting Lehman Brothers fail confused and spooked global investors. The shocking initial failure of Congress to pass the TARP legislation caused credit markets to freeze and sent stock and commodity prices crashing.

Now, a new policy consensus has been forged out of financial collapse. It is widely held that policymakers must take aggressive and consistent action to quell the panic and mitigate the resulting economic fallout. An unfettered Federal Reserve will pump an unprecedented amount of liquidity into the financial system to unlock money and credit markets. The TARP fund will be deployed more broadly, and another much larger and comprehensive mortgage loan modification program is needed to blunt further increases in foreclosures. Finally, another very sizable economic stimulus plan will be needed early next year. The most economically efficient plan would include aid to state governments and infrastructure spending, in addition to another round of tax cuts. The economy's problems are likely to continue long enough to make such spending particularly helpful a year from now.

Each of these measures carries substantial costs. The federal budget deficit, which topped $450 billion in fiscal 2008, could easily top $1 trillion in fiscal 2009 and remain very high in 2010. Borrowing by the Treasury will top $2 trillion this year. There will also be substantial long-term costs to extricate the government from the financial system. Unintended consequences of all the actions taken in such a short period will be considerable. These are problems for another day, however. The financial system is in disarray, and the economy's struggles are intensifying. Policymakers are working hard to quell the panic and shore up the economy; but given the magnitude of the crisis and the continuing risks, policymakers must be aggressive. Whether from a natural disaster, a terrorist attack, or a financial calamity, crises end only with overwhelming government action.

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[i] The London interbank offered rate is the interest rate at which major banks lend to one another.
[ii] Currency swings have been wild enough to prompt discussion of coordinated government intervention. This seems unlikely, in part because the currency moves until recently have been largely welcome. A stronger U.S. dollar means global investors still view the U.S. as a haven, which is important as the Treasury ramps up borrowing. Nations whose currencies are falling against the dollar are hopeful that this will reduce pressures on their key export industries.
[iii] When all the GDP revisions are in, they are expected to show that real GDP also fell in the first quarter of 2008. Second quarter growth was supported by the tax rebate checks as part of the first fiscal stimulus package.

[iv] State recessions are determined using a methodology similar to that used by the business cycle dating committee of the National Bureau of Economic Research for national recessions.
[v] For a more thorough discussion of the wealth effect, see "MEW Matters," Zandi and Pozsar, *Regional Financial Review*, April 2006. In this article, the housing wealth effect is estimated to be closer to 7 cents, while the stock wealth effect is nearer to 4 cents.
[vi] This was part of a failed effort to rein in the double-digit inflation of the period.
[vii] The model is a large-scale econometric model of the U.S. economy. A detailed description of the model is available upon request.
[viii] The slump in consumer confidence after the recession in 1990-1991 may have been due in part to the first Bush administration's initial opposition to extending UI benefits for hundreds of thousands of workers. The administration ultimately acceded and benefits were extended, but only after confidence had waned and the fledgling recovery sputtered.
[ix] It should be noted that the economic bang for the buck estimates measure the change in GDP one year after spending actually occurs; it says nothing about how long it may take to cut a check to a builder for a new school.
[x] The cost of these tax law changes is not included as part of the cost of the stimulus plan.

United States House of Representatives
111th Congress

Steering and Policy Committee

A Comprehensive Jobs and Recovery Plan

Remarks of Professor Robert B. Reich
January 7, 2009

Committee chairs: Thank you for inviting me to speak to you today on the need for a comprehensive jobs and recovery package, and how it can most effectively address the severe economic crisis we are now experiencing.

The problem and the need

The core problem we face is *not* access to capital. The Treasury has already flooded Wall Street and the banking system with money, committing nearly $350 billion; the Federal Reserve Board has exchanged Treasury bills for some $2.2 trillion of troubled assets; other agencies, such as the FDIC, have guaranteed trillions more. But there has been no appreciable result. Banks will not lend because they fear borrowers will not repay; businesses will not borrow because they do not have adequate markets for their goods and services; individuals cannot and will not borrow because they do not have enough reliable income to do so.

The core problem lies on the demand side. American consumers, whose purchases represent 70 percent of the economy, do not have the purchasing power to maintain overall demand for American goods and services. Businesses will not invest unless consumers are able to buy. Exports cannot possibly fill the gap. Inadequate demand is forcing the private sector to lay off large numbers of workers, which, in turn, is further reducing the buying power of consumers. In 2008, 1.9 million jobs vanished -- the biggest drop in non-farm payrolls in thirty-four years. We are caught in a vicious cycle.

As the buyer of last resort, the federal government must respond if that cycle is to be reversed. In my judgment, this will require a stimulus of about 6 and a half percent of gross domestic product, or a total of some $900 billion, spread over two years. That's my estimate for the shortfall in private demand. But the federal government should stand ready to spend larger sums if necessary to get the economy back on track toward full capacity. The danger is not that the government will do too much; the danger is that it will do too little, too late.

Without such action, I estimate that another 3 million jobs will be lost in 2009, unemployment will rise to 10 percent of the workforce by the end of this year, and under-employment -- including people working part-time who would rather be working full time, and those too discouraged even to look for work – will reach 15 percent. Without federal action, next year could be even worse.

People often ask where the money for the stimulus will come from. The answer is the same places from which the Federal Reserve and the Treasury have financed their far larger attempt to rescue the financial system. The bulk of the money will have to be borrowed from abroad, largely from China and Japan. This is less than ideal, but failure to adequately stimulate the U.S. economy, resulting in years of economic stagnation, would be far worse – both for us and for the rest of the world. Moreover, our current ratio of debt to gross domestic product is still below 50 percent, not substantially higher than that of most other industrialized nations. In 1946, our debt to GDP ratio was over 100 percent.[1] Most of the declines in our debt-GDP ratio over the years have been achieved through higher levels of economic growth rather than through less debt. The sooner we return to growth, the better able we will be to reduce this ratio.

The goals of the recovery plan

In my view, the goals of the economy recovery plan should be to:

- Strengthen traditional safety nets;
- Increase purchasing power, especially among the bottom half;

[1] In 1946, just after World War II, the national debt amounted to $241.9 billion and the GDP, $222.3 billion, resulting in a debt-GDP ratio of 108.8 percent.

- Create as many new jobs as quickly as possible;
- Get the long-term unemployed and the poor into many of those jobs.

The recovery plan also presents an opportunity to make "down payments" on the important goals of reducing the nation's dependence on oil and improving access to health care.

My recommendations for accomplishing these goals are as follows:

Strengthen safety nets. America's current safety nets are inadequate for a recession this deep. They must be strengthened if millions of American families are to avoid extreme poverty. This will not only provide Americans more economic security; strengthening our safety nets is also a speedy and direct means of stimulating the economy. Stronger safety nets will enable jobless families to continue to purchase goods and services, and thereby contribute to overall demand. Indeed, precisely because they are needy, these families are most likely to spend every extra dollar they receive.

1. *Expand eligibility for unemployment insurance to cover contingent workers.* Unemployment insurance now covers only 37 percent of people who lose their jobs.[2] Those who are not covered are largely contingent workers typically earning low wages -- employed part-time, often in more than one job; or moving from job to job, often within one or two years. The recovery package should enable states to provide unemployment benefits to all workers already eligible and to expand eligibility to cover these contingent workers. When the economy recovers, these costs can be paid through a small increase in the FUTA tax.

2. *Extend unemployment benefits.* In the current economic downturn, increasing numbers of unemployed workers are exhausting their benefits. The current 13-week extension of benefits ends in March. Given the intensity of the economic downturn, benefits should thereafter be extended for 26 weeks.

3. *Expand access to health care for the unemployed.* Subsidize employers who continue to provide health benefits to laid-off workers and their

[2] National Employment Law Project, "The Employment Insurance Modernization Act: Filling the Gaps in the Unemployment Safety Net While Stimulating the Economy," November, 2008.

families. Enable other laid-off workers and families to be eligible for Medicaid.

4. *Enlarge food stamp allocations*. As of September, 2008, a record 31.5 million Americans were enrolled in the Supplemental Nutrition Assistance Program, roughly 10.3 percent of the population, each receiving $100 per month per family member. These numbers can be expected to rise considerably in 2009 and 2010. The current economic emergency is putting many more Americans at risk. Food stamp allocations should be increased.

5. *Extend lifetime TANF benefits beyond 60 months*. Temporary Assistance for Needy Families (TANF) limits lifetime benefits to sixty months. Although the number of families receiving benefits has declined markedly since 1996 when the law was enacted, the nation's poverty rate remained roughly the same through 2007, when 9.8 percent of American families were in poverty. This suggests that a major reason for the decline in the number of families receiving TANF benefits has been the increasing numbers reaching the 60-month limit. The severe recession we are now experiencing is likely to significantly enlarge the portion of American families in poverty. For this reason, the 60-month limit should be lifted, at least until the economic emergency is over.

Increase purchasing power, especially among the bottom half. A major reason why American families cannot now buy the goods and services our economy is capable of producing is their incomes are inadequate. The decline in median family incomes during this decade was masked by the housing bubble, which enabled many families to borrow against their houses. Now that that bubble has burst, they can no longer rely on such borrowings to finance their purchases. Yet the purchasing power of American families must be enhanced if the economy is to rebound. A quick and reliable way to accomplish this is to reduce their taxes. Cutting the taxes of middle and lower-income families will give the economy a bigger boost than cutting the taxes of higher-income families because the former are more likely to spend rather than to save any extra dollars.

1. *Cut income taxes for the middle class*. Reduce income taxes by $500 for single filers with up to $100, 000 of income, and by $1000 per couple with up to $200,000 of income. This tax cut should be fully refundable. That is,

people who earn too little to pay federal income taxes should receive these sums as direct payments.

2. *Make the Child Tax Credit fully refundable.* The Child Tax Credit is now $1000 per child, through tax year 2010. But because it is not fully refundable to low-income families who don't pay enough taxes to qualify, an estimated 10.6 million children were ineligible for it in 2007, and an additional 11 million received less than the full amount. The Child Tax Credit should be made fully refundable.

4. *Expand the Earned Income Tax Credit.* Add $500 to $1000 for eligible families with one or more children, and $400 to $800 for married couples without children.

5. *Exempt the first $15,000 of wages from the payroll tax.* Most American taxpayers pay more in payroll taxes than they do in income taxes. Exempting the first $15,000 of wages from the payroll tax, at least for the next two years, is another direct and immediate way to increase the purchasing power of American families.

6. *Eliminate sales taxes, temporarily.* A "sales tax holiday" would increase consumption immediately. The federal government would reimburse state and local governments for lost revenues.

Create new jobs as quickly as possible. The focus should be on jobs that can be created quickly, that respond to current public needs or build productive capacity for the future, and which are undertaken in the United States.

1. *Relieve shortfalls in state and local government budgets, thereby saving and increasing public-service jobs.* This is the fastest way to generate jobs. State shortfalls alone are projected to total approximately $350 billion between fiscal year 2009 and 2011.[3] As a result, states and locales have been cutting jobs in almost every area of public service – primary and secondary education, education of students with disabilities and special needs, after-school programs, parks, sanitation, recreation, libraries, community colleges,

[3] See Center on Budget and Policy Priorities, "State Budget Troubles Worsen," updated December 23, 2008. http://www.cbpp.org/9-8-08sfp.htm .

higher education, public hospitals, public transportation, and family services – as well as health-related jobs financed by Medicaid. Many of these jobs are typically filled by women and by lower-income workers. Many respond to needs that are growing as the economy falters. The recovery plan should cover these state and local shortfalls and, ideally, provide additional funding to meet growing needs.

2. *Create jobs repairing and upgrading the nation's roads, bridges, ports, levees, water and sewage systems, public-transit systems, electricity grid, and schools, and invest in energy conservation.* Such spending not only stimulates the economy; it expands the economy's future productive capacity. The challenges will be to undertake these initiatives reasonably quickly – federal contracting procedures are typically lengthy – and to limit them to those with large social benefits while avoiding "pork-barrel" projects.

3. *Create jobs in new technologies -- especially non-fossil based sources of energy, universal broadband Internet access, and computerized health information -- using "Buy America" provisions.* These can be critical public investments for the future. Yet many of these technologies – wind turbines, solar cells and panels, electrical conductors, and so on – are now either produced abroad or could be. In order to achieve the most effective stimulus and create the largest number of jobs in the United States, as well as encourage the development of these industries here, they should be sourced here. Although "Buy America" requirements under current laws are complex and haphazardly enforced, the stimulus plan should be clear about this requirement, and it should be fully enforced. [4]

4. *Mandate prevailing wages.* If the plan is to maximize the number of jobs and the purchasing power of American workers, local wages must not be undermined. All contractors utilizing money from the stimulus package – whether hired by federal, state, or local governments -- should pay prevailing wages. The Davis-Bacon McNamara-O'Hare Service Contract Acts should be made applicable.

Make sure the poor and long-term unemployed get a portion of those jobs. Lower-income Americans -- including women and minorities, and the

[4] This is not an argument for giving a preference to U.S.-based companies, but for companies headquartered anywhere around the world which will agree to produce in the United States. Nor should this be construed as a "beggar thy neighbor" form of trade protection. Federal contracts are already subject to "Buy American" laws.

long-term unemployed -- are especially hard hit by this recession. It is important that these people have a fair chance to get the new jobs that will result from federal action. This is also good for the economy. These groups are most likely to spend any extra income they receive. And their spending is likely to promote other jobs on the Main Streets of the lower-income communities in which they live.

1. *Require contractors to set aside 20 percent of jobs for such groups.* All contracts entered into with stimulus funds – either by federal, state, or local governments – should require contractors to provide at least 20 percent of jobs to the long-term unemployed and to people with incomes at or below 200 percent of the federal poverty level.

2. *Create a "Green Jobs Corps."* Low-income and low-skilled workers should be put directly to work providing homes and businesses with more efficient and more renewable heating, lighting, cooling, and refrigeration systems; installing solar panels and efficient photovoltaic cells; rehabilitating and renovating older properties, and improving recycling systems. Green Jobs Corps teams could be trained to evaluate and advise homeowners and businesses on these and other means of conserving energy.[5]

3. *Provide job training linked to these and other jobs generated by the stimulus.* These "green" jobs, as well as many others generated by the stimulus – installing new pipes for water and sewage systems, mixing and pouring cement, laying asphalt, installing and repairing basic equipment -- can be done by people who receive relatively short-term training for them. At least 2 percent of project funds should be allocated to such training, most efficiently through the Workforce Investment Act. In addition, advantage should be taken of building trades apprenticeships, which must be fully available to women and minorities.

4. *Provide income assistance during training.* One of the biggest barriers for vulnerable populations who want such training is their need for income while being trained. Income maintenance should be assured for the duration of training, up to six months.

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[5] See Mathew Forstater, "Green Jobs: Public Service Employment and Environmental Sustainability," *Challenge*, July-August, 2006.

A note about housing. No stimulus can fully succeed if millions of American families continue to lose their homes through foreclosure. Housing markets will continue to decline, people cannot move to take new jobs, and industries such as construction and retail services will continue to shed jobs.

Mortgage mitigation efforts to date have failed largely because investors won't agree to take their losses on bad investments. In my view, the answer is to enable families to write down their home mortgages in bankruptcy – just the way businesses can do with commercial property and people can do with vacation homes and investment properties. This change in bankruptcy law should be part of the stimulus plan.

Conclusion. The federal government's responsibility for restoring aggregate demand is at least as great – arguably, far greater – than its responsibility for rescuing the financial system and helping U.S. automakers restructure. Without adequate demand, credit markets will continue to be frozen and major American industries will languish. Yet there is no ready formula for how the federal government should proceed because we have not been here before.

This largest and most serious economic downturn in more than sixty years will require both a willingness to try new policies and to change course if those policies appear to be ineffective relative to their costs. The danger is not that the federal government will do too much but, rather, that it will do too little.

Whatever is contained in the stimulus plan must also be clear and transparent, so that the public can know and understand what is being tried. Finally, although the ferocity of the downturn necessitates quick action, policy makers and the public will need to be reasonably patient. Even with the best of policies, a substantial and sustainable turnaround cannot be expected any time soon.

The Economic Stimulus and Sustained Economic Growth

Martin Feldstein

Oral Testimony
to the
House Democratic Steering and Policy Committee

January 7, 2009

Thank you for the opportunity to speak with you about the current economic situation and the appropriate policy response. I look forward to your questions after my brief statement.

The current financial crisis and economic downturn are the worst that I have experienced. I believe this will be a longer and more damaging recession than any since the depression of the 1930s.

This downturn is very different from previous recessions. Past recessions occurred after the Federal Reserve raised the short-term interest rate in order to counter rising inflation. When it felt that it had succeeded, the Fed reversed direction and lowered rates. The lower rates then caused an economic recovery, primarily by stimulating housing construction.

The current recession was not caused by Federal Reserve tightening and the Fed has therefore not been able to revive the economy by lowering rates. Because of the dysfunctional credit markets and the collapse of housing demand, monetary policy has had no traction.

Stopping the decline of the economy and returning to sustainable growth will require two different kinds of policies:

- a policy to fix the housing problem that is the fundamental cause of the financial crisis, so that normal flows of private lending will resume

- a fiscal stimulus of reduced taxes and increased government spending to bring back aggregate demand

Today one out of every four mortgages exceeds the value of the home, giving the homeowner an incentive to default. As house prices fall, that incentive gets stronger. The fear of those defaults and of the resulting downward spiral of house prices means that financial institutions cannot have confidence in the solvency of other financial institutions and even in the value of their own balance sheet. That lack of confidence stops the lending needed for a return to sustainable growth.

Some months ago I proposed a policy based on Mortgage Replacement Loans that would allow house prices to continue the necessary adjustment to the pre-bubble level without triggering a rise in defaults and foreclosures. I have explained in my longer statement for this hearing how this would work. It would require a one-time expenditure of about $150 billion that could come from the TARP funds.

The other proposals to help individual homeowners who are having difficulty meeting their mortgage payments would not go far enough to end the uncertainty about future mortgage defaults that prevents the recovery of the credit markets.

But while fixing the credit markets is necessary for sustained economic growth, it will not bring the economy back to full employment. Because monetary policy is not effective, reviving the economy requires a major fiscal stimulus from tax cuts and increased government spending.

It pains me to say that because I am a fiscal conservative who dislikes budget deficits and increases in government spending. Budget deficits and the resulting increase in the national debt impose burdens on future generations who will, as a result, face higher tax rates that will then weaken the future performance of the economy.

But while accepting that a fiscal stimulus is necessary in the current circumstances, it is important to design the tax cuts and the spending changes in the most cost-effective way.

Experience has taught us that one-time tax rebates are a bad idea because they raise consumer spending very little per dollar of deficit. So income tax changes should be permanent.

Tax cuts that strengthen marginal incentives are better than tax cuts that just raise after tax income. A permanent reduction in the income tax equal to about 20 percent of an individual's payroll tax payments would strengthen incentives and raise long-term employment by more than an equal cost $500 per employee fixed tax cut.

Postponing the rise in personal tax rates on dividends and capital gains for five years would increase share prices, thereby raising consumer spending and business investment. Postponing the scheduled rise in the tax rate on high income taxpayers would raise consumer spending now.

A lower effective corporate tax rate would encourage more investment and employment in the United States.

The plan to raise spending by some $200 billion a year, an amount equal to about 40 percent of nondefense discretionary spending, runs the serous danger of wasteful spending. To the extent that it is possible, the choice of outlays should be governed by the following four principles:

- First, they should raise demand for output and employment quickly in 2009 and 2010 with only a short tail into later years.

- Second, there should be an exit strategy. The spending should not create a political dynamic that makes it hard to stop

- Third, the spending should produce benefits beyond just creating jobs or should produce things that would otherwise have to be produced in a later year.

- And fourth, the spending should create favorable incentives and avoid unfavorable incentives effects.

As you know, President-elect Obama has identified five priority areas for increased spending: health, energy, education, infrastructure, and support for the poor. Although these important areas can benefit from increased spending, there are other parts of the budget that could also be useful as part of the stimulus package.

Since the defense budget is as large as all of the other discretionary spending combined, it is surprising that defense is not proposed as a part of the overall stimulus package. It is surprising also to read in the press that there will be reductions in military spending because of the weakness of the economy. That logic is exactly backwards. The overall weakness of demand in the economy implies that the next two years are a time when military spending along with other government spending should rise.

The actions of the military in Iraq and Afghanistan have depleted supplies and increased the wear and tear on

equipment. Both supplies and equipment will eventually need to be replaced. Now is the right time to do that.

Military recruiting and training could be expanded in response to the larger than usual numbers of unemployed young men and women. It would also be possible to depart from the military's traditional enlistment rules and bring in recruits for a short two-year period of training followed by a return to the civilian economy. This would provide education in a variety of technical skills that would lead to better civilian careers for this group. It would also provide a larger reserve force that could be called upon if needed by the military in the future.

The intelligence community and the FBI are also apparently facing potential budget cuts at a time of increasing terrorism and greater crime rates. A temporary increase in funding for these agencies could fill important gaps in training and facilities.

Another important omission in the current stimulus plan is funding for research. Government spending for research is projected to fall in 2009 even though additional research grants from the NIH and NSF could allow universities and hospitals to expand a wide range of useful research activities that are now unfunded because of limited grant budgets.

There are other important areas of government spending in which outlays can be raised rapidly on useful activities that would also raise incomes and employment. In each area, government budgeting must go beyond business as usual if it is to respond appropriately to the need for a short-term spending surge.

The Economic Stimulus and Sustained Economic Growth

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Full Statement
for the
House Democratic Steering and Policy Committee

January 7, 2009

Thank you for the opportunity to speak with you about the current economic situation and the appropriate policy response. I look forward to your questions after my brief statement.

The current financial crisis and economic downturn are the worst that I have experienced. I believe this will be a longer and more damaging recession than any since the depression of the 1930s.

This downturn is very different from previous recessions. Past recessions occurred after the Federal Reserve raised the short-term interest rate in order to counter rising inflation. When it felt that it had succeeded, the Fed reversed direction and lowered rates. The lower rates then caused an economic recovery, primarily by stimulating housing construction.

The current recession was not caused by Federal Reserve tightening and the Fed has therefore not been able to revive the economy by lowering rates. Because of the dysfunctional credit markets and the collapse of housing demand, monetary policy has had no traction in its attempt to lift the economy.

Stopping the decline of the economy and returning to sustainable growth will require two different kinds of policies:

- a policy to fix the housing crisis that is the fundamental cause of the financial crisis so that normal flows of private lending will resume

- a fiscal stimulus of reduced taxes and increased government spending to bring back aggregate demand

Fixing the Financial System

The Federal Reserve has worked very hard since early in 2008. It reduced both short term interest rates and now longer rates. It has taken unprecedented actions in substituting for private financial markets by buying commercial paper, mortgages, credit card debt, and other private securities.

But this has not solved the problem of getting financial institutions to lend to each other and to potential nonfinancial borrowers.

The primary reason for this absence of normal credit flows is a lack of confidence caused by the uncertain value of mortgage backed securities in the portfolios of financial institutions.

These mortgage backed securities and the complex derivatives based on them are the key to the financial sector problems.

To understand why, recall two things that happened in the housing market earlier in this decade.

First was the rise and then the fall of house prices. House prices rose dramatically until the bubble in house prices broke in the middle of 2006. In the past 12 months, the national level

of house prices fell 18 percent. Experts say that prices must fall another 10 to 15 percent to get back to the pre-bubble level. And there is nothing to stop prices from falling much further than that.

Second was the change in mortgage lending practices. Mortgage loans went from 70 or 80 percent of appraised value at origination to 90% or even 100%. Refinancing and home equity loans raised the loan to value ratio of existing mortgages. When house prices fell, many loan to value ratios rose above 100 percent.

- Now 25% of all mortgages exceed the value of the home. The total value of these negative equity mortgages exceeds $2.5 trillion.
- A homeowner with negative equity has an incentive to default and walk away from the property because mortgages loans are generally non-recourse loans. That is, if a homeowner defaults, the creditor can take the property but generally cannot take other assets or attach wage income in order to recover the unpaid balance of the mortgage. Even in those jurisdictions where recourse is legally possible, it is generally so difficult that creditors do not try.
- This "no recourse" character of mortgages is unique to the United States. In every other country, mortgages are loans with full recourse. As a result, even when prices fall sharply, homeowners do not default.
- But now home mortgage defaults in the United States are up dramatically. These defaults lead to foreclosures, putting more houses on the market and depressing house prices.

- The result is a potential downward spiral of house prices that could fall much further than the 10 or 15 % needed to get back to the prebubble level.

These conditions in the housing market weaken financial institutions and make them unwilling to lend to each other and to nonfinancial companies.

Sustained long-term growth requires healthy financial institutions and renewed lending. To achieve that requires ending the risk to financial institutions of a downward spiral of house prices driven by defaults that leads to declines in the value of mortgage backed securities and the derivatives based on them.

There have been a number of proposals to help individual homeowners who are at risk of defaulting and losing their homes because they cannot afford their monthly payments. These proposals focus on lowering monthly payments to levels that individuals can afford. But they do not deal with the incentive to default that results from high loan to value ratios, i.e., from negative equity.

That's why something like one-third of homeowners who have had their mortgages restructured to make them affordable nevertheless default within a few months. In contrast, someone with positive equity is his home has no incentive to default since he can always sell the home if he cannot afford the monthly payments.

The new administration and the Congress will develop policies to help individuals who for a variety of reasons are having difficulty making their monthly mortgage payments. But this case-by-case welfare policy approach is not enough. It does not deal with the systemic effect on financial institutions

of housing defaults and the risk of a downward spiral in house prices.

The key policy challenge is to allow the decline in house prices back to the pre-bubble level to occur without triggering defaults and an overshooting of house prices.

To do that requires removing the incentive to default that results from high loan to value ratios. This is a difficult problem. I have made a specific proposal based on Mortgage Replacement Loans that I believe would be a useful starting point for designing legislation to deal with this problem.

My proposal has two parts. The first part is for homeowners who now have positive equity in their homes (i.e., a loan to value ratio of less than one). The second part is for homeowners with negative equity.

The first part is designed to create a "firewall" so that homeowners who now have positive equity are not pushed into negative equity as house prices continue to fall. The federal government would offer such homeowners a Mortgage Replacement Loan with a very low fixed interest rate – perhaps 2 %.

That loan would be for 20% of the amount of the existing mortgage, with a dollar cap of $80,000. This mortgage replacement loan would be paid directly to the mortgage creditor who would be required to reduce the loan principal and the monthly payments by 20 percent. The loan from the government would be completely separate from the house and would be a full recourse loan that the government could collect just as it does a tax lien.

This mortgage replacement loan would create a firewall so that a fall of house prices would not push the homeowner into negative equity. Consider for example someone who now

has a mortgage equal to 90 percent of the value of the home. If house prices fall another 15 %, that individual would have negative equity. But the 20% mortgage replacement loan would reduce the mortgage from 90% of the house value to just 72%. It would take a very unlikely 28% fall in house prices to push that individual into negative equity.

This firewall removes 75 percent of all outstanding mortgages from the risk of being pushed into negative equity by the decline in house prices back to pre-bubble levels. And it does so at no cost to the taxpayers since the very low interest rate charged to the homeowner would equal or exceed the government's borrowing rate. Any administrative cost or other expenses could be borne by the creditors in exchange for the improved security of the mortgage loans.

The problem is more difficult for the 12 million homeowners with negative equity. A low interest rate would not be enough to induce them to accept recourse on a substantial part of their loan. The government must first induce the creditors to reduce the value the mortgage to the current appraised value of the home. This will require the government to pay down part of the loan and the creditor to make the additional reduction. In exchange for this reduction of principal, the homeowner would be required to accept a full-recourse mortgage replacement loan equal to 20% of the new loan value. This full recourse loan would make the mortgage a much more secure obligation.

I have estimated that the one-time cost to the government of achieving these mortgage paydowns would be about $150 billion, an amount that could in principle be paid with the remaining TARP unds.

The combination would mean homeowners would stay in their houses and the financial sector would no longer have to

worry about the defaults caused by negative equity mortgages and a downward spiral of house prices.

The Need for Fiscal Stimulus

But while fixing the credit markets is necessary for sustained economic growth, it will not bring the economy back to full employment. The continuing economic decline reflects both the collapse of credit markets and also the decline of household wealth. The fall of the stock market and the decline of home prices have together reduced household wealth by some $10 trillion. Experience with previous wealth movements implies that this massive wealth decline will cause annual consumer spending to fall by about $400 billion.

The challenge for policy is to fill this gp. Because monetary policy is not effective, reviving the economy required a major fiscal stimulus from tax cuts and increased government spending.

It pains me to say that because I am a fiscal conservative who dislikes budget deficits and increases in government spending. Budget deficits and the resulting increase in the national debt impose burdens on future generations who will, as a result, face higher tax rates that will then weaken the future performance of the economy.

But while accepting that a fiscal stimulus is necessary in the current circumstances, it is important to design the tax cuts and the spending changes in the most cost-effective way.

Tax Cuts

Earlier this year, the Congress passed a one-time tax

rebate of $80 billion and the money was in the hands of taxpayers by May and June. Unfortunately, consumer spending responded only very weakly. I presented evidence in the Wall

Street Journal (August 6, 2008) that consumer spending in the second quarter rose by only $12 billion or about 15 cents for every dollar of tax cut. The rest was saved or used to pay down debt.

Other past attempts to use fiscal policy for stabilization have also not worked well because of crowding out and because of long lags between legislation and the flow of funds. Some of these past problems in using fiscal policy to stimulate demand may be less of an impediment in the current circumstances. Government borrowing to finance fiscal deficits will not be offset by higher interest rates since the current environment is characterized by very easy money and a dysfunctional credit market. The delays in starting infrastructure projects and the long tail in that spending are not likely to be as much of a problem now because the current downturn is likely to last much longer than previous ones. In the past, the average recession lasted only 12 months from peak to trough. This recession has already lasted 12 months and probably will last a good deal longer. I believe we will be lucky if we see the recession end in 2009. Once the recovery begins, the upturn will be very slow because households need to increase their saving – i.e., to consume less -- to rebuild their wealth for retirement and other purposes. So fiscal policy is likely to be useful even if it is not strongly effective in 2009. It is not likely to overheat the economy if it continues to add significantly to demand in 2010 and 2011.

Although a one-time tax cut may not be effective, other forms of tax cutting can increase aggregate demand. During his campaign, President-elect Obama promised a permanent tax cut of $500 per employed person. That would generate an annual tax cut of about $70 billion and would probably raise annual consumer spending by about $50 billion.

Experience confirms that some form of investment tax credit or bonus depreciation could stimulate business investment, especially if it is not recaptured later. A larger R&D tax credit could help to offset the currently predicted decline in private R&D spending. And lowering the corporate tax rate to that of other industrial countries would encourage more business investment and job creation in the United States.

The president elect announced that he would postpone increasing the tax rate on high-income individuals until 2011. But taxpayers, especially higher income ones, look ahead. The future tax rise reduces the present value of their lifetime income and that can be expected to reduce current spending. A statement now by the president-elect that he will postpone those tax increases for five years or more indefinitely would raise aggregate spending now.

Finally, the taxes on dividends and capital gains are also scheduled to rise in the near future. A promise to leave those tax rates unchanged would raise share prices, offsetting some of the fall in the stock market, which would lead to more consumer spending and increased business investment.

A Temporary Surge in Government Spending

But while good tax policy can contribute to ending the recession, much of the heavy lifting will have to be done by increased government spending. To be effective, that spending should be big, quick, and targeted at increasing aggregate activity and employment. How big depends on the form of the spending and the timing. But with low multipliers and some relatively long spending tails, combined tax cuts and increased of $300 billion to $400 billion seem like a reasonable target for 2009 and 2010.

The speed of the outlays is an important consideration. A project that begins in 2009 but continues to spend at a high level in 2011 and 2012 is not likely to be as useful as a countercyclical instrument as one that spends quickly and is then finished.

Bottlenecks are also a potential problem that could reduce the effectiveness of a spending program. While there is no doubt a need to rebuild bridges and other infrastructure, there are limited numbers of design engineers and other bridge builders.

The plan to raise spending by some $200 billion a year, an amount equal to about 40 percent of nondefense discretionary spending, runs the serous danger of wasteful spending. To the extent that it is possible, the choice of outlays should be governed by the following four principles:

- First, they should raise demand for output and employment quickly in 2009 and 2010 with only a short tail into later years.

- Second, there should be an exit strategy. The spending should not create a political dynamic that makes it hard to stop

- Third, the spending should produce benefits beyond just creating jobs or should produce things that would otherwise have to be produced in a later year.

- And fourth, the spending should create favorable incentives and avoid unfavorable incentives effects.

As you know, President-elect Obama has identified five priority areas for increased spending: health, energy, education, infrastructure, and support for the poor. Although

these important areas can benefit from increased spending, there are other parts of the budget that could also be useful as

Since the defense budget is as large as all of the other discretionary spending combined, it is surprising that defense is not proposed as a part of the overall stimulus package. It is surprising also to read in the press that there will be reductions in military spending because, according to those stories, of the weakness of the economy. That logic is exactly backwards. The overall weakness of demand in the economy implies that the next two years are a time when military spending and other forms of spending should rise.

The actions of the military in Iraq and Afghanistan have depleted supplies and increased the wear and tear on equipment. Both supplies and equipment will eventually need to be replaced. Now is the right time to do that.

Military recruiting and training could be expanded in response to the larger than usual numbers of unemployed young men and women. Raising the military's annual recruitment goal by 15 percent would provide jobs for an additional 30,000 young men and women in the first year. It would also be possible to depart from the military's traditional enlistment rules and bring in recruits for a short two-year period of training followed by a return to the civilian economy. As a minimum, this would provide education in a variety of technical skills – electronics, equipment maintenance, computer programming, nuclear facility operations, etc – that would lead to better civilian careers for this group. It would also provide a larger reserve force that could be called upon if needed by the military in the future.

A 10 percent increase in defense outlays for procurement and for research would contribute about $20 billion a year to the overall stimulus budget. A 5 percent rise in spending on

operations and maintenance would add an additional $10 billion. That spending could create about 300,000 additional jobs.

The intelligence community and the FBI are also apparently facing potential budget cuts at a time of increasing terrorism and greater crime rates. A temporary increase in funding for these agencies could fill important gaps in training and facilities.

Another important omission in the current stimulus plan is funding for research. Government spending for research is projected to fall in 2009 even though additional research grants from the NIH and NSF could allow universities and hospitals to expand a wide range of useful research activities that are now unfunded because of limited grant budgets.

There are of course other important areas of government spending in which outlays can be raised rapidly on useful activities that would also raise incomes and employment. In each area, government budgeting must go beyond business as usual if it is to respond appropriately to the opportunity for a short-term spending surge.

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America's Competitiveness

Statement of

Norman R. Augustine
Retired Chairman and Chief Executive Officer
Lockheed Martin Corporation

and

Chair, Committee on Prospering in the Global Economy of the 21st Century
Committee on Science, Engineering, and Public Policy
Division on Policy and Global Affairs
The National Academies:
National Academy of Sciences, National Academy of Engineering,
Institute of Medicine

Before the

Democratic Steering and Policy Committee
U.S. House of Representatives

January 7, 2009
Washington, DC

Chairmen Miller and DeLauro and members of the Committee, I am particularly appreciative of this opportunity to participate in what could, because of its widespread impact, be one of the more important hearings to take place this year. I appear before you as a private citizen, a retiree who has elected to devote much of his time to what is likely to be a seismic issue for our nation's future: "Can America effectively compete in the new world economy?"

I am not an economist...I am an aerospace engineer. But I have accumulated a not inconsiderable amount of scar tissue in my seven-three years. Warren Buffett tells me, if you were lucky enough to be born in America, you have already won the lottery. That was certainly true in my case—but it may not be true for my grandchildren.

My remarks this morning draw heavily upon the unanimous findings of the study known as the "Gathering Storm" report, commissioned on a bipartisan basis by the Congress and conducted by the National Academies of Science, Engineering and Medicine, institutions that count 195 Nobel Laureates among their current membership. The "Gathering Storm" committee comprised twenty members: university presidents, CEO's from industry, former presidential appointees, Nobel Laureates, and experts in K-12 education. We are honored that two of our members have been nominated by President-elect Obama for positions in his cabinet.

Today, our nation faces an economic challenge unlike any that we have experienced since I was a child. Our leaders are addressing this threat with great diligence. The sums involved in its resolution are measured in units that most of us cannot even comprehend. But there is yet another insidious threat to our nation's well-being, and that is the deterioration of our citizenry's ability to compete for jobs in the evolving global marketplace. While we certainly cannot ignore our immediate, immense challenges, neither can we ignore the more fundamental trends that if continued will surely undermine our nation's economic strength, quality of life, and the tax revenue base that permits our government to provide us with healthcare, national security, and more. To do so would be equivalent to a physician treating a patient's pneumonia but ignoring the fact that they also are suffering from cancer. In short, we need *not* a one-pronged attack but a two-pronged attack on the problems we confront—one for the short term and one for the longer term. It is the latter that I would like to address today. The lengthy delay between the actions we take and the results we achieve requires that we move quickly and decisively...if indeed we are not already too late.

A variety of studies have concluded that between 50 and 85 percent of the growth in America's Gross Domestic Product over the past half-century has its root in advancements in science and engineering. Correspondingly, it has been estimated that two-thirds of the increase in productivity in America in recent decades is also attributable to advancements in science and engineering. Only four percent of America's workforce is comprised of scientists and engineers, but this four percent contributes disproportionately to the creation of jobs for the other ninety-six percent. One cannot sustain an economy simply by trying to make money with money...at some point workers have to produce food, manufacture medicine and build houses.

There are of course many factors that affect America's declining competitiveness. Prominent among these are:

- The cost of labor. An employer can hire nine assembly workers in Mexico for the price of one in the United States. Not long ago I visited a factory in Vietnam where twenty assembly workers can be hired for the price of one in the U.S. Similarly, five chemists can be hired in China, or eight engineers in India, for the price of one in the U.S.

- Overhead costs. Starbucks spends more on healthcare than on coffee. General Motors more on healthcare than steel. All worthy undertakings; all added costs at the bottom-line.

- Education. America is widely acknowledged as having one of the worst K-12 education systems in the world, yet spends more on it per student than all but two other nations. The more our children are exposed to our educational system, the more poorly they perform on international tests. *The Washington Post* summarizing the results of the most recent of these tests noted that America's students continued to stagnate in science but that there was one bright spot: fourth grade math. Here, it was reported, our students "jumped" ahead. Putting aside the fact that most firms don't hire fourth-graders, a little arithmetic would have revealed that at the rate we "jumped" ahead, in just another 85 years we will have caught up with the children of Hong Kong—unless, of course, they should improve in the meantime.

- Science and Engineering Talent. In the recent period of burgeoning science and technology the number of engineers and physical scientists we graduate has declined by 20 percent. The number of U.S. citizens achieving PhD's in engineering has declined by 34 percent. Two-thirds of the students who receive PhD's in engineering from *U.S.* universities are *non*-U.S. citizens.

- Investment in Research. The private sector has, to a considerable degree, abandoned the playing field when it comes to basic research due to market pressures to produce next-quarter profits. The remnants of the legendary Bell Labs, home of the transistor and laser and the icon of American industrial research, have now been sold to a French firm. The federal government's investment in the physical sciences has been stagnate for over twenty years. Investment in the bio-sciences, after a five-year period of significant growth, is again declining.

The world's corporations, including those in America, have found a solution to these circumstances: "Don't build your research laboratories or plants in the United States. In the words of Intel's Howard High, "We go where the smart people are. Now our business operations are two-thirds in the U.S. and one-third overseas. But that ratio will flip over (in) the next ten years."

The National Academies "Gathering Storm" report offers twenty specific actions to help revise the current trends. The two highest priority actions are to graduate 10,000 new teachers each year with primary degrees in math or science, and to double real federal investment in fundamental research within seven years.

What has happened since these recommendations were made and the needed Authorizing legislation passed overwhelmingly in both the House and Senate? Well, a new research university was established with an opening day endowment equal to MIT's after 142 years; next year over 200,000 students will study abroad, mostly pursing science or engineering degrees, often under government-provided scholarships; government investment in R&D is set to increase by 25 percent; an initiative is underway to make the country a global nanotechnology hub; an additional $10B is being devoted to K-12 education, with emphasis on math and science; the world's most powerful particle accelerator will soon begin operation; a $3B add-on to the nation's research budget is being implemented; and a follow-on to the Gathering Storm study has been completed.

These actions are, of course, taking place in Saudi Arabia, China, the U.K., India, Brazil, Switzerland, Russia and Australia, respectively.

Meanwhile, in the United States, prior to the current economic crisis, one premier national laboratory announced the imposition of two-day a month "unpaid holidays" on its science staff; several laboratories began laying-off researchers; the U.S. portion of the international program to develop plentiful energy through nuclear fusion was reduced to "survival mode;" America's firms continued to spend three times more on litigation than research; and many young would-be scientists presumably began reconsidering their careers.

Many Americans take for granted our nation's overall leadership, including in science and engineering. But perhaps so too did the citizens of Spain take for granted their world leadership in the sixteenth century; or the citizens of France in the seventeenth; or of Great Britain in the eighteenth century. Now it is our turn. History teaches that leadership must be earned—and re-earned every day. We cannot continue to live off past investments, investments such as those that were made when the need for a better educated populace led to the creation of Land Grant Institutions; when the collapsing economy in the Great Depression prompted a huge civil works program; when the aftermath of World War II led to the G.I. Bill; when the shock of Sputnik triggered significant reinvestment in education and science. Unfortunately, the threat we now face offers no sudden wake-up call: no Pearl Harbor, no Sputnik, no 9/11.

Today's young adult generation of Americans is the first in memory, perhaps in history, to be less well educated than their parents. Absent decisive action on our parts today's children are likely to be the first ever to have a lower sustained standard of living than their parents. The stimulus package now being addressed will hopefully help the present generations, but it needs to be accompanied by an investment on behalf of our children.

Churchill said that you can always count on the Americans to do the right thing, after they have tried everything else. This time we may get only one chance.

Thank you.

Compete or Become Irrelevant

- "Where nations once measured their strength by the size of their armies and arsenals, in the world of the future knowledge will matter most."
  Bill Clinton -- President

- "We're standing pat while the rest of the world is passing us by. If we continue on this path, our chances of being the leader in the knowledge economy in the decades to come are between slim and none."
  William E. Kirwan -- Chancellor, University System of Maryland

- "The foreign names kept coming----'Hong Lu, Ku Xie, Tao Yuan, Fu Tang'----I thought the entire class of doctoral students in physics were going to be Chinese, until 'Paul Shane Morrow' saved the day...my complaint...was that there wasn't someone from the Immigration and Naturalization Service (there) stapling green cards to the diplomas of each of the foreign-born PhDs."
  Thomas L. Friedman – Author, "The World Is Flat..."

- "If the U.S. doesn't get its act together, DuPont is going to go to the countries that do."
  James Jarrett – VP, Intel Corp.

- "If companies were run like many education systems, they wouldn't last a week."
  Thomas Donohue – President, U.S. Chamber of Commerce

- "When I compare our high schools to what I see when I'm traveling abroad, I'm terrified for our workforce of tomorrow."
  Bill Gates – Founder, Microsoft Corp.

- "If you don't solve (the K-12 education problem), nothing else is going to matter all that much."
  Alan Greenspan -- Chairman, Federal Reserve

- "We go where the smart people are. Now our business operations are two-thirds in the U.S. and one-third overseas. But that ratio will flip over (in) the next ten years."
  Howard High -- Spokesperson, Intel Corp.

- "We had more sports exercise majors graduate than electrical engineering grads last year. If you want to be the massage capital of the world you're well on the way."
  Jeffrey R. Immelt – Chairman and CEO, General Electric Corp.

- "The worldwide competition of overall national strength is actually a competition for talents, especially for innovative talents."
  President Hu – People's Republic of China

- "We as a country have chosen not to compete…we've killed investment banking and now we are killing engineering…it's our future and we are throwing it down the drain."

  Craig Barrett – Chairman, Intel Corp.

- "…in today's integrated and digitized global market, where knowledge and innovation tools are so widely distributed…: Whatever can be done, will be done. The only question is will it be done by you or to you."

  Thomas L. Friedman – Author, "The World Is Flat…"

- "It's not just that kids need to go to school, they need to learn in school."

  Emiliana Vegas – World Bank

- "Where is Sputnik when we need it?"

  Bill Gates – Founder, Microsoft Corp.

- "Will America lead…and reap the rewards? Or will we surrender that advantage to other countries with clearer vision?"

  Susan Hockfield – President, MIT

- "…our present crisis is not just a financial meltdown crying out for a cash injection. We are in much deeper trouble. In fact, we as a country have become General Motors—as a result of our national drift. Look in the mirror: G.M. is us."

  Thomas L. Friedman – Author, "The World Is Flat…"

- (The way to move forward is) "through science, science, science, and science, with science and technology to rebuild our infrastructure, make it green and reduce our dependence on foreign oil, to use science for innovation, to grow our economy, creating good paying jobs, educating people to be competitive, science to make America healthy, and science to preserve the planet by stopping global warming, and science to protect the American people."

  Nancy Pelosi – Speaker of the House

- "Our record at fixing our K-12 education system is virtually unblemished by success."

  Norman R. Augustine – Retired Chairman & CEO, Lockheed Martin Corp.

- "We're well on our way to becoming 'America, the land of the free and the home of the unemployed.'"

  Norman R. Augustine – Retired Chairman & CEO, Lockheed Martin Corp.

NORMAN R. AUGUSTINE was raised in Colorado and attended Princeton University where he graduated with a BSE in Aeronautical Engineering, magna cum laude, and an MSE. He was elected to Phi Beta Kappa, Tau Beta Pi and Sigma Xi.

In 1958 he joined the Douglas Aircraft Company in California where he worked as a Research Engineer, Program Manager and Chief Engineer. Beginning in 1965, he served in the Office of the Secretary of Defense as Assistant Director of Defense Research and Engineering. He joined LTV Missiles and Space Company in 1970, serving as Vice President, Advanced Programs and Marketing. In 1973 he returned to the government as Assistant Secretary of the Army and in 1975 became Under Secretary of the Army, and later Acting Secretary of the Army. Joining Martin Marietta Corporation in 1977 as Vice President of Technical Operations, he was elected as CEO in 1987 and chairman in 1988, having previously been President and COO. He served as president of Lockheed Martin Corporation upon the formation of that company in 1995, and became CEO later that year. He retired as chairman and CEO of Lockheed Martin in August 1997, at which time he became a Lecturer with the Rank of Professor on the faculty of Princeton University where he served until July 1999.

Mr. Augustine was Chairman and Principal Officer of the American Red Cross for nine years, Chairman of the National Academy of Engineering, President and Chairman of the Association of the United States Army, Chairman of the Aerospace Industries Association, and Chairman of the Defense Science Board. He is a former President of the American Institute of Aeronautics and Astronautics and the Boy Scouts of America. He is a current or former member of the Board of Directors of ConocoPhillips, Black & Decker, Proctor & Gamble and Lockheed Martin, and was a member of the Board of Trustees of Colonial Williamsburg. He is a Regent of the University System of Maryland, Trustee Emeritus of Johns Hopkins and a former member of the Board of Trustees of Princeton and MIT. He is a member of the Advisory Board to the Department of Homeland Security, was a member of the Hart/Rudman Commission on National Security, and has served for 16 years on the President's Council of Advisors on Science and Technology. He is a member of the American Philosophical Society and the Council on Foreign Affairs, and is a Fellow of the National Academy of Arts and Sciences and the Explorers Club.

Mr. Augustine has been presented the National Medal of Technology by the President of the United States and received the Joint Chiefs of Staff Distinguished Public Service Award. He has five times received the Department of Defense's highest civilian decoration, the Distinguished Service Medal. He is co-author of *The Defense Revolution* and *Shakespeare In Charge* and author of *Augustine's Laws* and *Augustine's Travels*. He holds 23 honorary degrees and was selected by Who's Who in America and the Library of Congress as one of "Fifty Great Americans" on the occasion of Who's Who's fiftieth anniversary. He has traveled in over 100 countries and stood on both the North and South Poles of the earth.
(Rev: July 2008)

Hold For Release
Until Presented by Witness
January 7, 2009

Statement of

Maria T. Zuber

E.A. Griswold Professor of Geophysics
Head of the Department of Earth, Atmospheric and Planetary Sciences
Massachusetts Institute of Technology

before the

House Democratic Steering and Policy Committee

United States House of Representatives

Speaker Pelosi, Chairs DeLauro and Miller and distinguished Congressional leaders, I am grateful for the opportunity to contribute to the national discussion of the role of science and technology in America's economic recovery.

Let me begin by expressing my thanks to the members of the House present today for their stalwart support of science and technology. The fact that scientists, engineers and educators are sitting side by side with economists to chart the country's path forward highlights the recognition by the Congress that innovation rooted in scientific and technological advances represents the key to sustained, long-term economic growth.

The Members present provided the leadership that made the America COMPETES Act the law of the land in 2007. This law has the potential to be transformative in strengthening the country's basic research in the physical sciences, much as the enhancement of the NIH budget fueled advances in the life and health sciences. Unfortunately, with the current continuing resolution, this is the second consecutive year that American COMPETES has gone unfunded, and so the initiative is currently on life support. At last month's Innovation Roundtable convened at Princeton University by Speaker Pelosi and Representative Rush Holt, participants elucidated with eloquence why implementation of America COMPETES is critical and represents an excellent starting point. However, the testimony also made it loud and clear that the COMPETES Act is a down payment -- additional, consistent investment will be needed to assure America's future competitiveness.

There is underway much discussion of how to best direct funding for an economic stimulus and it is essential that we invest wisely.

The current recession appears to indicate a fundamental structural problem for the nation.

It does not seem to be a simple business cycle that will pass quickly. Significant sectors of our economy – in both manufacturing and services - are in very deep trouble. Because it is structural it may be deeper and last longer than cyclical recessions, and jobs that are lost may well not come back. Therefore, we must we find a way to grow our way out of our economic woes. We cannot rely solely on the "quick-fix" stimulus approach that was applied in cyclic recessions that focused on creating short-term, largely temporary jobs in older areas of infrastructure that once represented high-growth innovation waves, but have since reached maturity. While steps to strengthen the economy in the near term are most certainly needed, they will not be sufficient to solve our problems. What are most needed are elements that stimulate real, sustained growth in the economy. Economists know how we do this: through the creation of new knowledge that drives innovative solutions to create new opportunities for real growth, and in so doing stimulate the country's economic engine. Joseph Stiglitz, Chairman of the Council of Economic Advisers for President Clinton, has noted, "[S]timulus ...centered on infrastructure [and] bailouts ... are aimed at correcting mistakes of the past, so they are backward-looking. We would be much better off spending our money forward-looking. If we spend [billions] on new technology and innovation, we'd have a stronger, new, real economy." If we pass only a short-term stimulus with short-term jobs, those employed will lose their jobs at the end of a year – instead, we must find ways to make our economy grow out of this recession and so create real and lasting jobs. It cannot be the only element, but we need a growth element in stimulus.

We need to bolster existing high-growth innovation areas, and we will need to create new areas. One path ahead is clear: the country is at the cusp of a revolution in energy science and technology. Energy is already a $2 trillion sector in the U.S. alone. We don't have to invent a new market; we have to find new ways to grow and dominate an existing but nascent market. The United States has led virtually every technology revolution since the mid-1800s, but it is by no means certain that we will lead the energy revolution. In addition to providing economic growth, investment in this area will have positive influences for the environment and will firmly establish our country as the world leader in a new mix of essential technology areas. The recent DOE Basic Energy Sciences Advisory Committee report "New Science for a Secure and Sustainable Energy Future," concludes that we must develop the breakthrough energy technologies that will free of us our dependence on foreign oil, reduce our carbon emissions and create economic growth, but that will only happen with immediate, real investments.

Specific examples of sound investments in energy-related areas that will help us grow our way out of our problems abound.

- **Energy Frontier Research Centers:** The DOE received some 270 applications for Energy Frontier Research Centers that promise to advance promising energy technologies and provide new talent in commercial energy sectors. DOE has said there are many more highly ranked proposals than funding available and supporting as many worthy efforts as possible makes great sense. We need this R&D to lead in new technologies, and these centers will create R&D jobs promptly, but also pay off longer term.

- **New Energy Technologies:** Research in solar, wind, geothermal, biofuels and carbon capture and sequestration provide examples of technologies that are on the verge of development. Investment in these areas would accelerate the entry of the most mature projects to market and boost the U.S. economic technology sector. We need to bring on an energy technology transformation, and this is a key way to do it.

- **Upgrade the Grid:** By investing in and updating our electricity grid we create jobs and move toward our ultimate goal of a more efficient electricity supply mechanism that will increase efficiency and enable access to renewable energy.

New energy technology should not be the only item on the menu. Other promising science and technology programs should be bolstered in the stimulus, too. Many worthwhile programs managed by NIH, NASA, NSF, and other agencies will also foster economic growth, create jobs, educate our future innovators, and lead to critical new and enhanced technologies. A number of ideas have been outlined by the National Association of State Universities and Land Grant Colleges (NASULGC) and the Association of American Universities (see: http://www.nasulgc.org/NetCommunity/Page.aspx?pid=1113&srcid=183). Specifically, I would like to highlight two needs:

- **Innovation Infrastructure:** Universities provide much of the training to young people on the use of complex equipment for advanced, precision analyses of many kinds. The private sector will get support to buy new equipment, and our research system should, too. But research instrumentation at even our strongest research universities is largely inadequate and antiquated. The Major Research Instrumentation Program of the National Science Foundation is an established, competitive program that could be enhanced immediately and to great benefit. Funding research equipment provides an immediate stimulus, supports a longer-term economic gain, and provides state-of-the art equipment on which to train the scientists and engineers of the future.

- **Student Support:** A technology revolution requires a strong talent base. Let's provide fellowships to educate our best science and engineering talent to tackle broad aspects of the energy and other critical challenges. Much of the existing workforce in energy and other technical fields will retire with the baby boomers. We also need programs at community colleges to train a new workforce generation of technicians in both existing and new technologies and we need programs at research universities that encourage the brightest students to pursue training in science, math and engineering.

The last two points above underscore that a crucial aspect of our science and technology investment must be developing the workforce required to solve the country's energy, environment and other innovation challenges. This is both an ongoing and longer-term issue. These are hard problems and we must develop the entire talent pool in order to maintain a competitive economy. As I testified this past summer to Chairman Gordon and the House Science Committee, the entire education system needs attention. But

middle school is of special importance because that is the time when decisions are made whether to pursue advanced courses in math and science. This is the time when girls lose interest. Investment in highly qualified teachers who inspire, encourage and challenge students is key to continued engagement. The America COMPETES Act tries to address this issue, if we fund it. There is also significant anecdotal evidence to support the fact that summer jobs or internships are highly effective in helping students to decide whether to pursue college majors in science, math and engineering.

In the context of training the coming generation of researchers, I would also like to emphasize the importance of a broad portfolio of scientific investment, from applied to basic research, encouraging exploration of ideas that span the range from those sufficiently understood to be close to development to some whose application may not presently be clear. The fact is that we don't often know what part of parameter space the best solution lies, but the accumulation of fundamental knowledge allows progress to occur much more quickly once a certain area or approach is recognized as promising. In this way basic research accelerates the innovation economy.

Let me underscore that energy and climate could be our Sputnik challenge – a new way to infuse our best talent into our science and technology system. Our students care deeply about solving these problems. We have more than 700 members in the student-run MIT Energy Club. These students want to solve our problems, but when these students graduate the jobs have got to be there. The reality is falling short. Let me tell you a story I am living through right now. It required an act of heroic intervention for a new Ph.D. of mine to keep a job that had already been offered him because a major research university instituted a hiring freeze in response to the current financial turmoil. As an undergraduate, this student was a triple major in physics, math and Earth sciences who graduated with straight As and wrote an extraordinary Ph.D. thesis. He wants to have a career in science and technology, but before he started we were about to take it away.

For the sake of our country's future young people of this caliber simply must be able to find the kinds of jobs that fully utilize their talents. As all of you know, that requires ensuring the R&D investments that will keep this country's innovation system strong. Otherwise, our economic future is not assured.

Thank you again for the opportunity to provide this commentary and I will be pleased to answer any questions.