

## **Sarah Bloom Raskin: Aspects of inequality in the recent business cycle**

Speech by Ms Sarah Bloom Raskin, Member of the Board of Governors of the Federal Reserve System, at the “Building a financial structure for a more stable and equitable economy” 22nd Annual Hyman P. Minsky Conference on the state of the US and world economies, New York City, 18 April 2013.

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Thank you for asking me to join you today at this conference and to be a part of your continuing inquiry into how the ideas and legacy of Hyman Minsky can inform and shape our understanding of financial markets and the economy.

This speech expands on remarks I made in March to the National Community Reinvestment Coalition, in which I explored the roles that monetary and bank regulatory policy play in reducing the unemployment, economic marginalization, and financial vulnerability of millions of moderate- and low-income working Americans. Today I am interested in continuing this exploration by examining an issue of growing saliency that macroeconomic models used at central banks and by academics have not traditionally emphasized – specifically, how such economic marginalization and financial vulnerability, associated with stagnant wages and rising inequality, contributed to the run-up to the financial crisis and how such marginalization and vulnerability could be relevant in the current recovery.

To isolate my proper subject here, I want to be clear that I am not engaging this afternoon with the concern that many Americans have that excessive inequality undermines American ideals and values. Nor will I be investigating the social costs associated with wide distributions of income and wealth. Rather, I want to zero in on the question of whether inequality itself is undermining our country's economic strength according to available macroeconomic indicators.

Economists have documented that widening income and wealth inequality has been one of the most notable structural changes to the U.S. economy since the late 1970s. This change represents a dramatic departure from the three decades prior to that time, when Americans enjoyed broadly rising incomes and shared prosperity. Indeed, many of you in the room have shed important light on the recent trends in inequality and on the potential role of fiscal policy in addressing them. You have also explored how these trends are relevant to issues of financial stability. I won't attempt to repeat this strong line of research and analysis. Instead, my remarks today are specifically focused on adding to the conversation about how such disparities in income and wealth could be relevant for a macro understanding of the financial crisis and the recovery and the appropriate course of monetary policy today.

I will argue that at the start of this recession, an unusually large number of low- and middle-income households were vulnerable to exactly the types of shocks that sparked the financial crisis. These households, which had endured 30 years of very sluggish real-wage growth, held an unusually large share of their wealth in housing, much of it financed with debt. As a result, over time, their exposure to house prices had increased dramatically. Thus, as in past recessions, suffering in the Great Recession – though widespread – was most painful and most perilous for low- and middle-income households, which were also more likely to be affected by job loss and had little wealth to fall back on.

Moreover, I am persuaded that because of how hard these lower- and middle-income households were hit, the recession was worse and the recovery has been weaker. The recovery has also been hampered by a continuation of longer-term trends that have reduced employment prospects for those at the lower end of the income distribution and produced weak wage growth.

Of course, it is not part of the Federal Reserve's mandate to address inequality directly, but I want to explore these issues today because the answers may have implications for the

Federal Reserve's efforts to understand the recession and conduct policy in a way that contributes to a stronger pace of recovery. Traditionally, the distribution of wealth and income has not been a primary consideration in the way most macroeconomists think about business cycles. But if inequality played a role in the financial crisis, if it contributed to the severity of the recession, and if its effects create a lingering economic headwind today, then perhaps our thinking, and our macroeconomic models, should be adjusted.

Despite the tentative nature of these conclusions, I do think it is vital to explore these issues, and, in the spirit of Minsky, I hope my remarks spur more inquiry and discussion. I should also note that the views I express are my own and not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (FOMC).

### **Trends in income, wealth, and debt**

In order to “level set” our understanding, let me begin by reviewing some of the changes to the structure of income, wealth, and debt in the years leading up to the Great Recession – changes that have had significant implications for the well-being of most American households. Long before the recession – decades before, in fact – income data show only sluggish increases in real incomes for low- and middle-income American households, and more-rapid increases for high-income households, resulting in a much greater concentration of income among those at the very top of the income distribution. As just one example of the broader trend, according to the Congressional Budget Office, between 1979 and 2007, inflation-adjusted, pretax income for a household in the top 1 percent more than doubled, while, in contrast, income for a household in the middle of the income distribution increased less than 20 percent.<sup>1</sup> Over these years, the share of pretax income accruing to the top 1 percent of households also doubled, from 10 percent to 20 percent, while the share accruing to the bottom 40 percent fell from 13 percent to 10 percent. These growing disparities of total income are largely due to the increasing concentration of labor income, which, on average, accounted for more than 70 percent of all income over this period. In addition, the distribution of other sources of total income – such as profits from small businesses, capital gains and dividend income, rental income, and the like – also became more concentrated over this period.

Many have argued that these disparities in income are hindering economic growth through their effects on consumption. Intuitively, one might assume that the growing concentration of income at the top could lead to less consumer spending and aggregate demand, as wealthier households tend to save more of their additional income than others. However, there is no definitive research indicating that these income disparities show mixed results on the question of whether there are stable differences in the marginal propensity to consume across households with different incomes.<sup>2</sup> More generally, the evidence is equivocal as to whether there is an empirical relationship between higher income inequality and reduced aggregate demand. In my view, understanding the links between greater concentrations of income, variation in spending patterns throughout the income distribution, and the effect of

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<sup>1</sup> See Congressional Budget Office (2011), [Trends in the Distribution of Household Income between 1979 and 2007 \(PDF\)](#) (Washington: CBO, October).

<sup>2</sup> The survey article by Attanasio and Weber (2010) describes several conditions that raise a household's propensity to consume additional income, such as temporary income shocks, borrowing constraints, and low liquidity. However, existing studies do not provide clear evidence that people with permanently low income have a high marginal propensity to consume. See Orazio P. Attanasio and Guglielmo Weber (2010), [“Consumption and Saving: Models of Intertemporal Allocation and Their Implications for Public Policy,”](#) *Journal of Economic Literature*, vol. 48 (September), pp. 693–751.

that variation on aggregate consumption – and, ultimately, growth – requires more exploration.<sup>3</sup>

But since household behavior is surely driven by more than the size of the paycheck coming in the proverbial front door, the distribution of wealth – as distinct from the distribution of income – could have clearer implications for the macroeconomy. Indeed, wealth inequality is greater than income inequality in the United States, although it has widened little in recent decades. For example, according to the Survey of Consumer Finances (SCF), a survey conducted every three years by the Federal Reserve Board, the top one-fifth of families ranked by income owned 72 percent of the total wealth in the economy in 2010, whereas families in the bottom one-fifth of the income distribution together owned only 3 percent of total wealth in 2010.<sup>4</sup>

Hence, families with more-modest incomes have much less wealth to cushion themselves against income shocks, such as unemployment. For example, in 2010, the median value of financial assets was less than \$1,000 for families in the lowest income quintile. Moreover, what wealth low- and middle-income families do have is typically concentrated in housing. For families in the top quintile of income, the value of residential properties accounted for about 15 percent of total wealth in 2010. For families in the middle and lower half of the income distribution, the ratio of their home values to total net worth was near 70 percent. In contrast, stock market wealth (and the value of other securities) constitutes a very small share of wealth for low- and middle-income families.

Because the wealth of people at the lower end of the distribution is concentrated in housing, these households are disproportionately exposed to swings in house prices. This compositional effect was intensified during the housing boom, as the share of wealth accounted for by housing grew even faster for low- and middle-income families than for high-income families. That said, the increases in homeownership and house values during the boom were largely financed by rising mortgage debt. Thus, the direct positive effect of *rising* house prices on most households' net worth was largely offset by the negative effect of increased debt that households took on. On net, mortgage debt and home values moved up together. But when house prices began *falling*, the mortgage debt and repayment obligations remained.

To be sure, the increase in mortgage debt prior to the recession occurred across all types of households. But it was families with modest incomes and wealth largely in their homes that were the most vulnerable to subsequent drops in home values.

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<sup>3</sup> One concern with rising inequality and stagnating wages is that low- and middle-income households will turn to credit and wealth extraction to maintain their consumption growth. One sign of this behavior would be consumption inequality rising much less than income inequality. Researchers – including Krueger and Perri (2006); Aguiar and Bills (2011); and Attanasio, Hurst, and Pistaferri (2012) – have produced mixed findings on this basic question, although, taken together, there is growing evidence that consumption inequality has also risen substantially over the past several decades. See Dirk Krueger and Fabrizio Perri (2006), "[Does Income Inequality Lead to Consumption Inequality? Evidence and Theory](#)," *Review of Economic Studies*, vol. 73 (January), pp. 163–93; Mark A. Aguiar and Mark Bills (2011), "[Has Consumption Inequality Mirrored Income Inequality?](#)" NBER Working Paper Series 16807 (Cambridge, Mass.: National Bureau of Economic Research, February); and Orazio Attanasio, Erik Hurst, and Luigi Pistaferri (2012), "[The Evolution of Income, Consumption, and Leisure Inequality in the US, 1980-2010](#)," NBER Working Paper Series 17982 (Cambridge, Mass.: National Bureau of Economic Research, April).

<sup>4</sup> The specific measure used to group families for these wealth calculations is the stable component of income, referred to in the SCF as "normal" or "usual" income. In the SCF, after families have reported their actual incomes for the year, they are asked whether this was a normal year. If the answer is no, they are asked what their income usually would be in a normal year. Using normal income as a classifier removes the systematic bias in average wealth that arises when, for example, normally high-income families are temporarily in the lowest income group because they had a particularly bad year.

The question then arises as to why households with poor income prospects sought out levels of mortgage debt that would ultimately prove so problematic. Putting aside the practice, in the run-up to the crisis, of lenders steering households to mortgage debt products that were more costly than what such households may have otherwise qualified for, one reason may have been that many households in the middle and lower end of the income distribution, whose wage earnings were stagnant, did not recognize the long-run and persistent trends underlying their lack of income growth.<sup>5</sup> If households thought they were merely going through a rough patch, it would have been quite reasonable for them to borrow money to smooth through it – to make home improvements, for example, or to send a child to college.<sup>6</sup> At the same time, many people believed that the sharp increases in their home values had made them permanently richer and that house prices would never turn down, a belief that appears to have been shared by many households in the upper part of the income distribution as well. In fact, purchasing a house using debt was a profitable investment in the early 2000s. While it is hard to know with any certainty what these individual households believed at the time, it seems quite plausible to me, as others have argued, that stagnant wages and rising inequality, in combination with the relaxation of underwriting standards, led to an increase in the use of credit unsupported by greater income.<sup>7</sup>

## Inequality and the Great Recession

Given these developments, when house prices fell, household finances were struck a devastating blow. The resulting fallout magnified this initial shock, ushering in the Great Recession. Let me lay out this argument in more detail.

As I mentioned earlier, low- to middle-income families held a disproportionate share of their assets in housing prior to the financial crisis and hence were very exposed to what was a historic decline in house prices. And so, while total household net worth fell 15 percent in real terms between 2007 and 2010, median net worth fell almost 40 percent. This difference reflects the amplified effect that housing had on wealth changes in the middle of the wealth distribution.

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<sup>5</sup> In a separate line of inquiry on the social dynamics of spending, Bertrand and Morse (2013) find that moderate-income households spend more if they live in states with rapid spending growth among high-income households, which suggests another channel for inequality to increase debt. See Marianne Bertrand and Adair Morse (2013), "[Trickle-Down Consumption](#)," NBER Working Paper Series 18883 (Cambridge, Mass.: National Bureau of Economic Research, March).

<sup>6</sup> In fact, recent research shows that these trends in annual inequality are mostly due to rising disparities in the component of a household's income that is stable over time, rather than rising disparities in the component that varies from year to year. See Jason DeBacker, Bradley Heim, Vasia Panousi, and Ivan Vidangos (2011), "[Rising Inequality: Transitory or Permanent? New Evidence from a U.S. Panel of Household Income 1987-2006](#)," Finance and Economics Discussion Series 2011-60 (Washington: Board of Governors of the Federal Reserve System, December).

<sup>7</sup> For example, Rajan (2010) has argued that rising inequality resulted in the relaxation of credit standards, which led to the financial crisis, and Kumhof and Ranciere (2011) present a model with such features. However, Bordo and Meissner (2012) look at data from 14 advanced countries and do not find a general relationship between inequality and credit booms. Meanwhile, Bhutta (2011, 2012) finds that federal programs aimed at increasing homeownership only modestly increased the availability of mortgage credit to lower-income borrowers. See Raghuram Rajan (2010), *Fault Lines: How Hidden Fractures Still Threaten the World Economy* (Princeton, N.J.: Princeton University Press); Michael Kumhof and Romain Ranciere (2011), "[Inequality, Leverage and Crises](#)," CEPR Discussion Paper 8179 (London: Centre for Economic Policy Research, January); Michael D. Bordo and Christopher M. Meissner (2012), "[Does Inequality Lead to a Financial Crisis?](#)" NBER Working Paper Series 17896 (Cambridge, Mass.: National Bureau of Economic Research, March); Neil Bhutta (2011), "[The Community Reinvestment Act and Mortgage Lending to Lower Income Borrowers and Neighborhoods](#)," *Journal of Law and Economics*, vol. 54 (November), pp. 953–83; and Neil Bhutta (2012), "[GSE Activity and Mortgage Supply in Lower-Income and Minority Neighborhoods: The Effect of the Affordable Housing Goals](#)," *Journal of Real Estate Finance and Economics*, vol. 45 (June), pp. 238–61.

The unexpected drop in house prices on its own reduced both households' wealth and their access to credit, likely leading them to pull back their spending. In particular, underwater borrowers and heavily indebted households were left with little collateral, which limited their access to additional credit and their ability to refinance at lower interest rates. Indeed, some studies have shown that spending has declined more for indebted households.<sup>8</sup>

Compounding the effect of falling house prices on household wealth and credit was the fact that these low- to middle-income households are also composed of some of the groups that have historically borne the brunt of downturns in the labor market. During recessions, the young, the less educated, and minorities are more likely to experience flat or declining wages, reduced hours, and unemployment.<sup>9</sup> While this disparity is not a new phenomenon, dealing with a loss in labor income during the most recent recession was a heightened challenge to households that had mortgage obligations and no other forms of wealth to cushion the blow. The adverse developments in the labor market added to the difficulty most households were having in repaying their existing debts and in accessing credit in the recession.

These low- to middle-income households that bore the strains in both housing and labor markets, and had little wealth cushion, had more difficulty making payments on their mortgages and other consumer credit debt. For example, among the mortgages originated from 2004 to 2008, almost 25 percent of those in low-income neighborhoods were foreclosed on or in serious delinquency as of 2011, more than twice the rate of mortgages originated in higher-income neighborhoods. Higher-income households had also taken on debt and were affected by declines in asset prices. But these households entered the recession with a larger wealth buffer and higher incomes, so they generally were still able to service their debts. The sharp rise in defaults and delinquencies put extraordinary stress on most households' finances, intensified the financial crisis, and exacerbated the effect of the initial economic shocks. Indeed, a rapid downward spiral of tighter credit, declines in asset prices, rising unemployment, and falling demand caused severe distress and a pullback in spending that was ultimately widespread across households.

### **Inequality and the recovery**

I have argued that rising inequality and stagnating wages may have led households to borrow more and to pin their hopes for economic advancement on rising home values, developments that exacerbated the severity of the financial crisis and recession. Now we are nearly four years into the recovery, which has been weak. In my view, this same confluence of factors has also contributed to the tepid recovery.

If my theory about why households overextended themselves before the financial crisis is correct, then it is likely also true that households have had a rude awakening in the years since. Not only did they receive an unwelcome shock to their net current wealth, but they also undoubtedly have come to realize that house prices will not rise indefinitely and that their labor income prospects are less rosy than they had believed. As a result, they are curtailing their spending in an effort to rebuild their nest eggs and may also be trimming their budgets in order to bring their debt levels into alignment with their new economic realities. In

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<sup>8</sup> See Atif Mian, Kamallesh Rao, and Amir Sufi (2011), "[Household Balance Sheets, Consumption, and the Economic Slump \(PDF\)](#)," unpublished paper, University of Chicago, Booth School of Business, November; and Karen Dynan (2012), "Is a Household Debt Overhang Holding Back Consumption?" *Brookings Papers on Economic Activity*, Spring, pp. 299–358.

<sup>9</sup> An Organisation for Economic Co-operation and Development study by Ahrend, Arnold, and Moeser (2011) documents across a wider range of countries that individuals with low incomes tend to lose the most from adverse macroeconomic shocks. See Rudiger Ahrend, Jens Arnold, and Charlotte Moeser (2011), "[The Sharing of Macroeconomic Risk: Who Loses \(and Gains\) from Macroeconomic Shocks](#)," OECD Economics Department Working Papers 877 (Washington: OECD Publishing, July).



this case, the effects of the plunge in net wealth and the jump in unemployment on subsequent spending have been long lasting and lingering.

Overall debt levels remain higher than before the house price boom, and many families continue to struggle to keep up with their monthly payments. Although many households have significantly reduced their debt levels, many others probably have far to go.<sup>10</sup> It is hard to know just what the optimal debt-to-income ratio is, but, in my view, households will likely aim for something lower than before the financial crisis: Households are probably working toward lower, more-manageable debt service obligations; the heightened uncertainty in the recession may have raised the desired level of financial buffers; and, to the extent that households saw the negative shocks to house prices and income as permanent, they are reducing their spending and thus their demand for new borrowing. While the process of household deleveraging has affected the spending and borrowing of many households, there is no doubt that the process has been more acute for those that have experienced unemployment, underemployment, or slower wage gains.

To make matters worse, there is also some evidence to suggest that the factors that contributed to the rise in inequality and the stagnation of wages in the bottom half of the income distribution, such as technological change that favors those with a college education and globalization, are still at play in the recovery – and perhaps may have accelerated.<sup>11</sup> About two-thirds of all job losses in the recession were in middle-wage occupations – such as manufacturing, skilled construction, and office administration jobs – but these occupations have accounted for less than one-fourth of subsequent job growth.<sup>12</sup> In contrast, the decline in lower-wage occupations – such as retail sales, food service, and other lower-paying service jobs – accounted for only one-fifth of job loss and more than one-half of total job gains in the recovery.<sup>13</sup>

It is not only the occupational and industrial distribution of the new jobs that poses challenges for workers and their families struggling to make ends meet, but also the fact that many of the jobs that have returned are part time or make use of temporary arrangements popularly known as contingent work. The flexibility of these jobs may be beneficial for workers who want or need time to address their family needs. However, workers in these jobs often receive less pay and fewer benefits than traditional full-time or “permanent” workers, are much less likely to benefit from the protections of labor and employment laws, and often have no real pathway to upward mobility in the workplace.<sup>14</sup>

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<sup>10</sup> In contrast to the decrease in overall debt, student loans have continued to rise at a solid pace. The outstanding level of student loan balances is nearly twice its level five years ago and now represents the largest component of consumer (nonmortgage) lending. The increase in student loans is likely related to broader developments in the recession and exposes the households holding these loans to new risks.

<sup>11</sup> The poverty rate has risen sharply since the onset of the recession, after a decade of relative stability, and it now stands at 15 percent, significantly higher than the average over the past three decades. See Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica C. Smith (2012), [Income, Poverty, and Health Insurance Coverage in the United States: 2011 \(PDF\)](#), U.S. Census Bureau Current Population Reports P60-243 (Washington: U.S. Government Printing Office, September).

<sup>12</sup> See National Employment Law Project (2012), “The Low-Wage Recovery and Growing Inequality,” *Data Brief*, report (New York: NELP, August), [http://nelp.3cdn.net/8ee4a46a37c86939c0\\_qjm6bkhe0.pdf](http://nelp.3cdn.net/8ee4a46a37c86939c0_qjm6bkhe0.pdf).

<sup>13</sup> These patterns were also observed during the recessions of the early 1990s and early 2000s – the so-called jobless recoveries – but not prior to then. See Nir Jaimovich and Henry E. Siu (2012), “[The Trend Is the Cycle: Job Polarization and Jobless Recoveries](#),” NBER Working Paper Series 18334 (Cambridge, Mass: National Bureau of Economic Research, August); and Christopher L. Foote and Richard W. Ryan (2012), “[Labor-Market Polarization over the Business Cycle](#),” Public Policy Discussion Paper 12-8 (Boston: Federal Reserve Bank of Boston, December).

<sup>14</sup> See U.S. Department of Labor, Commission on the Future of Worker-Management Relations (1994), “[Contingent Workers](#),” in *Fact Finding Report*.

Wage gains have remained more muted than is typical during a recovery. While this phenomenon likely partly reflects the trends in job creation that I have already discussed, weak wage growth also reflects the severe nature of the crisis: Typically, those who are laid off during recessions struggle to find reemployment that is of comparable quality to their previous job, and research has shown that, on average, a person's income remains depressed for decades following job loss, and that income losses over one's working life are especially severe when the job loss occurs during a recession.<sup>15</sup>

Indeed, while average wages have continued to increase (albeit slowly) on an annual basis for persons who have remained employed, the average wage for new hires has declined since 2010.<sup>16</sup> Although it is too early to state with certainty what the long-term effect of this recession will be on the earnings potential of those who lost their jobs, given the severity of the job loss and sluggishness of the recovery – with nearly 9 million jobs lost and still almost 2-1/2 million jobs below pre-recession employment levels – it is very likely that, for many households, future labor earnings will be well below what they had anticipated in the years before the recession.

### **Implications for our thinking about the macroeconomy**

I have focused most of my remarks on the experiences of households at the lower ends of the income and wealth distributions, those households whose incomes improved the least in the years prior to the financial crisis and that suffered disproportionately as a result of the crisis and ensuing recession.

To be clear, my approach of starting with inequality and differences across households is not a feature of most analyses of the macroeconomy, and the channels I have emphasized generally do not play key roles in most macro models. The typical macroeconomic analysis focuses on the general equilibrium behavior of “representative” households and firms, thereby abstracting from the consequences of inequality and other heterogeneity across households and instead focusing on the aggregate measures of spending determinants, including current income, wealth, interest rates, credit supply, and confidence or pessimism. In certain circumstances, this abstraction might be a reasonable simplification. For example, if the changes in the distribution of income or wealth, and the implications of those changes for the overall economy, are regular features of business cycles, then even an aggregate model without an explicit focus on distributional issues would capture those historical regularities.

However, the narrative I have emphasized places economic inequality and the differential experiences of American families, particularly the highly adverse experiences of those least well positioned to absorb their “realized shocks,” closer to the front and center of the macroeconomic adjustment process. The effects of increasing income and wealth disparities – specifically, the stagnating wages and sharp increase in household debt in the years leading up to the crisis, combined with the rapid decline in house prices and contraction in credit that followed – may have resulted in dynamics that differ from historical experience and which are therefore not well captured by aggregate models. How these factors have interacted and the implications for the aggregate economy are subject to debate, but I have laid out some possible channels through which there could be effects and that I believe represent some particularly fruitful areas for continued research.

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<sup>15</sup> See Steven J. Davis and Till von Wachter (2011), “Recessions and the Costs of Job Loss,” *Brookings Papers on Economic Activity*, Fall, pp. 1–55.

<sup>16</sup> See Jesse Rothstein (2012), “The Labor Market Four Years into the Crisis: Assessing Structural Explanations,” *ILRReview*, vol. 65 (July), figure 11, p. 486.

## **Implications for monetary policy**

The arguments that I have laid out suggest that paying attention to the experiences of different types of households may be important for the way we understand and interpret the macroeconomic events of the past several years. As a consequence, these differential experiences may also have implications for the conduct of monetary policy. Arguably, the FOMC's conduct of monetary policy in recent years has in part been designed to address this particular landscape. In response to continuing low levels of resource utilization, the FOMC has kept monetary policy highly accommodative by keeping its primary policy instrument, the federal funds rate, at an exceptionally low level; by supplementing this move with forward guidance about the funds rate; and by initiating unconventional policy actions such as large-scale asset purchases. One channel through which these policies operate is by putting downward pressure on longer-term interest rates, thereby encouraging firms to invest in plants and equipment and helping enable households to purchase cars and other durable goods and also to refinance their mortgages. Lower interest rates also support the prices of homes and other assets, which can lead to additional spending. The resulting boost to demand leads firms to hire and invest further, strengthening the economy as a whole. To be sure, every household is different, and the particular mix of assets, skills, and opportunities that each has will determine how much it is able to share in the recovery. But accommodative monetary policy that lifts economic activity more generally is expected to increase the odds of good outcomes for American families.

Of course, it is also relevant to consider whether the unusual circumstances – the outsized role of housing wealth in the portfolios of low- and middle-income households, the increased use of debt during the boom, and the subsequent unprecedented shocks to the housing market – may have attenuated the effectiveness of monetary policy during the depths of the recession. Households that have been through foreclosure or have underwater mortgages or are otherwise credit constrained are less able than other households to take advantage of the lower interest rates, either for homebuying or other purposes. In my view, these effects likely clogged some of the channels through which monetary policy traditionally works. As the housing market recovers, though, I think it is possible that accommodative monetary policy could be increasingly potent. As house prices rise, more and more households have enough home equity to gain renewed access to mortgage credit and the ability to refinance their homes at lower rates. The staff at the Federal Reserve Board has estimated that house price increases of 10 percent or less from current levels would be sufficient for about 40 percent of underwater homeowners to regain positive equity.

It is my view that understanding the long-run trends in income and wealth across different households is important in understanding the dynamics of the macroeconomy and thus also may be relevant for setting monetary policy to best reach our goals of maximum employment and price stability. I believe that the accommodative policies of the FOMC and the concerted effort we have made to ease conditions in the mortgage markets will help the economy continue to gain traction. And the resulting expansion in employment will likely improve income levels at the bottom of the distribution. However, given the long-standing trends toward greater income and wealth inequalities, it is unlikely that cyclical improvements in the labor markets will do much to reverse these trends.

## **Conclusion**

It strikes me that macroeconomists are far from a comprehensive understanding of how wealth and income inequality may affect business cycle dynamics. My remarks today are given only in the spirit of describing how that relationship might be further explored. I have said nothing about the social costs associated with such trends, nor have I provided much detail on what is occurring at the top end of the income and wealth distribution and the effects of those trends on the recovery. Nonetheless, I believe that, given the wide income and wealth disparities in the United States, this area is ripe for more research.



In recent years, the Board has increased its efforts to measure and understand differences in the economic situations faced by different types of families. A particularly strong source of data to improve our understanding of the role for inequality and heterogeneity is the SCF. The triennial SCF marks its 30th anniversary this year, as the fieldwork for the 2013 survey begins this month. The data we collect on U.S. families are a fundamental input for many different types of research projects being undertaken by Board economists, in other government agencies and research centers, and in academia. In addition, the Board, in partnership with other members of the Federal Reserve System, is engaged in a wide range of analysis and research using rich and timely data on households' use of consumer credit. And the Board continues to support direct efforts to understand differences in spending and saving behavior across households, such as studies of stimulus policies in the Thomson Reuters/University of Michigan Surveys of Consumers.

There is much work to be done on understanding the ways in which income and wealth inequality and other forms of household heterogeneity affect aggregate behavior, and the implications for monetary policy. The times demand that we continue to analyze such dynamics and their implications, in partnership with academics, our Federal Reserve System colleagues, and policy analysts representing many different types of government and private-sector institutions.

Thank you for your attention and the creative thought you bring to today's economic challenges.