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### Chief Economist and Cofounder of Moody's, Mark Zandi Written Testimony Before the FCIC

Mark Zandi

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Written Testimony of Mark Zandi  
Chief Economist and Cofounder, Moody's Economy.com

Before the Financial Crisis Inquiry Commission

*"The Causes and Current State of the Financial Crisis"*

January 13, 2010

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The purpose of this testimony is to assess the economic impact of the financial crisis that began nearly three years ago. While the financial crisis has abated and the financial system has stabilized, the system remains troubled. Commercial banks continue to fail at an alarming rate, and significant parts of the structured finance market remain dormant. Households and businesses are struggling with a severe credit crunch due to an extraordinary tightening in underwriting standards by nearly all creditors.

The economic impact of the financial crisis has been very severe. The resulting Great Recession was the longest, broadest and most severe downturn since the Great Depression. Due largely to unprecedented action by the Federal Reserve and fiscal policymakers, the recession ended last summer, but the economy continues to struggle. Job losses are mounting, and the unemployment rate, which is already in double digits, is set to rise further. Foreclosures are increasing, and the pressure on already-depressed house prices remains intense. The fall in house and stock prices, recent increases in the latter notwithstanding, has significantly reduced household wealth. Consumer and business confidence are up from their record lows, but sentiment remains tentative and fragile.

The fallout from the financial crisis will likely weigh on the economy through the coming decade. GDP and employment will be lower and unemployment higher for years to come. The sources of growth will also shift; U.S. consumers will no longer be willing or able to power U.S. and global economic growth as they have for much of the past quarter-century. Other sources such as exports and business investment will have to emerge, or the economy will not grow as fast as it has historically. Long-term growth may also be reduced by what likely will be a higher cost of capital, as the crisis makes global investors and regulators more circumspect in extending credit.

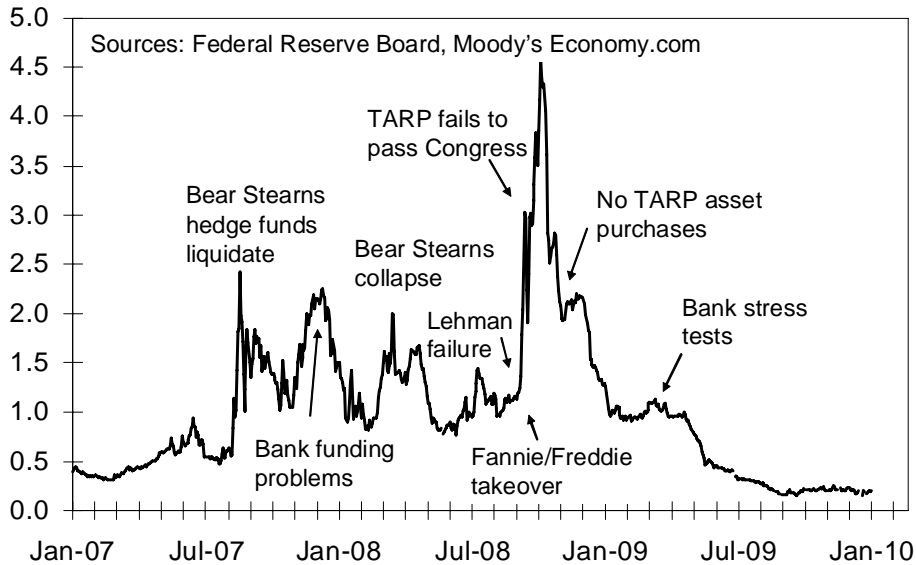
The nation's fiscal situation has also been severely damaged, because the policy response to the financial crisis has been extraordinarily costly. Not responding would have cost taxpayers more, but the nation must now struggle with a federal debt-to-GDP ratio that cannot be sustained without serious harm to the economy's long-term growth prospects. The government will have no choice but to implement painful spending cuts and tax increases.

The financial crisis marks a significant inflection point for the U.S. economy. It will take years to fully recover, and some of the resulting changes will likely be permanent.

### **Financial Crisis**

The financial crisis that began in mid-2007 has largely abated, and the financial system has stabilized, but it is still not functioning normally. The impact of the crisis on the financial system is evident in the difference between Libor—the interest rate banks charge each other for borrowing and lending—and Treasury yields.<sup>1</sup> The difference between three-month Libor and three-month Treasury bill yields rose in the summer of 2007 with the failure of investment bank Bear Stearns; it surged in the fall of 2008 with the federal government takeover of Fannie Mae and Freddie Mac and the Lehman Brothers bankruptcy (see Chart 1). At the height of the financial panic, the Libor-Treasury spread was an astounding 450 basis points; the world's largest banks were afraid to lend to each other.

Chart 1: The Financial System Has Stabilized...  
*Difference between 3-mo Libor and Treasury bill yields*



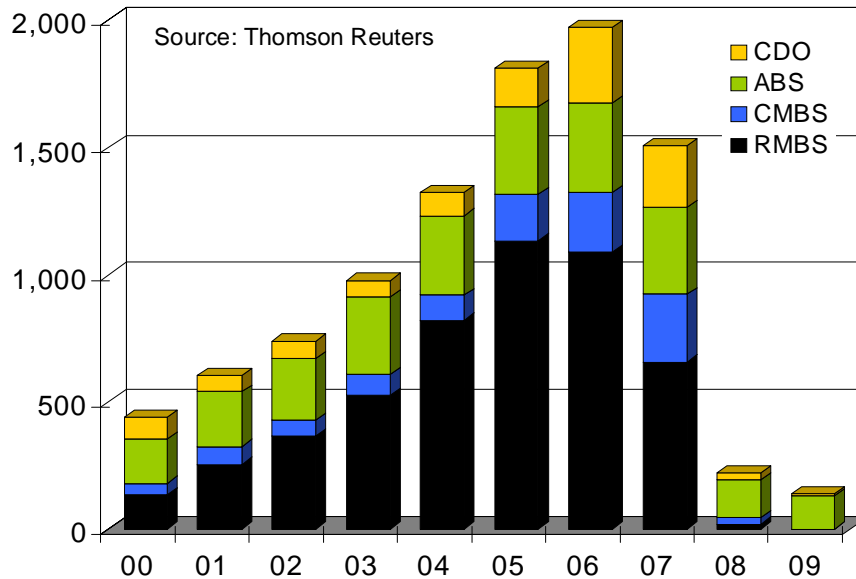
A series of unprecedented actions by the Federal Reserve, the FDIC, Congress, and the Treasury Department largely stemmed the panic by the spring of 2009. The Libor-Treasury spread narrowed and, in recent months, has fallen back to where it was prior to the start of the crisis; banks are once again willing to lend and borrow freely from each other. Policymakers took many steps to end the financial crisis, the most successful include the Federal Reserve's reduction in the federal funds rate to effectively zero; the establishment of several credit facilities and the TALF program; and the Fed's credit easing efforts, including the purchase of Fannie Mae and Freddie Mac mortgage securities. The FDIC's increase in deposit insurance limits, guarantees on bank debt, and the orderly resolution of hundreds of depository institutions have also been very successful. The establishment of the TARP fund by Congress and the Treasury, while much criticized, was ultimately instrumental in providing capital to the financial system.<sup>ii</sup> The stress tests performed by the nation's 19 largest bank holding companies also helped to recapitalize and restore confidence in the financial system.<sup>iii</sup>

The improvement in the financial system may be seen in the rise of stock prices and narrowing in credit spreads since early 2009. The S&P 500 has increased by around two-thirds since its low, and the difference between below-investment-grade corporate bond rates and Treasury yields has fallen from more than 2,000 basis points to closer to 600 basis points. Credit default swap spreads have fallen from a peak of 100 basis points to less than 40 basis points in recent weeks.

Yet while the financial system is performing better, it remains far from normal. Failures of depository institutions continue at an alarming rate, a trend likely to persist for several more years. The FDIC closed some 135 institutions in 2009, the most since 1992, and another 550 institutions are on the FDIC's "troubled" list. Most of these institutions have rising losses on commercial real estate loans and are likely to fail.

The securitization markets also remain impaired, as investors anticipate more loan losses. Investors are also uncertain about coming legal and accounting rule changes and regulatory reforms. Private bond issuance of residential and commercial mortgage-backed securities, asset-backed securities, and CDOs peaked in 2006 at close to \$2 trillion (see Chart 2). In 2009, private issuance was less than \$150 billion, and almost all of it was asset-backed issuance supported by the Federal Reserve's TALF program to aid credit card, auto and small-business lenders. Issuance of residential and commercial mortgage-backed securities and CDOs remains dormant.

Chart 2: ... But Remains Troubled  
*Bond issuance, \$ bil, annualized*



Consumers and businesses, particularly small companies, thus face a continuing credit crunch. Lenders are no longer tightening underwriting standards, but those standards remain extraordinarily high. This is evident from the Federal Reserve's survey of senior loan officers at major financial institutions. According to the survey, lenders have been pulling back from the consumer market since late 2007 and from small businesses since early 2007. In a survey by the National Federation of Independent Businesses—an important trade group for small firms—the net percentage of members who say credit is hard to get is as high as it has been since that question was first asked in the mid-1980s.

The credit crunch is clear in the lending statistics. The number of bank credit cards in circulation has plunged by nearly 100 million, or more than 20%, since peaking in the summer of 2008. Total household debt outstanding has dropped by nearly \$600 billion, a stunning 5%, over the same period.<sup>iv</sup> Credit card, auto, consumer finance and mortgage debt are all falling. Commercial and industrial loans outstanding are also falling quickly. According to the Federal Reserve, C&I loans have declined by some \$165 billion, or 20%, since peaking in late 2008.

Some of this reflects the desire of households and businesses to reduce their debt loads, but it also stems from lenders' inability and unwillingness to lend. Small banks are vital to consumer and small-business lending, and without the ability to sell the loans they originate to investors in the securities markets, banks and other lenders do not have the capital to significantly expand their lending. The recovery will struggle to gain traction until credit flows more freely, and this will not occur until bank failures abate and there is a well-functioning securities market.

### Great Recession and Fiscal Stimulus

The immediate economic impact of the financial crisis was the Great Recession. This downturn will go into the record books as the longest, broadest and most severe since the Great Depression (see Table 1). The recession lasted twice as long as the average economic contraction, and it dragged down nearly every industry and region in the country. Its final toll in terms of lost jobs, increased unemployment, and falling real GDP will be greater than that seen during any recession on record.

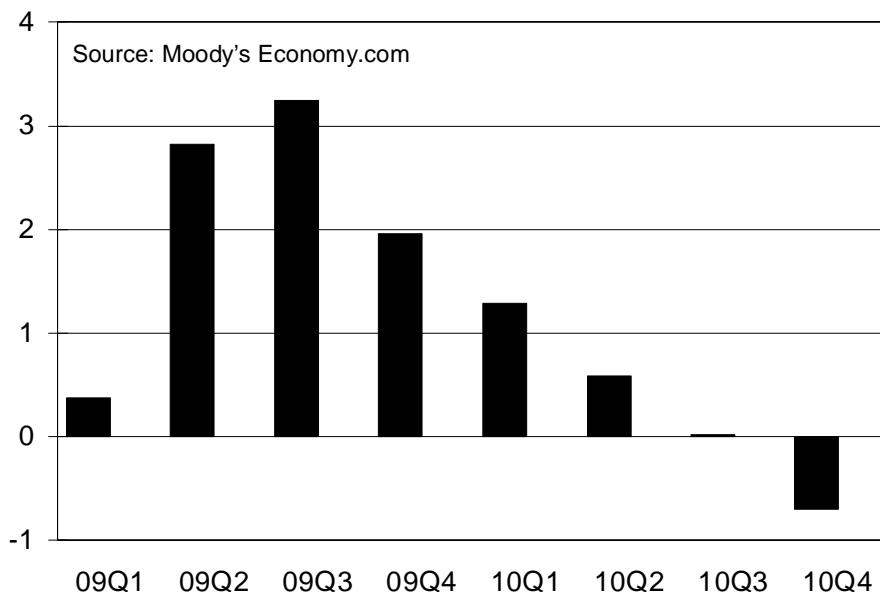
**Table 1: The Great Recession**

Peak	Trough	Duration in Months		Peak-to-Trough % Change			Jobless Rate		
		Recession Peak to Trough	Expansion Trough to Peak	Real GDP	Industrial Production	Nonfarm Employment	Low	High	Change
<b>December 2007</b>	<b>August 2009</b>	<b>20</b>	<b>73</b>	<b>-3.9%</b>	<b>-19.2%</b>	<b>-6.2%</b>	<b>4.4%</b>	<b>10.6%</b>	<b>6.2%</b>
March 2001	November 2001	8	120	-0.4%	-6.3%	-2.0%	3.8%	6.3%	2.5%
July 1990	March 1991	8	92	-1.3%	-4.3%	-1.5%	5.0%	7.8%	2.8%
July 1981	November 1982	16	12	-2.9%	-9.5%	-3.1%	7.2%	10.8%	3.6%
January 1980	July 1980	6	58	-2.2%	-6.2%	-1.3%	5.6%	7.8%	2.2%
November 1973	March 1975	16	36	-3.1%	-14.8%	-2.7%	4.6%	9.0%	4.4%
December 1969	November 1970	11	106	-1.0%	-5.8%	-1.4%	3.4%	6.1%	2.7%
April 1960	February 1961	10	24	-1.3%	-6.2%	-2.3%	4.8%	7.1%	2.3%
August 1957	April 1958	8	39	-3.8%	-12.7%	-4.4%	3.7%	7.5%	3.8%
July 1953	May 1954	10	45	-2.7%	-9.0%	-3.3%	2.5%	6.1%	3.6%
November 1948	October 1949	11	37	-1.7%	-8.6%	-5.1%	3.4%	7.9%	4.5%
<b>Average</b>		<b>10</b>	<b>57</b>	<b>-2.0%</b>	<b>-8.3%</b>	<b>-2.7%</b>	<b>4.4%</b>	<b>7.6%</b>	<b>3.2%</b>

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

The Great Recession finally gave way to economic recovery this past summer, due largely to the benefits of the fiscal stimulus.<sup>v</sup> The American Recovery and Reinvestment Act passed in early 2009 reduced payroll tax withholding, sent checks to Social Security recipients, and provided financial help to unemployed workers whose normal benefits had run out. The cash for clunkers program revved up vehicle sales, and the housing tax credit boosted home purchases.<sup>vi</sup> It is no coincidence that the Great Recession ended just as the stimulus began providing its maximum economic benefit (see Chart 3).<sup>vii</sup> The stimulus did what it was supposed to do: short-circuit the recession and spur recovery.<sup>viii</sup>

**Chart 3: Fiscal Stimulus Has Provided a Vital Boost**  
*Contribution to real GDP growth, %*



Criticism that only about \$250 billion of the \$787 billion stimulus plan has been distributed to date is misplaced.<sup>ix</sup> What matters for economic growth is the pace of stimulus spending, which surged from nothing at the beginning of 2009 to over \$80 billion in the fourth quarter. That is a big change in a short period.

The part of the stimulus providing the biggest bang for the buck—the most economic activity per federal dollar spent—is the extension of unemployment insurance benefits (see Table 2). Workers who lose their jobs before the end of 2009 can temporarily receive more unemployment insurance, food stamps, and help with health insurance payments. Without this extra help, laid-off workers and their families would be slashing their spending, leading to the loss of even more jobs. Federal aid to strapped state and local governments has also provided significant economic benefits, lessening their need to slash programs and jobs or to hike taxes and fees. State and local tax revenues fell by \$80 billion during 2009, but government expenditures have merely gone flat, because federal grants-in-aid soared by the same amount.<sup>x</sup> The decline in income, sales, property and capital gains taxes has been unprecedented and shows little indication of abating.

**Table 2: Fiscal Stimulus Bang for the Buck**  
*Source: Moody's Economy.com*

	<b>Bang for the Buck</b>
<b>Tax Cuts</b>	
Nonrefundable Lump-Sum Tax Rebate	1.01
Refundable Lump-Sum Tax Rebate	1.22
Temporary Tax Cuts	
Payroll Tax Holiday	1.24
Job Tax Credit	1.30
Across-the-Board Tax Cut	1.02
Accelerated Depreciation	0.25
Loss Carryback	0.22
Housing Tax Credit	0.90
Permanent Tax Cuts	
Extend Alternative Minimum Tax Patch	0.51
Make Bush Income Tax Cuts Permanent	0.32
Make Dividend and Capital Gains Tax Cuts Permanent	0.37
Cut Corporate Tax Rate	0.32
<b>Spending Increases</b>	
Extended Unemployment Insurance Benefits	1.61
Temporary Federal Financing of Work-Share Programs	1.69
Temporary Increase in Food Stamps	1.74
General Aid to State Governments	1.41
Increased Infrastructure Spending	1.57
Low-Income Home Energy Assistance Program (LIHEAP)	1.13

*Note: The bang for the buck is estimated by the one-year dollar change in GDP for a given dollar reduction in federal tax revenue or increase in spending.*

Arguments that tax cuts in the stimulus program are not supporting consumer spending are incorrect.<sup>xi</sup> Although spending has not rebounded sharply, without the stimulus it would still be declining. The plunge in household wealth has forced families to save more for college or retirement, while the credit crunch has made it all but impossible for many households to borrow. Without the stimulus' support to household income, consumers would still be cutting back. The benefit of the tax cuts to consumer spending is best seen from the experience of the 2008 tax rebates, mailed to households during the spring of that year. While these rebates significantly lifted after-tax income in the period, consumer spending did not follow along, at least not immediately. The reason lay in the income caps on the rebates, which meant higher-

income households did not receive them. Because of rapidly falling stock and house prices, these same households were saving significantly more and spending less. The saving rate for households in the top quintile of the income distribution surged from close to nothing in early 2007 into the double digits by early 2008.<sup>xii</sup> Lower- and middle-income households did spend a significant part of the rebates they received, but the sharp pullback by higher-income households significantly diluted the impact of the tax cut on overall spending.

Criticism that infrastructure spending funded by the stimulus has been slow to get started is valid. But this is partly because safeguards against funding unproductive or politically driven projects have slowed things down. Infrastructure projects are now gearing up, however, and this will provide a meaningful source of growth for the economy this year.

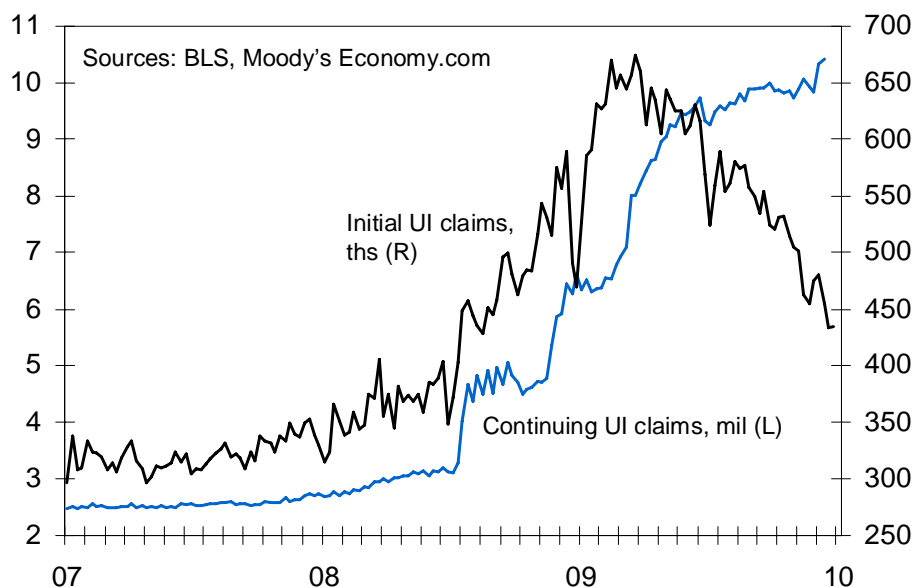
The recovery strengthened as 2009 came to an end. Real GDP appears to have expanded solidly by well over 4% in last year's fourth quarter. Despite the better numbers, the recovery remains tentative and fragile.<sup>xiii</sup> Although a double-dip downturn is less than likely this year, with odds of about one in four, the fallout from the financial crisis continues to pose a meaningful threat to the recovery. Most notable are the stresses in the job market, prospects for more house price declines due to the ongoing foreclosure crisis, the loss of household wealth, the boom and bust in commercial real estate, fiscal woes of state and local governments, and the persistent pall over consumer and business confidence.

### No Hiring

For the economic recovery to evolve into a self-sustaining expansion, businesses must respond to better sales and profits by boosting investment and hiring. The added jobs will generate the incomes needed for more spending and production, powering the expansion forward.

So far, firms have mostly stopped shedding jobs, but they have yet to begin adding to payrolls. Initial claims for unemployment insurance, a good proxy for layoffs, are steadily declining. But the number of unemployed workers receiving some form of UI, which would be falling if firms were hiring, remains extraordinarily high (see Chart 4). The more than 10 million workers on UI roles is disconcerting, given that many who lost jobs at the start of the recession two years ago are now beginning to run out of benefits. Many more will soon exhaust their benefits unless hiring quickly revives.

Chart 4: Layoffs Abate, but Hiring Is Dormant



There are reasons to be optimistic that some hiring will begin soon. Employment in temporary help firms is increasingly strong, and hours worked have risen off record lows. Businesses hire more temps and ask their existing employees to work more hours before hiring more full-time workers.

However, there are also good reasons to be nervous about the strength of any hiring pickup. Employment, as measured in the household survey, has plunged by an astounding 2.2 million in the past six months, compared with only 800,000 in the more closely followed payroll survey. In past recoveries, household employment has increased either sooner or more vigorously than payroll employment, probably as it more accurately reflects what small businesses are doing. Small businesses have historically been vital to restarting the job machine coming out of recessions.<sup>xiv</sup>

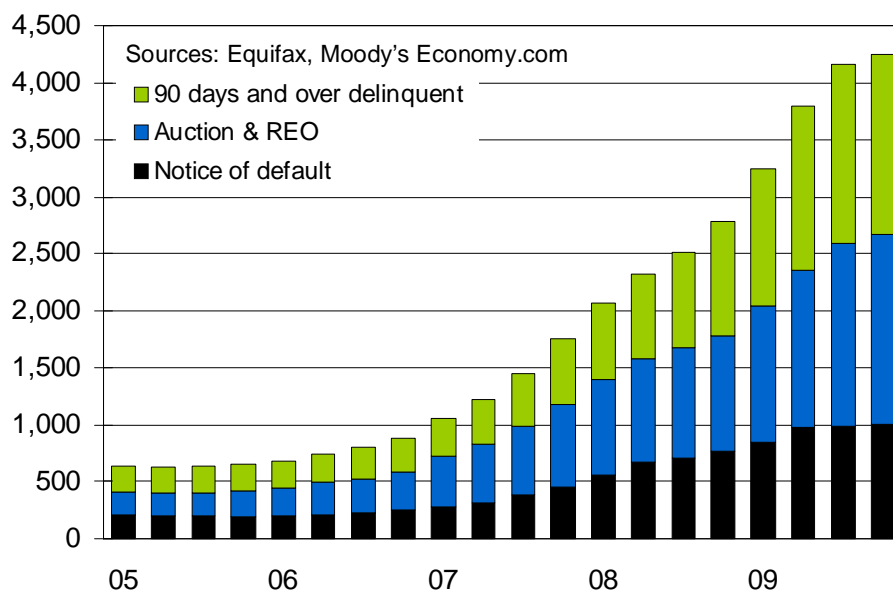
Small firms are having difficulty obtaining the credit necessary to expand their operations. Credit card lenders and small banks, so important to small-business credit, have been particularly aggressive in tightening lending standards because of changing laws and regulations and mounting loan losses. And nearly all firms lack the animal spirits needed to expand aggressively. Confidence remains fragile, probably due to the severity of the just-ended Great Recession and the heightened uncertainty created by policy debates on healthcare, financial regulation, energy and taxes.

Unless hiring resumes in earnest soon, more workers will join the 26 million-plus—17% of the workforce—who are unemployed or underemployed. With such a surfeit of labor, workers' nominal compensation threatens to decline. It is not unusual for real compensation—nominal compensation adjusted for inflation—to turn down in a recession, but not since the Great Depression has nominal compensation declined. Falling nominal compensation will further corrode already-fragile consumer spending. Lower- and middle-income households, which are saving little and cannot borrow, will be forced to rein in spending.

### Falling House Prices

Another worrisome threat to the recovery is the foreclosure crisis and the resulting prospect of more house price declines. Based on credit file data, at the end of November, there were 2.8 million mortgage loans at some stage of the foreclosure process and an additional 1.6 million loans 90 days or more past due and thus headed toward foreclosure (see Chart 5).<sup>xv</sup> An alarming 8% of the 52 million first mortgage loans outstanding are in deep trouble.

Chart 5: The Foreclosure Crisis Continues to Mount  
*Ths, first mortgage loans*





The glut of loans in the foreclosure pipeline is due largely to delays in the Obama administration's loan modification plan. The Home Affordable Mortgage Plan is a complicated arrangement that has only recently been fully implemented. Mortgage servicers have delayed pushing loans through foreclosure until they know which homeowners qualify for the HAMP. A drop in foreclosure sales, along with stronger nondistress home sales—which in turn were due to the first-time homebuyer tax credit and lower fixed mortgage rates—helped stabilize house prices this past summer.

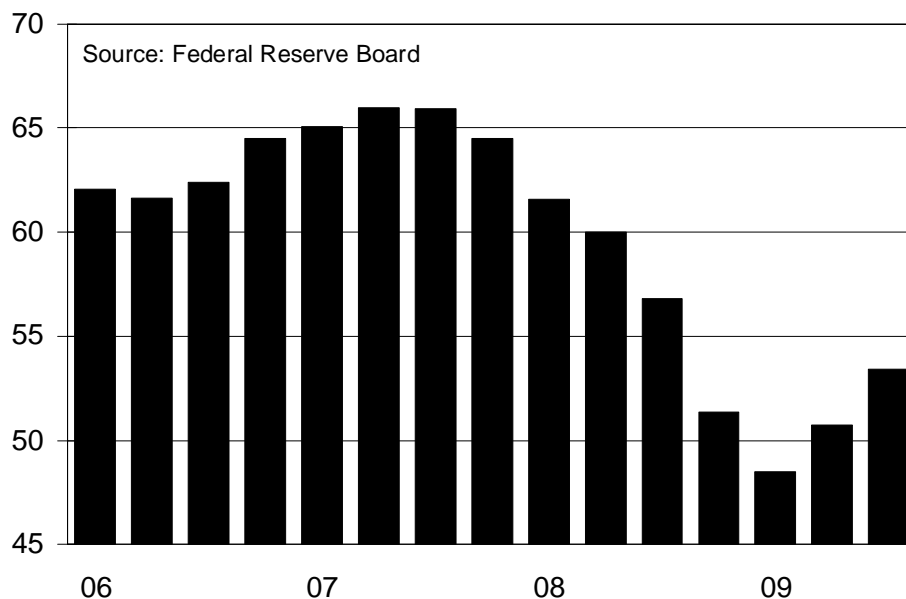
Unless substantive changes are made in the HAMP, no more than 1.5 million homeowners are eventually expected to be put in trial modifications, and fewer than half a million foreclosures will ultimately be avoided.<sup>xvi</sup> Hundreds of thousands of loans will thus be pushed through the foreclosure process to a sale later this spring and summer. When combined with the end of the Fed's credit easing in March and the housing tax credit in April, house prices are likely to resume falling. They have already dropped nearly 30% from their peak four years ago, according to the national Case-Shiller house price index.

Nothing works well in the economy when house prices are falling; as household wealth erodes, consumers lose the ability and willingness to spend, and the financial system ceases to extend credit. The recovery will not gain traction until the foreclosure crisis ends and house prices fully stabilize.

### Cracked Nest Eggs

The loss of household wealth remains a heavy weight on consumer spending. From the peak in mid-2007 to the low point in early 2009, household net worth—the difference between what households own and what they owe—had fallen by some \$17.5 trillion, or more than 25%.<sup>xvii</sup> Given firmer stock and house prices since then, net worth has recovered somewhat, but it is still down \$12.5 trillion from its peak (see Chart 6).

Chart 6: Nest Eggs Crack  
*Household net worth, \$ tril*



The impact of the loss of wealth on consumer spending is evident in the increase in the personal saving rate. When net worth was at its highest in the summer of 2007, the personal saving rate was close to an all-time low of 2%. The saving rate in recent quarters has been closer to 5%. If the historical relationship between wealth and saving holds true—every dollar lost in wealth cuts approximately 5 cents from consumer spending—the saving rate will eventually rise to closer to 8%.

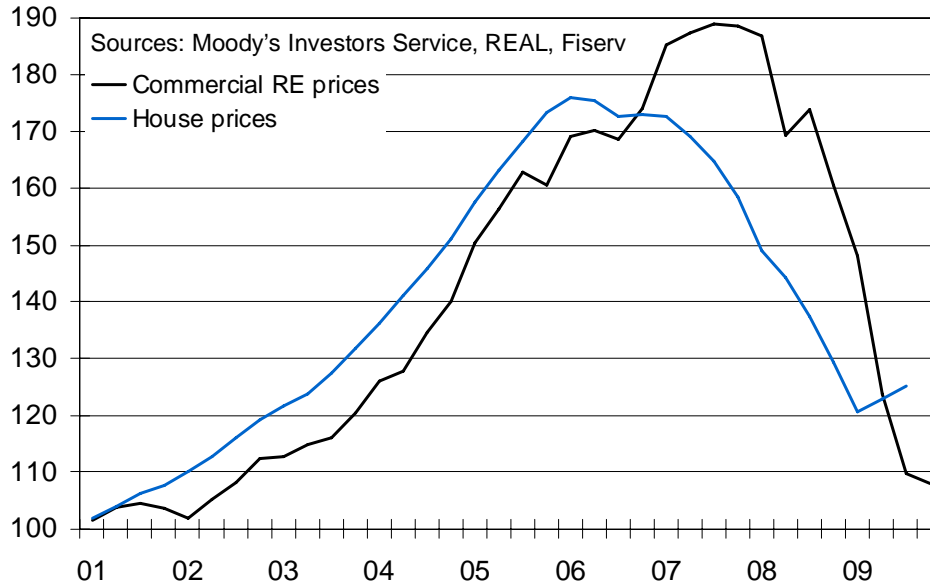
Household spending and saving are also under pressure because of massive deleveraging. Many lower- and middle-income households have no choice but to significantly reduce their debt loads; they are having trouble making their debt payments, and lenders have pulled back on providing additional credit. As previously discussed, household debt outstanding has fallen by nearly \$600 billion, or 5%, from its peak and continues to decline rapidly. Debt loads and service burdens are now falling but are still well above their longer-run historical averages.

Many factors influence saving decisions, and the magnitude of the wealth effect and deleveraging are a matter of considerable debate, but it is reasonable to conclude that the financial crisis marks a major inflection point for U.S. consumers.<sup>xviii</sup> For nearly a quarter-century, consumers powered U.S. and global economic growth as they drew down their savings. Consumer spending and residential investment as a share of GDP rose from approximately two-thirds in the early 1980s to over three-fourths in the middle of the last decade. It would not be surprising if this share went full circle, falling back to where it was a quarter-century ago. Other sources of growth will have to materialize if the U.S. economy is to maintain the kind of growth rates experienced historically.

### Commercial Real Estate Bust

The earlier boom and current bust in the commercial real estate market also poses a serious problem for the recovery. With absorption of commercial space still falling and vacancy rates rising, rents and property prices are under severe pressure. The near doubling in commercial real estate prices during the first half of this decade was even greater than the increase in house prices, and the subsequent bust more severe. Prices are down more than 35% from their peak two years ago (see Chart 7).<sup>xix</sup>

Chart 7: Commercial Real Estate Boom and Bust  
Repeat-sales indices, 2000Q4=100



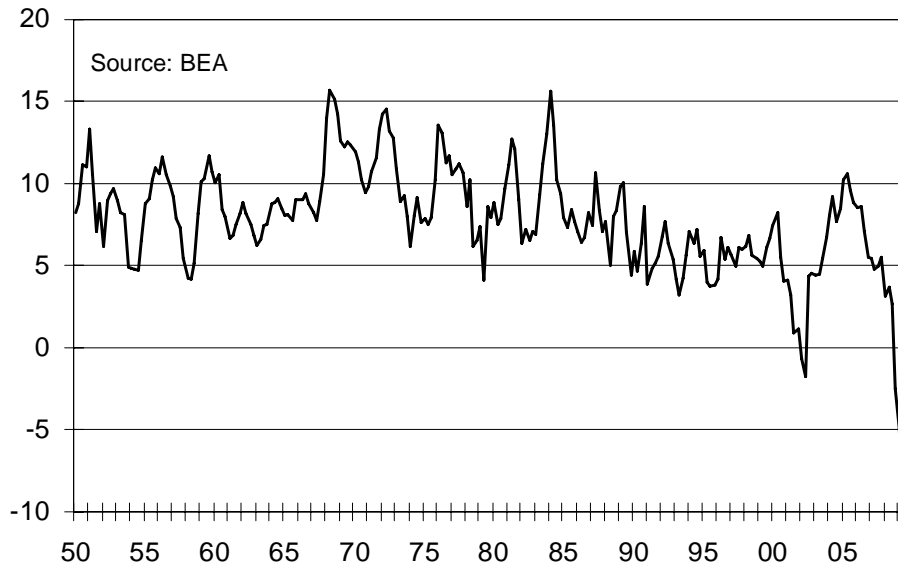
Even property owners with substantial equity, solid tenants, and positive cash flow are unable to refinance mortgages as they come due. Most commercial mortgages have maturities of around five years, meaning that loans originated during the boom will come due in the next several years. Unfortunately, the commercial mortgage securities market remains closed, and traditional portfolio lenders, including banks, insurance companies and pension funds, are not offering to refinance because of heightened risks and the lenders' desire to reduce exposure to commercial real estate.

Falling prices, combined with reluctant lenders, will lead to hundreds of billions of dollars in commercial mortgage defaults over the next two to three years. This threatens to upend hundreds of banks whose portfolios of commercial real estate loans are large relative to their capital bases. As of September, more than 2,800 banks, or more than a third of the total, had commercial mortgage loans outstanding worth more than 200% of their equity capital. These banks held \$1.6 trillion in total assets, equal to 12% of all assets in the nation's banking system. Hard-pressed banks across the country have little choice but to tighten lending standards, to the detriment of their small-business customers.

### State and Local Fiscal Crisis

Despite the massive financial aid provided by the stimulus to state and local governments, their budget problems continue to intensify. Tax revenues are off an astounding 9% for fiscal 2010 (see Chart 8), by far the largest decline since just after World War II. Personal income, capital gains, sales, corporate income and property tax revenues are all off sharply. Adding to the budget pressure, rainy-day funds in most states are depleted, most of the gimmicks used to balance budgets are exhausted, and it has become much more difficult for municipalities to issue bonds without some support from the federal government.

Chart 8: State and Local Government Revenues Collapse  
*State and local tax revenue, % change yr ago*



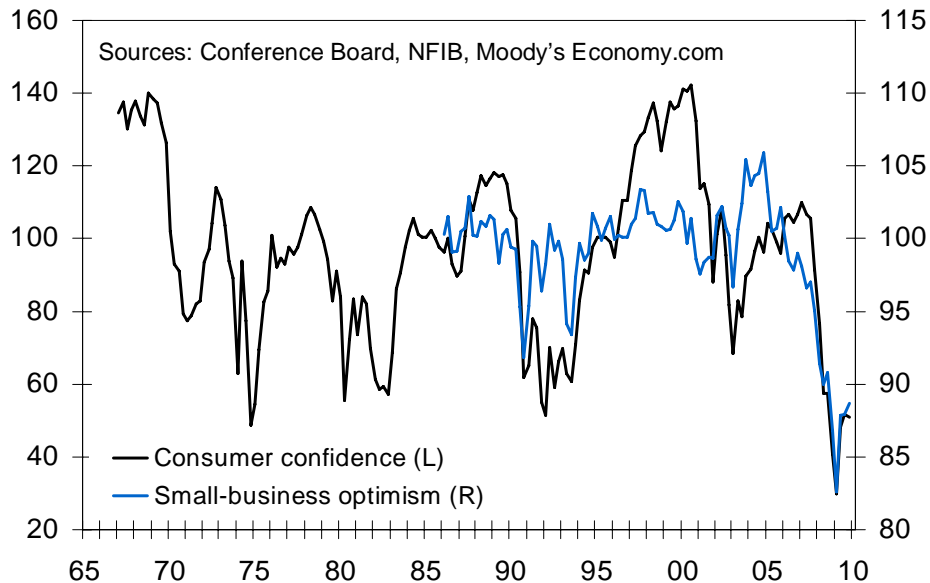
Even if federal policymakers come forward with more financial help, many state and local governments have exhausted their resources and will be forced to raise taxes and/or cut programs and jobs. The drag on the economy by late this year could be substantial. Historically, state and local governments have been a small but steady source of growth; adding on average 25 basis points to annual real GDP growth since World War II. For state and local governments to become instead a weight on growth will be a meaningful impediment.

### Crisis of Confidence

Perhaps the most difficult fallout to gauge from the financial crisis is its impact on the collective psyche. Investors are more upbeat, as is clear from higher stock, bond and commodity prices, but consumers and businesses remain extraordinarily cautious. As long as sentiment remains dour, consumer spending and business expansion plans will be restrained. The recovery will remain muted, and a self-sustaining expansion will be delayed.

All major surveys of consumer confidence are signaling the sour mood of consumers. For over 40 years, the Conference Board has been surveying consumers, and its confidence index has averaged close to 100. The index fell to a record low 25 a year ago at the depth of the financial crisis, and even today, it is still only near 50. Confidence is weaker than it was at the worst points in all the recessions since the survey began (see Chart 9).

Chart 9: A Dour Mood



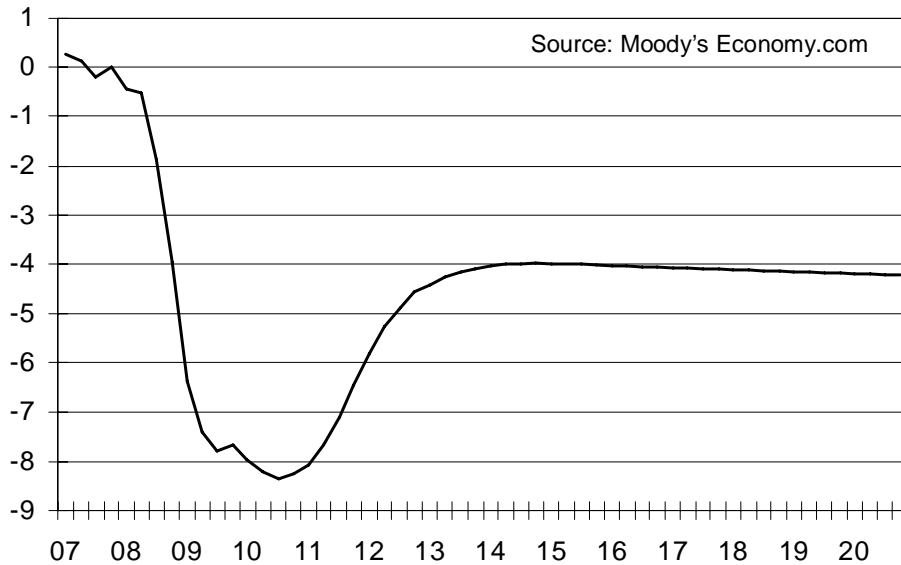
Business confidence, particularly among small firms, is much the same.<sup>xx</sup> The National Federation of Independent Business has been canvassing sentiment among small businesses for more than 25 years, and the mood has never been as dark as it is now. Confidence is up from its record low of a year ago, but not by much. The Moody's Economy.com weekly survey of business sentiment has risen more but is still signaling a fragile and tentative recovery.

Confidence is a fickle thing, and it is encouraging that investors are more upbeat, but given what is likely to be persistently high unemployment and the near-death experiences of many firms over the past several years, it may take years and not months for consumers and businesses to get their groove back. This does not augur well for a more robust recovery and expansion.

### GDP in the Long Run

Fallout from the financial crisis will continue well beyond the current recovery. Most critically, it will likely lower GDP for an extended period. That is, GDP will not return to the level that would have prevailed if the financial crisis had never occurred, at least not for the next five to 10 years. This is similar to the experiences of other economies that have suffered similar financial crises.<sup>xxi</sup> Real U.S. GDP is expected to be some 4% lower 10 years from now than it would have been if the financial crisis had been avoided (see Chart 10).<sup>xxii</sup>

**Chart 10: Financial Crisis Permanently Lowers GDP**  
*Percentage difference between real GDP before and after crisis, %*



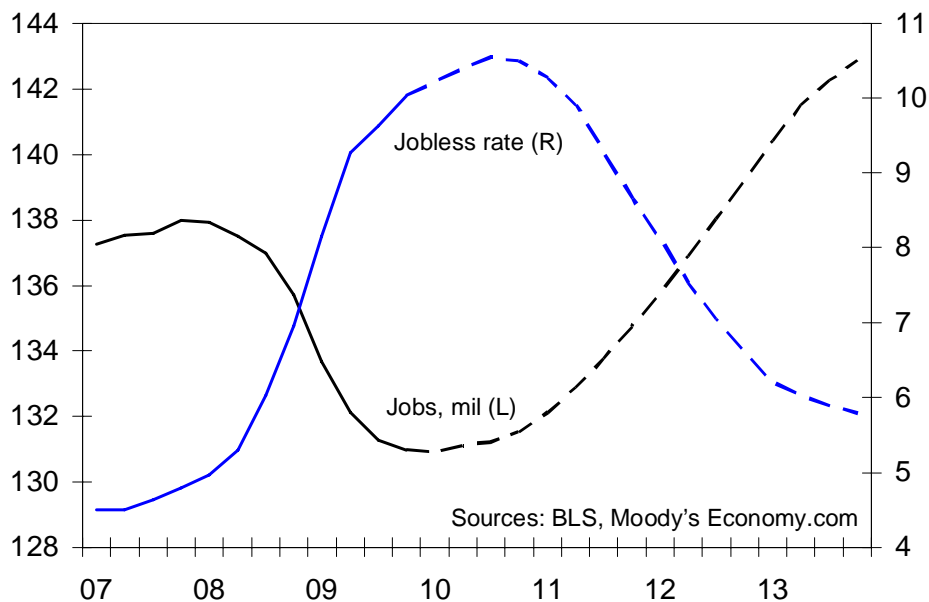
The lower GDP stems from a smaller labor force—some unemployed workers never find a job and eventually give up looking—a lower capital stock due to less investment, and reduced total factor productivity. There is strong evidence that the labor force will be smaller. Labor force participation has fallen to 64.6% from 65.8% a year ago and above 67% at its peak a decade ago. Workers in their 50s and 60s with less education and skill face dim job prospects and are more likely to be forced into retirement. Many held manufacturing and construction jobs that are gone forever, and live in parts of the country where it will be difficult to sell a home and move.

Business investment spending has also been severely depressed by the financial crisis, causing the nation's manufacturing capital stock to decline. During the 12 months ending last November, capital stock fell almost 1%. The only other such decline came in the technology bust a decade ago, which followed a lengthy boom in the late 1990s. In the expansion leading up to the current period, the fastest the capital stock grew was closer to 2%.

**Labor Market Hysteresis**

The financial crisis will also do significant longer-term damage to the labor market. Under the best of circumstances, unemployment is likely to remain uncomfortably high for a number of years. Payroll employment is expected to fall by 8.25 million jobs from its peak in December 2007 to its trough in the next few months, and not return to its previous peak until the very end of 2012 (see Chart 11).<sup>xxiii</sup>

Chart 11: Tough Job Market for Years to Come



Even this less than sanguine outlook is predicated on the view that the economy will find other sources of growth, most likely rising exports of services as well as manufactured goods and agricultural products. A wide range of services could help fuel export growth, including financial and healthcare services, management consulting, architectural and engineering services, and professional services such as legal and accounting. Such services employ a highly educated and skilled workforce and are this nation's comparative advantage.

The unemployment rate is expected to peak between 10.5% and 11% this fall and not return to a rate consistent with full employment until 2013 (see Chart 11). The full-employment unemployment rate is rising as more workers face longer periods of joblessness, undermining their skills and marketability.

Structural unemployment is also increasing due to weakening in labor force mobility, a function of the large number of homeowners whose mortgages are underwater.<sup>xxiv</sup> Historically, people who lose jobs in one part of the country could readily move to take jobs in other regions. This is much more difficult with a home that requires more equity in order to sell.<sup>xxv</sup> The full-employment unemployment rate has already risen from below 5% before the Great Recession to an estimated 5.4% currently. Under the best of circumstances, it is expected to rise to nearly 6% over the next couple of years.

The longer unemployment remains elevated, the more the full-employment unemployment rate will increase. This kind of hysteresis has long plagued European labor markets, whose experience illustrates how pernicious a problem it can be.

### Fiscal crisis

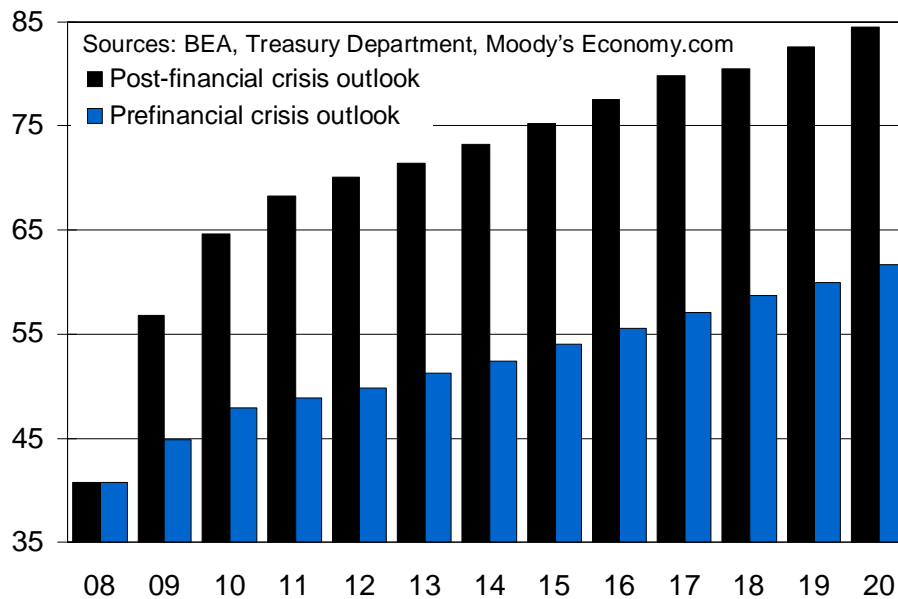
Arguably the most serious longer-term casualty of the financial crisis is the nation's fiscal situation. The budget deficit ballooned to near \$1.4 trillion in fiscal 2009, up from \$475 billion in fiscal 2008. This year's deficit is expected to be a similar \$1.4 trillion; the cumulative deficit over the fiscal 2009–2012 period is expected to total some \$4 trillion.

The very poor fiscal situation reflects the expected final taxpayer cost of the financial crisis and Great Recession: more than \$2 trillion, or 14% of GDP. For historical context, the savings and loan crisis in the early 1990s cost taxpayers some \$350 billion in today's dollars: \$275 billion in direct costs and \$75 billion due to the associated recession. That equaled almost 6% of GDP at the time.

Of the \$2 trillion cost of the recent crisis and recession, \$1.25 trillion represents the direct cost of the government response to the financial crisis. This includes approximately \$900 billion in additional fiscal stimulus and \$350 billion reflecting the government's support of various institutions and markets, less what the government will recoup in future asset sales. These commitments have mounted quickly and include \$700 billion for the Troubled Asset Relief Program, \$400 billion for recapitalizing Fannie Mae and Freddie Mac, and over \$2 trillion in Federal Reserve loans to various financial institutions. The weaker economy, with its loss of tax revenues and increased transfer payments for unemployment and income support, will cost the Treasury another \$800 billion.

Without significant changes to tax and government spending policy, the budget outlook deteriorates rapidly even after the costs associated with the financial crisis abate. This deterioration is largely due to the rising cost of entitlement programs, despite the expected passage of healthcare reform. The nation's federal debt-to-GDP ratio is projected to increase to almost 85% a decade from now, double the approximately 40% that prevailed before the current financial crisis (see Chart 12). This is measurably greater than the 65% debt-to-GDP ratio projected prior to the financial crisis.<sup>xxvi</sup>

**Chart 12: Financial Crisis Undermines the Fiscal Outlook**  
*Federal debt-to-GDP ratio*



Substantive changes to tax and spending policy have become much more urgent in the wake of the financial crisis. Unless policymakers credibly address these issues soon, a fiscal crisis is likely to result in lower stock prices, higher interest rates, a measurably weaker dollar, and seriously negative long-term implications for the U.S. economy.

### **Conclusions**

The financial crisis has dealt a very serious blow to the U.S. economy. The immediate impact was the Great Recession: the longest, broadest and most severe downturn since the Great Depression of the 1930s. The Great Recession ended this past summer, but only because policymakers were willing to provide an unprecedented amount of monetary and fiscal support.

The current recovery is gaining traction, but slowly. Fallout from the financial crisis, including the lack of credit, the loss of wealth, and the pall over sentiment continues to make businesses cautious about

investment and hiring and consumers timid about spending. The ongoing foreclosure crisis, fiscal problems among state and local governments, and the commercial real estate bust also weigh heavily on the economy. Odds are the economy will achieve self-sustaining growth in the coming year, but the transition will be less than graceful and may require policymakers to provide even more support.

The longer-term fallout from the economic crisis is also very substantial. GDP is lower and unemployment will remain higher as a result. It will take years for employment to regain its precrisis level. The impact on the nation's fiscal situation has been severe. The fiscal outlook was daunting even before the crisis, and now feels overwhelming. It is not that policymakers had a choice. The cost to taxpayers would have been measurably greater if government had not intervened aggressively. The recession would still be in full swing, undermining tax revenues and driving up spending on Medicaid, welfare, and other support programs for distressed families. It is a tragedy that the nation has been forced to spend so much to tame the financial crisis and end the Great Recession. Yet it has been money well spent.

Policymakers thus must remain aggressive to ensure the recovery evolves into a self-sustaining expansion. But they must also quickly work to provide a credible response to the nation's long-term fiscal situation. The financial crisis has put us in this difficult bind, but if history is any guide, we will successfully find our way free.



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<sup>i</sup> The difference between Libor and Treasury yields is known as the TED spread.

<sup>ii</sup> The successes and failures of the TARP fund are discussed in "Taking Stock: Independent Views on TARP's Effectiveness," Mark Zandi, testimony before the TARP Commission, November 19, 2009.

<sup>iii</sup> In the stress testing this past spring, the nation's 19 largest bank holding companies were required to determine and raise capital sufficient to withstand an economic scenario similar in severity to the Great Depression of the 1930s. The process restored confidence in the banking system as is evident from the sharp narrowing in credit spreads during the period.

<sup>iv</sup> These statistics are based on credit file data from credit bureau Equifax as of the last week of November 2009.

<sup>v</sup> The official arbiter of the beginning and ending of recessions—the business cycle dating committee of the National Bureau of Economic Research—will likely not fix the end of the Great Recession for some time. The committee aims to be correct rather than timely in making its determinations. But based on the same statistics and methodology used by the committee, we can say the recession likely ended in August 2009.

<sup>vi</sup> Cash for clunkers is estimated to have resulted in 420,000 incremental new vehicle sales during July and August 2009. The housing tax credit, which expires on December 1, 2009, is expected to increase new- and existing-home sales to first-time homebuyers by 380,000.

<sup>vii</sup> The methodology used to derive these results is described in Zandi, M. "The Impact of the Recovery Act on Economic Growth," October 29, 2009, testimony before the Joint Economic Committee.

<sup>viii</sup> For a more thorough analysis of the economic impact of the ARRA, see Zandi, M. "The Economic Outlook and Budget Challenges," November 19, 2009, testimony before the House Budget Committee.

<sup>ix</sup> This excludes funds related to the AMT patch, included as part of the ARRA.

<sup>x</sup> This is based on National Income and Product Account data available through the second quarter of 2009.

<sup>xi</sup> This criticism is most cogently expressed in "New Keynesian versus Old Keynesian Government Spending Multipliers," Cogan, Cwik, Taylor and Wieland, February 2009.

<sup>xii</sup> Saving rates by income group can be calculated by combining data available from the Federal Reserve's Flow of Funds and Survey of Consumer Finance. The data are available upon request.

<sup>xiii</sup> This says nothing about the efficacy of the fiscal stimulus. If anything, it suggests the \$787 billion fiscal stimulus was too small given the severity of the financial crisis.

<sup>xiv</sup> A detailed analysis of the reasons behind the lack of hiring is Zandi, M. "What's Wrong with the Job Market and How to Fix It," *Regional Financial Review*, December 2009.

<sup>xv</sup> This is based on a 5% randomized sample of all the credit files in the country maintained by credit bureau Equifax.

<sup>xvi</sup> This is well below the 3 million to 4 million loans the administration expects to be modified under the plan. The administration is overestimating the take-up on HAMP, because it is underestimating impediments such as the large number of homeowners in deep negative equity positions. For these homeowners, a modification will not keep them out of foreclosure long. See Zandi, M. "Obama's Housing Policy," *Regional Financial Review*, March 2009.

<sup>xvii</sup> This is based on the Federal Reserve's Flow of Funds data.

<sup>xviii</sup> A discussion of the wealth effect and other factors that influence the personal saving rate is provided in Zandi, M. "The Dis-Saving Rate," *Regional Financial Review*, June 2006.

<sup>xix</sup> This is based on the Moody's/REAL repeat sales commercial property index. The measured decline in prices may overstate the actual price declines given the currently low number of property sales, many of which are distressed, but the price declines are severe by any measure.

<sup>xx</sup> Surveys of larger businesses indicate they are more optimistic than smaller firms, although large companies too are measurably less upbeat than they have been at a similar stage in past business cycles.

<sup>xxi</sup> A careful consideration of the impact of financial crises on the economies of other countries can be found in Abiad, A. et al. "What's the Damage? Medium-Term Output Dynamics After Financial Crisis," IMF Working Paper, November 2009.

<sup>xxii</sup> This represents the percentage difference between the outlook for real GDP as of the January 2010 outlook and the December 2007 outlook at the start of the Great Recession.

<sup>xxiii</sup> This estimate includes the impact of benchmark employment revisions that were announced recently by the BLS but have not yet been incorporated into the official payroll employment data.

<sup>xxiv</sup> An estimated 16 million homeowners owe more on their first and second mortgages than their homes are worth. This is nearly one-fifth of all owner-occupied homes.

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<sup>xxv</sup> An increasing number of homeowners are walking away from their mortgages, but this comes with significant financial costs as well.

<sup>xxvi</sup> Chart 12 compares the outlook for the federal debt-to-GDP ratio as of the January 2010 outlook with the outlook as of December 2007 at the start of the Great Recession.