

THE REGIONAL ECONOMIST

*A Quarterly Review
of Business and
Economic Conditions*

Vol. 20, No. 3

July 2012

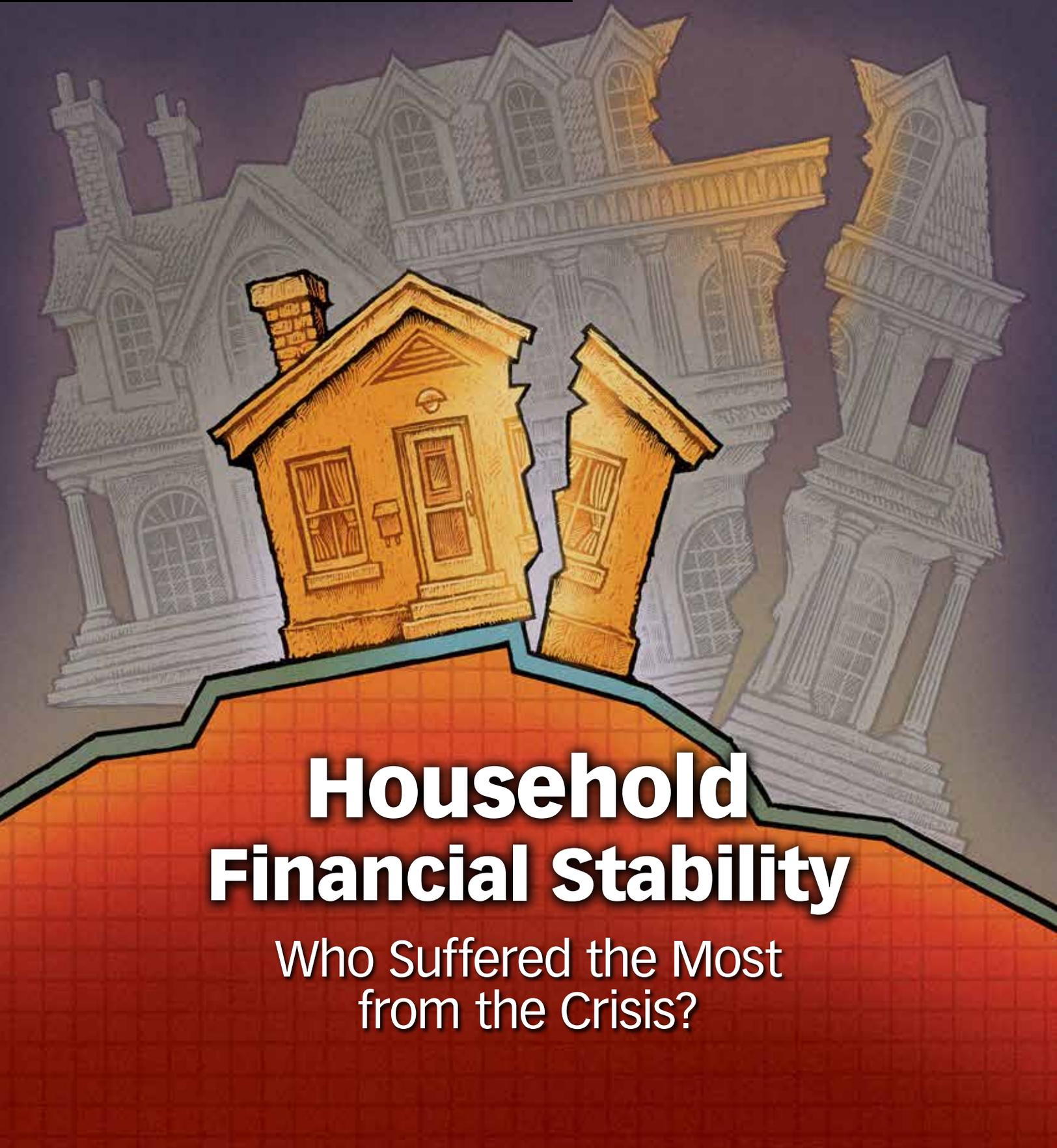
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A Look at Indicators
and the Call
To Update Them

Manufacturing

Arkansas City Finds
Formula To Attract
Decent-Paying Jobs



Household Financial Stability

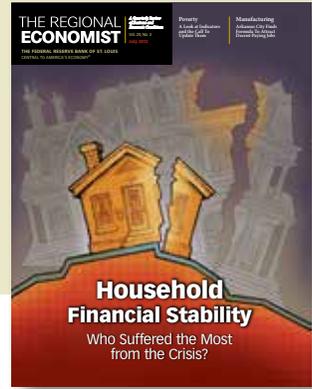
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Household Financial Stability

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The financial crisis and ensuing recession took a toll on just about everybody's household wealth. Not surprisingly, the pain wasn't evenly distributed. Those groups that are usually the most vulnerable in our society—young and middle-aged minority households—suffered the most, percentage-wise.



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JULY 2012 | VOL. 20, NO. 3

The *Regional Economist* is published quarterly by the Research and Public Affairs divisions of the Federal Reserve Bank of St. Louis. It addresses the national, international and regional economic issues of the day, particularly as they apply to states in the Eighth Federal Reserve District. Views expressed are not necessarily those of the St. Louis Fed or of the Federal Reserve System.

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The Eighth Federal Reserve District includes all of Arkansas, eastern Missouri, southern Illinois and Indiana, western Kentucky and Tennessee, and northern Mississippi. The Eighth District offices are in Little Rock, Louisville, Memphis and St. Louis.



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The Financial Crisis and Household Balance Sheets: A New Research Effort Under Way at the St. Louis Fed

The Great Recession set in motion numerous adverse repercussions, with damage to household balance sheets being especially pronounced. As reported by Bill Emmons and Bryan Noeth in this issue of *The Regional Economist*, household wealth declined nearly \$17 trillion in inflation-adjusted terms, or 26 percent, from mid-2007 to early 2009, with only about two-fifths of that loss recovered by early 2012. Emmons and Noeth found that wealth losses hit older, wealthier Americans (who had the most to lose) the hardest in terms of absolute dollars, but affected younger, less-educated and minority households the most in terms of percentage.

Not surprisingly, the adjustments required by the damage to household balance sheets are ongoing and are likely to take years to complete. In fact, this is the first U.S. recession in which household “deleveraging”—the slow, painful process of families paying down their debts and rebuilding their savings—has played a key role. Steep declines in housing prices, along with historically high levels of household debt before the crash, made this recession particularly severe. The International Monetary Fund recently reported that “housing busts preceded by larger run-ups in gross household debt are associated with significantly larger contractions in economic activity.”¹ The unprecedented debt overhang leaves the Federal Reserve with a seemingly paradoxical policy, at least with respect to many households: Monetary policy has kept interest rates low to encourage borrowing in the context of an economy with too much borrowing.

As Fed policymakers continue to work through this paradox, a clear challenge remains to define mechanisms whereby Americans, especially low- and moderate-income Americans, can rebuild their balance sheets, which will help both struggling

families and the stagnant economy move forward. Too many Americans were unbanked or underbanked, too many did not save enough, too many ran up their debts or accumulated risky debt, and too many did not diversify their assets beyond housing. How can we turn each of these balance sheet failures around? How can we help families consider their *entire* balance sheet?

To help meet these challenges, I am pleased to report that the St. Louis Fed has begun a research initiative on the topic of household financial stability. This new initiative will focus on three key questions:

1. What is the state of household balance sheets in this country—what can we say, quantitatively, about the health of household balance sheets in aggregate but, especially, by age, race, education level, income and other demographic factors?
2. Why does it matter—what are the economic and social outcomes, at both the household and macro levels, associated with varying levels of savings, assets and net worth?
3. What can we do to improve household balance sheets—what are the implications of our research for public policy, community practice, financial institutions and households?

Many in the Federal Reserve System have been studying family balance sheets for years. What we hope to offer is a broad conceptual framework, a common table where those throughout the System and beyond learn and work together. We also plan to publish research offering new perspectives on balance sheets and why they matter. In addition, we are constructing a balance sheet data clearinghouse, modeled on the St. Louis Fed’s FRED® (Federal Reserve Economic Data) database; creating a balance sheet index to gauge the health of American balance sheets; and organizing research symposia,

practitioner forums, a speaker series and other activities to understand and improve family balance sheets.

Ray Boshara, who joined the St. Louis Fed last year as a senior adviser, will lead the initiative. Ray brings more than 20 years of national experience to this effort; he has advised leading policymakers worldwide on this issue, and, most recently, he was invited to testify last October before the U.S. Senate Banking Committee on rebuilding household balance sheets.² We have a high-quality team that will contribute to the project. However, the success of this initiative requires the efforts of many more researchers. As such, our team will work with colleagues throughout the Federal Reserve System and beyond to increase substantially our understanding of household balance sheets.

As we continue to recover from the economic crisis, and as the Federal Reserve approaches its centennial commemoration in 2013, we are challenged to innovate and to think about new ways to help American families and the U.S. economy thrive. We are excited about the contribution that our new household financial stability research initiative can make to this important challenge. 



ENDNOTES

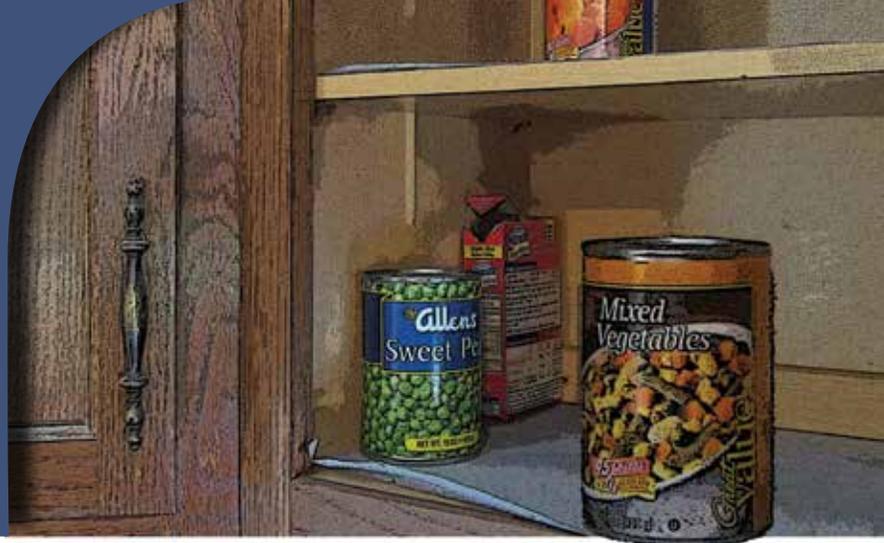
¹ See International Monetary Fund. *World Economic Outlook: Growth Resuming, Dangers Remain*, April 2012, p. 91.

² For Boshara’s full testimony, see <http://www.stlouisfed.org/publications/br/articles/?id=2213>

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Understanding Poverty Measures and the Call To Update Them

By Natalia Kolesnikova and Yang Liu



Poverty means different things in different regions. The World Bank often defines living on less than \$2 per day per person as the main poverty indicator in developing countries.¹ The European Union considers 60 percent of the national median disposable income after social transfers as the threshold of being at risk for poverty.²

In the United States, individuals whose family income is less than the official poverty threshold are in poverty. The threshold itself depends on the size of the family, as well as the number of those in the family who are under 18 or are at least 65. For example, in 2010 a family of two adults with two children under 18 was living in poverty if its annual income was below \$22,113; a family of four adults was living in poverty if its annual income was below \$22,491.

As the table shows, the poverty rate in the United States rose to 15.3 percent in 2010, up 4 percentage points from a decade earlier.³ In the Eighth Federal Reserve District, which is served by the Federal Reserve Bank of St. Louis, all seven states and major metropolitan areas saw a similar trend—the poverty rate rose between 3.6 percentage points and 6.5 percentage points from 2000 to 2010. The increase was even bigger for the population under 18 years old.

Does the increase in the poverty rate mean more Americans fall short of a desired standard of living? Or does the increase mean more people lack the resources necessary for basic needs? To be able to answer these questions, we need a better understanding of poverty threshold.

History of U.S. Poverty Gauges

The official U.S. poverty measures are based on studies conducted by Social Security

Administration economist Mollie Orshansky. In the 1960s, Orshansky created a poverty threshold using the cost of the Department of Agriculture's economical food plan. Orshansky assumed that U.S. families spent a third of their income on food and, thus, she used three as the multiplier to obtain the poverty threshold. It indicates the minimal monetary income required to pay for basic needs. If a family's total pretax monetary income is below the poverty threshold, then the family has inadequate resources for day-to-day necessities; every member in the family is considered in poverty.

In 1969, the U.S. government adopted this poverty threshold as the official statistical definition of poverty. The poverty threshold is used, for example, to estimate the number of Americans living in poverty. The U.S. Department of Health and Human Services uses a somewhat simplified version of Orshansky's poverty threshold as the official poverty guidelines.⁴ The poverty guidelines are commonly used for government administrative purposes, such as determining the eligibility for public assistance programs.

Limits of the Official Measures

For decades, the poverty measures have been criticized for their limitations. Complaints include that these measures are outdated, provide incomplete information and are not location-specific.

In addition, the U.S. economy has changed significantly since the 1960s, and the standard of living has been substantially improved. Yet the methodology behind the poverty threshold has remained unchanged. The 1960s economical food plan was "designed for temporary and emergency use when funds are low."⁵ The nutrition offered by this plan no longer reflects

what is considered to be adequate nutrition for Americans in the 2010s. As American families spend a much smaller portion (about one-eighth) of their income on food than they did 45 years ago, Orshansky's assumption and multiplier of three used for calculating the poverty threshold also have become outdated.⁶

The fact that the poverty threshold does not take into account other living costs and social benefits also raises some concerns. Poor families spend a substantial portion of income on clothing, shelter, utilities and out-of-pocket medical expenses. The official poverty measures are likely underestimating the true poverty level because they do not reflect such costs. Consequently, many public assistance

Poverty Rates

	Poverty Percent All Ages		Poverty Percent Under Age 18	
	2010 level	2000-2010 change (in percentage points)	2010 level	2000-2010 change (in percentage points)
United States	15.3	4.0	21.6	5.4
Arkansas	18.7	3.7	27.3	5.5
Illinois	13.8	3.8	19.4	4.8
Indiana	15.3	6.5	21.6	9.5
Kentucky	18.9	5.0	26.1	6.8
Mississippi	22.4	4.8	32.4	7.5
Missouri	15.3	4.7	21.0	6.2
Tennessee	17.8	5.2	25.9	8.1
Little Rock	15.0	3.6	21.4	4.7
Louisville	15.1	5.5	21.4	7.3
Memphis	19.2	5.2	27.6	7.7
St. Louis	13.2	3.7	18.0	4.7

SOURCE: U.S. Census Bureau, Small Area Income and Poverty Estimates program.

NOTE: The estimates are based on the official U.S. poverty thresholds for 2000 and 2010.

programs use 125 percent, 150 percent or even 200 percent of a poverty guideline as an eligibility benchmark.

The poverty level of families with children is further underestimated. One study found that American families with two young children need an income that is 150 percent to 350 percent of the official poverty level, depending on location, to cover their basic needs.⁷

On the other hand, the government's tax programs and other noncash benefits increase families' disposable income; poverty measures should be adjusted to reflect the actual resources that families have for basic needs.⁸

Finally, the official poverty threshold is the same for the entire contiguous United States. Thus, New York City has the same poverty threshold as St. Louis, despite the cost of living being much higher in New York City than in St. Louis. This unified poverty measure without geographic adjustment may present a distorted picture of local poverty levels.⁹ Additionally, some argue that other aspects, such as access to education and level of health care, might need to be considered to define poverty beyond income.¹⁰

Attempts To Improve Poverty Measures

U.S. policymakers have long been aware of these criticisms. Even though the current official U.S. poverty threshold and poverty guidelines are still based on 1960s' construction, numerous attempts have been made to come up with a better measure.¹¹ In 1968, the Poverty Level Review Committee decided to adjust the poverty level by cost of living (using the Consumer Price Index) but not by standard of living. In 1973, the Subcommittee on Updating the Poverty Threshold recommended decennial revisions of food plans and multipliers, as well as of the definition of income used for calculating the poverty threshold. Yet, no changes in the poverty definition were made in response to these recommendations.

In the 1980s, there was extensive debate over whether to count government noncash benefits, such as food stamps, as income. Once again, no changes in the definition of poverty were made. In the 1990s, Congress commissioned the National Academy of Sciences (NAS) to research possible revisions to the poverty measurement. A final report, "A New Approach To Developing Poverty Measurement," was published in 1995.¹²

This report conducted a thorough analysis

of a new methodology to construct a poverty threshold and to measure family resources. The report recommended taking noncash income, tax programs, housing status, work-related expenses and out-of-pocket medical expenses into account, but the report did not propose any specific numbers for new poverty guidelines or poverty thresholds.

Although the 1995 NAS report did not result in immediate changes in the official measures, it did become the foundation for creating several alternative poverty measures in the following decade. Beginning in the late 1990s, the Census Bureau conducted a series of studies based on recommendations of the 1995 NAS report. As a result, NAS-based annual poverty estimates have been published by the Census Bureau since 1999. In 2008, the New York City government officially adopted a new poverty measure based on the 1995 NAS report to "devise effective strategies for tackling poverty."¹³

Moreover, in 2011, the Census Bureau began to publish the Supplemental Poverty Measure (SPM).¹⁴ The SPM further improves the concept of the poverty threshold and the definition of family resources. The SPM threshold is based on the out-of-pocket spending on food, clothing, shelter and utilities (FCSU). The SPM uses the 33rd percentile of FCSU expenditure distribution of families with two children to reflect a typical American family's basic needs. The SPM threshold is then calculated by adding another 20 percent to this number to account for additional basic needs; it is also adjusted for geographic differences, family size and family composition. SPM redefines family resources as all cash income, plus in-kind benefits that families can use to meet their FCSU needs, minus net tax payments, work-related expenses and out-of-pocket medical expenses.

As an ongoing research project, the SPM will continue to be updated and improved. It will probably not be used as an official poverty measure or for program eligibility in the near future. However, the SPM solves several limitations in the official poverty measures. It is a big step forward to better understanding and accurately measuring poverty. 

Natalia Kolesnikova is an economist and Yang Liu is a senior research associate, both at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/kolesnikova/> for more on Kolesnikova's work.

ENDNOTES

- 1 See Chen and Ravallion.
- 2 For more details, see http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:At-risk-of-poverty_rate
- 3 These estimates are provided by the Small Area Income and Poverty Estimates (SAIPE) program of the U.S. Census Bureau. The program was created to provide estimates for school districts, counties and states. For more information, see www.census.gov/did/www/saipe/
- 4 See U.S. Department of Health and Human Services.
- 5 See Cofer, Grossman and Clark.
- 6 See O'Brien and Pedulla.
- 7 See Dinan.
- 8 See Cauthen and Fass.
- 9 See Levitan et al.
- 10 See Alkire and Foster.
- 11 See Fisher.
- 12 See Citro and Michael.
- 13 See New York City.
- 14 See Short.

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Job Gains and Losses at Large and Small Firms during the Great Recession

By Lowell R. Ricketts and Juan M. Sánchez



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Recessions are often characterized by tight credit conditions. As the financial sector contracts, firms may find themselves to be increasingly credit-constrained as they attempt to finance business activity, given less available and more costly loans. These credit difficulties transmit shocks in the financial markets into shocks to the real economy, a situation termed the *financial accelerator*.

Small firms are often the hardest hit during periods of tight credit, according to much of the literature. When credit conditions worsen, small businesses cannot rely on access to *direct credit* (issuance of equity, corporate bonds and commercial paper) and must cut back on their short-term debt and, subsequently, their business operations. Economists Mark Gertler and Simon Gilchrist found in 1994 that, during five periods of contractionary monetary policy (in 1968, 1974, 1978, 1979 and 1988), small manufacturing firms reduced their short-term debt by a greater percentage than did large firms. This pattern was also true in regard to sales and inventories of small firms relative to large firms.¹ Along the same lines, economists Ayşegül Şahin, Sagiri Kitao, Anna Cororaton and Sergiu Laiu found that during the Great Recession small firms lost a greater share of their total employment than large firms did.

On the Other Hand

However, some studies analyzing recent recessions question the view that employment in small establishments is more affected during recessions than that of large establishments. Economists Giuseppe Moscarini and Fabien Postel-Vinay conducted a study that looked at the 1990 and 2001 recessions and found that large firms were more adversely

affected than small firms with regard to employment. Economists Marianna Kudlyak, David Price and Juan Sánchez, following the same methodology as Gertler and Gilchrist, also found that large firms suffered more during the latest recessions.

The recession following the 2008 financial crisis was unlike any other since the 1930s. Focusing on the effect of this recession, Kudlyak and Sánchez found that in about the third quarter of 2008 the short-term debt of large firms decreased relative to that of small firms. Furthermore, the sales of large firms contracted relative to those of small firms, the same relationship found for the 2001 recession. It is important to note that Kudlyak and Sánchez used a different data set than did Şahin et al. and did not measure effects on employment, making a comparison between findings difficult.

Jobs Gained and Jobs Lost

Payroll employment growth, a statistic calculated by the U.S. Bureau of Labor Statistics (BLS), is often looked to as an important indicator of job growth. This statistic is a net sum of two opposing flows: jobs gained and jobs lost. Understanding these flows provides much more detailed information about the employment dynamics of the U.S. economy. For example, we often associate job losses with periods of economic contraction. However, even when employment growth is at its highest, there will always be individuals who quit or lose their jobs. These flows are estimated by the BLS in its Business Employment Dynamics (BED) set of statistics and are available by firm size, industry and sector. This article analyzes these flows to provide a different perspective on the recession's impact on small versus large firms.

Figures 1 and 2 show the evolution of job gains and losses for very small and very large firms (four or fewer workers versus 1,000 or more workers). The difference is striking. Figure 1 shows that the rate of job loss for large firms was 35 percent higher on average during the recession than in 2007:Q1. In comparison, the rate of job loss for small firms was only 6 percent above the level in 2007:Q1. In particular, the peak rate of job loss measured for large firms, which occurred in 2009:Q2, was roughly 59 percent higher than in 2007:Q1. In contrast, the maximum rate of job loss for small firms reached only 11 percent higher than the prerecession value. Following the recession, the relative rates of job loss for both large and small firms dropped below their prerecession values; as of the middle of last year, these relative rates were roughly similar in value.

Figure 2 shows job gains over the same period. Small firms once again fared dramatically better during the recession. Averaged over the recession, the rate of hiring for small firms was about 10 percent lower than the prerecession rate. For large firms, the rate of hiring was on average 20 percent lower during the recession and reached its lowest point (41 percent lower) in 2009:Q1.

2 Percent vs. 18 Percent

The aforementioned analysis compares two extreme groups: very small and very large firms. But the finding generalizes to groups of other sizes. Figure 3 displays the percent change of the total jobs gained and lost over 2008-09 relative to the two-year period of 2006-07 for the nine size classifications found in the BED. For firms with 1,000 or more employees, the number of jobs lost was 26 percent higher than in the previous two

years. For the four smallest size classifications, the average percent change in jobs lost was only 2 percent. For the four largest, it was 18 percent!

Lower rates of job gains during the recession exacerbated net employment growth, which was already on the decline due to the heightened rate of job loss. Firms with 1-4 employees had an 8 percent drop in jobs gained over the course of the recession; this decline is markedly better than the 19 percent decline that firms with at least 1,000 employees experienced.

The BED data on job flows clearly support the conclusion that large firms were hit harder by the recession than small firms were. For large firms, the rate of job loss increased dramatically and job gains continued at a much weaker rate. This is a surprising conclusion, as it runs counter to the widely held view that small firms suffer more during times of recession and tight credit conditions.²

Gertler and Gilchrist's findings are usually interpreted in the following way. Small firms suffer more than large firms during periods of tight credit because small firms depend more heavily on bank loans. As a consequence, small firms must contract more when banks reduce lending. The recent recession was preceded by one of the most severe financial crises the nation has ever seen. Perhaps the notion that a financial shock plays such a central role in affecting small firms needs to be reconsidered. Along these lines, Şahin et al. turned to national survey evidence and found that only a few establishments cited financial conditions and interest rates as their main impediment during the recent recession. Alternatively, given that mainly large firms depend heavily on commercial paper, the sheer magnitude of this financial shock could have resulted in greater credit constraints for large firms because of the collapse in the corporate commercial paper market.³ Answers will hopefully come to light as more research occurs on this topic. 

Juan M. Sánchez is an economist and Lowell R. Ricketts is a senior research associate, both at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/sanchez/> for more on Sánchez's work.

FIGURE 1

Rate of Job Loss by Firm Size

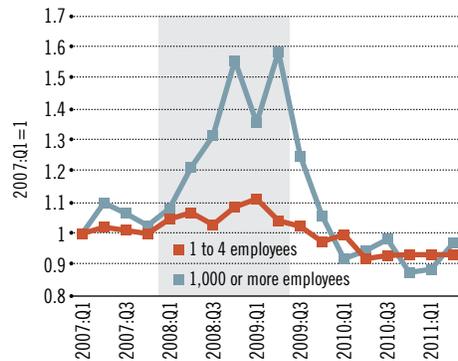
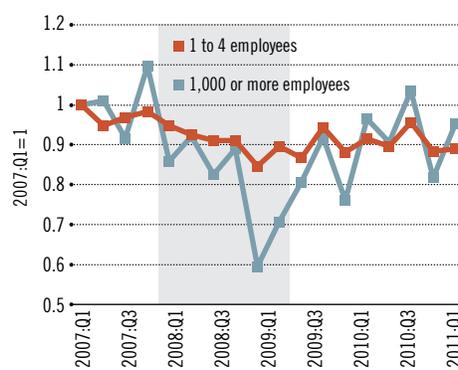


FIGURE 2

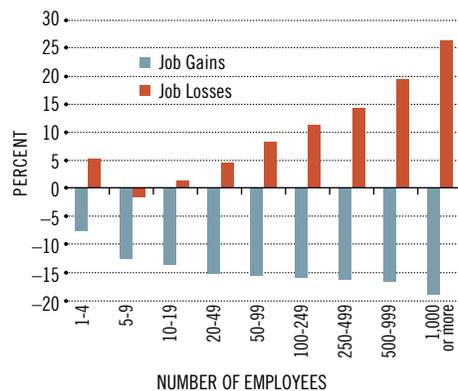
Rate of Job Gains by Firm Size



NOTE: All series are normalized such that their values are equal to 1 in 2007:Q1. The shaded area represents the period of the latest recession.

FIGURE 3

Change in Job Gains and Losses during the 2008-09 Recession Relative to 2006-07



SOURCE FOR ALL FIGURES: Bureau of Labor Statistics.

ENDNOTES

- ¹ Gertler and Gilchrist define small and large firms based on asset distribution, with small firms below the 30th percentile and large firms above it.
- ² This is even more surprising as Şahin et al. also looked at the BED data for their study and found that small firms were worse off in the most recent recession in terms of the decline in their total employment. However, the numbers are relatively deceiving, as small firms have much greater job flows and a lower level of total employment. Thus, small firms did lose a greater share of their total employment during the recession, but they did so at a rate that deviated less from what is characteristic of those firms.
- ³ See Kacperczyk and Schnabl.

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Quantitative Easing: Lessons We've Learned

By Brett W. Fawley and Luciana Juvenal



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This summer marks five years since the U.S. real estate bubble popped. The ensuing recession was deeper than any since WWII, and full recovery remains slow, fragile and incomplete. Throughout the crisis and recovery, numerous central banks were forced to pursue unconventional monetary policies, including quantitative easing (QE). Understanding how QE affects long-term interest rates is crucial for assessing its long-run viability as an effective monetary policy instrument.

Why Was This Policy Necessary?

The primary policy instrument of most central banks is the overnight interbank interest rate, the rate at which banks lend money to one another. For the U.S., this is the federal funds rate, for which the Federal Open Market Committee (FOMC) of the Federal Reserve System sets a target. When slack emerges in the economy, the FOMC usually cuts the target for the fed funds rate in order to stimulate lending, investment and consumption. But the FOMC cannot move this rate lower than zero percent: At a negative interest rate, banks get a higher return from stashing cash under their mattress than from lending it. Hence, conventional monetary policy ran out of tools in December 2008, when the target for the fed funds rate was set at a range of 0-0.25 percent.

Concerned that deflationary expectations and sharp contractions in credit would stifle recovery, and with short-term policy rates already at zero, the FOMC chose to pursue unconventional monetary policy.

What Is QE?

Traditionally speaking, QE is when a central bank goes from targeting interest rates

to targeting the amount of excess reserves held by banks, i.e., the quantity of currency in the banking system. Central banks do this by buying financial assets in exchange for reserves. Conventional monetary policy also requires buying and selling assets, namely short-term debt, to influence the desired interest rate, but the difference with QE is that the level of purchases—and not the interest rate—becomes the target.

In November 2008, the Fed announced that it would buy the debt of government-sponsored enterprises (GSEs), such as Fannie Mae and Freddie Mac, as well as the mortgage-backed securities (MBS) that these enterprises sponsored. The goals were to lower borrowing costs and to directly ease credit conditions in the housing market. In March 2009, the Fed committed to buying additional GSE debt and MBS, as well as longer-term U.S. Treasury bonds. These purchases, known collectively as QE1, or the first large-scale asset purchase program (LSAP), accounted for roughly 22 percent of the market for such assets.¹ The Fed announced additional purchases of longer-term Treasuries in November 2010 and September 2011 as part of QE2 and Operation Twist, respectively. The goal was to further support economic recovery and to anchor inflation expectations at levels that the FOMC viewed as consistent with its dual mandate (price stability and maximum sustainable employment).

How Does QE Work?

Most economists agree that the interest rate that matters for stimulating investment and consumption is the medium- to long-term expected real interest rate. Medium- to long-term expected real interest rates are

a function of three components: average expected overnight interest rates, a term and/or risk premium, and expected inflation. All else equal, the expected return from buying a U.S. Treasury or other bond must equal the expected average overnight interest rate over the lifetime of the bond; otherwise, the investor would be better off rolling over daily loans. But since all else is not equal, the investor also demands premiums for holding the risk that the value of the bond will decrease due to unexpectedly high interest rates (the term premium) and for holding the risk that the bond issuer will default (default risk premium). Finally, since investors are ultimately not concerned with the dollars that their investment will yield but only with the quantity of goods that those dollars will buy, the expected real return on the bond subtracts expected inflation.

QE does not directly impact future short-term rates, but it may *signal* to markets that economic conditions are worse than previously thought and that, as a result, low short-term rates will be warranted for longer than expected. Moreover, the central bank can use QE to *signal* its commitment to hold interest rates down for longer than previously believed or to meet a stated inflation rate target. Effects on future short-term rate expectations are generally referred to as the *signaling channel*.

QE may also directly impact term and/or risk premiums. If investors demand a premium for holding 10-year Treasuries over five-year Treasuries, then this premium should depend in part on the relative supplies of 10-year and five-year Treasuries. If the Fed purchases 10-year Treasuries, removing them from the market, investors should require a smaller premium to hold the reduced

quantity of 10-year Treasuries in their portfolio. Effects on premiums, or relative asset prices, are referred to as the *portfolio balance channel*. Note that influencing relative asset prices, e.g., long-term rates versus short-term rates, depends crucially on imperfect asset substitutability. If investors are indifferent between five-year and 10-year Treasuries, then their yields will remain identical regardless of relative supplies.²

So, by which of these channels, if any, did QE1 affect long-term real interest rates? The figure shows annual expected inflation rates, annual average expected overnight rates and annual term premiums up to 10 years into the future.³ Pre-LSAP levels were measured on Nov. 24, 2008, the day prior to the first LSAP announcement. Post-LSAP levels were derived by subtracting from the pre-LSAP levels the estimated LSAP effect.⁴ For example, investors on Nov. 24, 2008, expected that in the sixth year out (i.e., 2014) the annual inflation rate would be 1 percent and the average overnight interest rate would be 3.75 percent, and they demanded a 1 percent return premium (or a 4.75 percent return) to extend a one-year loan from Nov. 24, 2013, to Nov. 24, 2014.

The figure indicates that most of the effect on long-term yields was achieved by lowering term premiums. At 10 years out, the expected future overnight interest rate was only marginally lower than before, but the term premium for holding interest rate risk from years nine to 10 (or Nov. 24, 2017, to Nov. 24, 2018) was nearly 75 basis points lower. The effects on expected inflation are mixed and more difficult to interpret.⁵

What Is the Lesson?

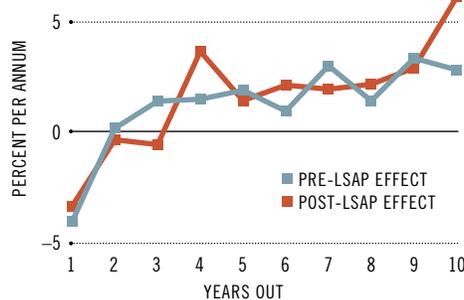
Work by researchers at the Federal Reserve Bank of New York and Bank of England confirms the interpretation of the figure: Lower term premiums accounted for up to 70 percent of U.S. and U.K. QE effects on long-term interest rates.⁶ Federal Reserve Bank of St. Louis research adds more support for portfolio rebalancing by noting that, in addition to affecting domestic rates, U.S. large-scale asset purchases also significantly lowered foreign long-term interest rates.⁷ And while researchers at the Federal Reserve Bank of San Francisco prefer a different term-structure model for decomposing bond yields, they still obtain a point estimate that

the portfolio balance channel accounted for half of the LSAP's effects.⁸

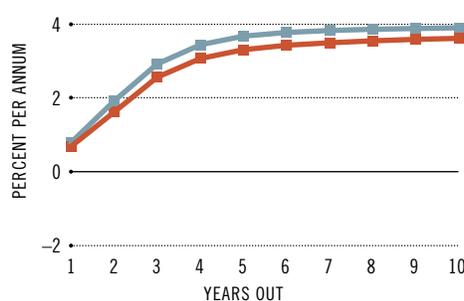
The major lesson learned is that financial frictions, e.g., imperfect asset substitutability, provide a meaningful avenue for monetary policy to influence long-term real interest rates, regardless of the short-term interest rate target. [Q](#)

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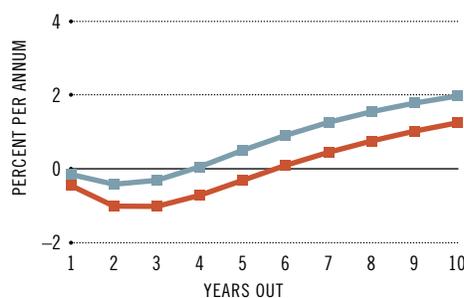
Expected Inflation



Average Expected Overnight Rate



Term Premium



SOURCES: Bloomberg and Federal Reserve Board.

NOTE: The figure shows the expected path of inflation and average expected overnight interest rates, as well as the forward term premiums on U.S. Treasuries, both before and after the LSAP announcement effect. Expected inflation is measured from inflation swaps. The expected interest rate path and term premiums are decomposed from fitted zero-coupon U.S. Treasuries using the methodology of Kim and Wright.

ENDNOTES

- 1 See Gagnon et al.
- 2 For example, at zero nominal interest rates, short-term government debt is essentially a perfect substitute for currency; so, swapping the two will have no effect on the relative price of short-term debt.
- 3 The premium on government-issued and -backed debt is almost entirely attributable to the term premium, given the relatively negligible risk of government default.
- 4 The LSAP effect is measured as the sum of one-day changes around the eight announcements identified by Gagnon et al. as importantly shaping LSAP expectations. See Neely for a discussion of the event study methodology.
- 5 On Dec. 1, 2008, and Dec. 16, 2008, there was news in addition to the LSAP that likely influenced expectations. The National Bureau of Economic Research officially declared a recession, and the FOMC added language to the FOMC statement that interest rates would be low "for some time," respectively. On March 18, 2009, "some time" was changed to "an extended period."
- 6 See Gagnon et al. and Joyce et al., respectively.
- 7 See Neely.
- 8 See Bauer and Rudebusch.

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Signs Point to Stronger Real GDP Growth in 2012 than Last Year's 1.6

By Kevin L. Kliesen

The macroeconomic environment continued to improve over the first half of 2012, despite some headwinds that dampened confidence among small businesses, households and investors. Among the key headwinds have been the renewed turmoil in Europe, high gasoline and diesel prices, and uncertainty about the current and future direction of economic and regulatory policies. Impressively, though, the nation's unemployment rate, while still high, has fallen much faster than forecasters had expected a year earlier. On balance, recent data and forecasts suggest that economic activity remains on pace to surpass last year's lackluster rate of growth (1.6 percent).

GDP Growth Slows

Real GDP growth slowed to an annual rate of about 2 percent in the first quarter after rising at an annual rate of 3 percent in the fourth quarter of 2011. An early reading of the data in April and May suggests that the pace of growth may have been somewhat faster in the second quarter than in the first quarter. In particular, consumer expenditures and business outlays for equipment and software remain solid, as does the pace of U.S. exports. In response, the manufacturing sector has flourished, and private-sector payroll gains have averaged about 170,000 per month since the first of the year—withstanding the weaker-than-expected May employment report. Importantly, residential home-building activity continues to pick up and home prices appear to have stabilized—and have even risen slightly by some measures. However, a noticeable pullback in real government expenditures over the past year and a half has tempered the overall gains in economic activity.

In further signs of improving sentiment, consumer credit growth has accelerated over the past six months, and commercial and industrial loans have risen sharply. Residential mortgage lending also has begun to pick up. Extremely low interest rates have helped to fuel the rebound in bank lending and credit growth and have allowed homeowners to refinance existing mortgages. The sharp decline in long-term interest rates in May and June—along with a modest correction in stock prices—probably reflects recent developments in Europe, which have, at least temporarily, reversed the depreciation of the U.S. dollar that began in late 2009.

The recovery from the 2007-09 recession has been one of the weakest in the post-World War II period and has raised questions about the economy's underlying pace of growth (also termed the growth of real potential GDP). One possibility is that the recession and financial crisis have permanently lowered the economy's growth of potential output. Another possibility is that the economy is growing faster than the GDP numbers suggest, as evidenced by a modestly faster rate of growth of the income-side measures of the national accounts. Hopefully, the annual revision to the national income accounts in late July will resolve this tension in the data.

The Greek Drama: Round Three

Economic and political developments in Europe dominated the financial headlines in May and early June. Citing concerns about the possibility of a Greek withdrawal from the Economic and Monetary Union (EMU), some European officials have warned of a significant short-term economic disruption. These fears have elevated uncertainty among U.S. financial market participants and firms that have important linkages to Europe. A

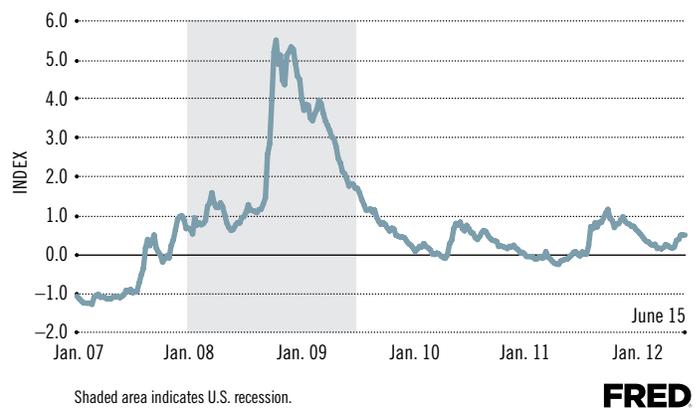
further complication is the likelihood that Europe—except for Germany and a few other northern countries—has slipped back into recession. Unlike in the spring of 2010 and the summer of 2011, round three of the European turmoil has spurred only a modest uptick in the St. Louis Financial Stress Index; it remained only modestly above normal (which is zero) in mid-June.

Some Good News on Inflation

Headline price pressures have eased since the fall of 2011. Following an increase of nearly 4 percent in September 2011 (measured on a 12-month basis), Consumer Price Index (CPI) inflation slowed to a rate of about 2.25 percent in April 2012. This moderation reflects a weaker trajectory of oil and commodity prices beginning in early March and a significant slowing in food prices. Some slowing in global growth prospects, arising from weaker growth in China and Europe, has reinforced the view of many forecasters that oil prices could continue to fall. However, recent tension in the Middle East poses a risk to the profile of future oil prices. Nevertheless, concerns about the possibility of faster inflation rates over the near term do not appear widespread in financial markets. Moreover, professional forecasters expect the CPI inflation rate to be between 2 and 2.5 percent this year, modestly below the 3 percent rate of last year. These expectations have changed little in recent months. [Ω](#)

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St. Louis Financial Stress Index





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Household Financial Stability

Who Suffered the Most from the Crisis?

By William R. Emmons and Bryan J. Noeth

Household wealth declined almost \$17 trillion in inflation-adjusted terms, or 26 percent, from its peak in mid-2007 to the trough in early 2009.¹ Only about two-fifths of that loss had been recovered by early 2012. Looking at individual asset categories between June 30, 2007, and March 31, 2009, the inflation-adjusted value of households' real-estate holdings declined 26 percent (\$5.4 trillion), while stock-market equity holdings declined in value by 51.5 percent (\$10.8 trillion) after adjusting for inflation.



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In percentage terms, however, the largest wealth losses typically were suffered by younger families, which tend to be less wealthy. Younger and middle-aged African-American and Hispanic families were especially hard-hit.

Not surprisingly, wealth losses were distributed unevenly across the population. In dollar terms, older, wealthier households lost the most simply because their asset holdings were large to begin with and were more concentrated in equity investments, which declined sharply in value.

In percentage terms, however, the largest wealth losses typically were suffered by younger families, which tend to be less wealthy. Younger and middle-aged African-American and Hispanic families were especially hard-hit. Families headed up by individuals without a college degree also suffered larger average percentage wealth declines than did families headed by a college graduate. Although the younger, minority and less-educated families typically did not hold large positions in the stock market, many did hold a large amount of real estate relative to their incomes and total assets, mostly in the form of a primary residence. Many of these families also had relatively little owners' equity in their homes. This meant that declining house prices significantly reduced or even completely wiped out their owners' equity stakes, which had comprised a large part of their net worth before the crash. These groups also generally felt the brunt of job and income losses during the recession.

The Survey of Consumer Finances

The Federal Reserve tracks household balance-sheet conditions with its triennial Survey of Consumer Finances (SCF).² Virtually identical versions of the survey have been conducted every three years, beginning in 1989, with the two most recent surveys carried out in 2007 and 2010—just before and after the financial crisis and recession.³

To facilitate detailed economic analysis of household finances, the SCF collects information about each household's members, including the head of the household. The SCF allows classification of families along a number of demographic dimensions, including race and ethnicity, age and maximum educational attainment; the survey also gathers a number of economic, financial and social variables for each family, including family income, detailed balance-sheet data, job type and occupation, housing status (homeowner or renter),

marital status, family structure, region of residence, and whether the family resides in an urban or rural community.

The SCF is one of the best sources of publicly available detailed information at a point in time on many aspects of household finances, including asset holdings, debts owed and each family's net worth, which is the difference between the total value of all assets and all liabilities. Net worth, or wealth, is the simplest comprehensive summary measure of a balance sheet's strength. This article focuses on changes in net worth between 2007 and 2010.

A First Look at Household Balance Sheets

Many discussions of financial and economic conditions at the household level sort individuals or families into categories based on their current incomes, wealth, homeownership status or another indicator that may change from one year to the next or may be chosen by that family. A number of interpretive problems arise in any such discussion; so, we rely in this article exclusively on demographic dimensions of population diversity that are not subject to change or choice to form groups for analysis. These dimensions are race or ethnicity, age and college-degree status. (See sidebar on Page 13.)

We define subgroups as follows:

- Race and/or ethnicity:
 - Historically disadvantaged minorities, in which the interviewee is African-American or Hispanic of any race (henceforth, “HDM”);
 - Whites and other minorities, in which the interviewee is white non-Hispanic, is of Asian descent or belongs to another minority group not included elsewhere (henceforth, “WOM”);
- Age:
 - Family head is under 40 years of age (henceforth, “young”);
 - Family head is at least 40 but less than 55 years old (henceforth, “middle-aged”); or
 - Family head is 55 years of age or older (henceforth, “old”);
- College-degree attainment:
 - Family head has received either a two-year or a four-year college degree (henceforth, “college grad”);
 - Family head has not received either a

two-year or a four-year college degree (henceforth, “non-college grad”).

In addition to the analytical advantages outlined in the sidebar, using these three dimensions of demographic diversity to study household financial outcomes reveals striking differences among various subgroups of the population. Because we can rule out the possibility of reverse causation (see the sidebar), a researcher or policy-maker can be more confident when searching for underlying causes of diverging household financial outcomes, as occurred when wealth declined during the financial crisis.

Breaking Down Wealth Declines

The decline between the median real (inflation-adjusted) net worth in 2007 and the median real net worth in 2010 was 39.1 percent among all families, according to the SCF; the decline in means was 15.0 percent.⁴ Splitting the sample into HDM and WOM families; young, middle-aged and old families; and families headed by college grads and non-college grads, respectively, we see evidence of differences along each dimension. (See Table 1.)

Comparing the percent changes in the medians and means within each subgroup, the SCF reveals that families that were young or middle-aged, less-educated, and members of historically disadvantaged minorities generally suffered larger wealth declines between 2007 and 2010 than did other families.⁵ In particular:

- The median (respectively, mean) real-net-worth decline among HDM families was 28.6 (37.2) percent, vs. a median (mean) real-net-worth decline among WOM families of 30.4 (11.0) percent;
- The median (mean) real-net-worth decline among young families was 37.6 (43.8) percent, among middle-aged families was 42.0 (19.9) percent and among old families was 18.6 (11.5) percent; and
- The median (mean) real-net-worth decline among non-college grad families was 38.9 (22.3) percent, vs. a median (mean) real-net-worth decline of 35.2 (15.5) percent among college-grad families.

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Why Use Demographic Characteristics to Group the Data When Studying Household Financial Outcomes?

We use three demographic dimensions of population diversity in this article to study household financial outcomes—race and/or ethnicity, age and college-degree status. Why use these and not income or wealth to form subgroups for study? There are at least four good reasons.

First, these dimensions of population diversity are not subject to change or choice. An important disadvantage of an income- or wealth-based approach to organizing the data is that a single family (or group of families) may move between different groupings from one date to another, obscuring some important underlying determinants of longer-term economic outcomes. When using race, age and college-degree attainment, a family doesn’t move erratically between different groups at different dates.

For example, a particular family may have relatively high income one year and low income the next because the 25-year-old head of the family has quit her job as a lab technician to go to medical school. A different family’s income levels and trajectory may be precisely the same even though the underlying reality is very different. Suppose that a 55-year-old head of a family has been laid off from his factory job and now draws unemployment insurance. The long-run income prospects for the family of the 25-year-old have improved, while the prospects for the family of the 55-year-old have deteriorated. Grouping these two families together by income levels or changes in income would obscure the underlying factors (including age and educational attainment) driving long-run economic outcomes.

Another disadvantage of using income or wealth cutoffs to form groups is that these values are defined differently in different contexts. For example, income could refer to before-tax or after-tax income, could include or exclude government benefit payments, and could include or exclude capital gains (realized or unrealized). Wealth is notoriously difficult

to define and measure; so, comparing different studies is problematic. Race, age and college-degree attainment are, in principle, much more clear-cut and are more likely to be measured the same way in different studies.

Third, race, age and college-degree attainment are relatively objective and easy to verify. This is not true of income and wealth, which are private information and, often, highly guarded secrets—especially among the wealthy or those whose income may be illicit or unreported to tax authorities. A related difficulty is that some families themselves may not know what their incomes or wealth levels are at a given time or over a certain period.

Finally, there is a methodological reason to prefer demographic dimensions of diversity to economic and financial variables when searching for underlying causal relationships—namely, the possibility of “reverse causation.” To take a simple example, high-income and high-wealth families have higher homeownership rates than do families with lower levels of income or wealth. Does this mean that having a high income or high wealth “causes” higher homeownership rates? Perhaps, but it also might be the case that homeownership itself contributes to higher income and higher wealth through various channels. In other words, causation might run from X to Y, but it also might run in the reverse direction, from Y to X. In the language of economics, we cannot definitely “identify” the role of X in causing Y due to the possibility of reverse causation. The fact that African-Americans and Hispanics have lower homeownership rates than do white or Asian families is not subject to the same methodological critique. In other words, something about being African-American or Hispanic seems to lead to a lower probability of being a homeowner, but being a homeowner does not have any effect on a family’s race. In this case, X causes Y, but Y definitely does not cause X.

This article is part a new research effort headed up by the Federal Reserve Bank of St. Louis to better understand the evolution of household balance sheets over time and across different demographic groups. Not only are household balance sheets informative about the financial challenges and opportunities facing American families, but they also matter for the economy as a whole. As Federal Reserve Board Gov. Sarah Bloom Raskin noted last year, "Our overall economic stability relies ultimately on the collective financial health of all American households."⁷

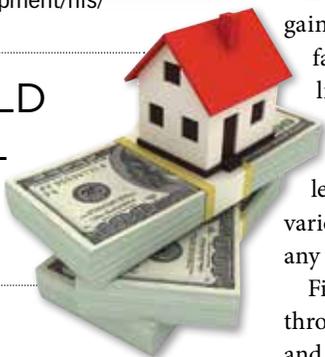
The St. Louis Fed's research effort, called *Household Financial Stability—A Research Initiative*, is involved in planning two major conferences at the St. Louis Fed:

- **Financial Access Forum, Oct. 25-26.** The forum will help communities and practitioners make informed choices about promising pathways for underbanked households to connect to wealth-building financial services. Key questions include: (1) What do we know about underbanked consumers? (2) What financial products exist to meet their needs? and (3) Through what channels are these products distributed?
- **Household Balance Sheets Research Symposium, Feb. 5-7.** Through invited papers and a call for papers, this research symposium will look at both household-level and macro-level outcomes associated with household balance sheets.

For more information on these conferences, as well as on the *Household Financial Stability—A Research Initiative*, see www.stlouisfed.org/community_development/hfs/

HOUSEHOLD FINANCIAL STABILITY

—A Research Initiative



continued from Page 13

Drilling Down Even Further

Figures 1 through 4 show the levels of median and mean inflation-adjusted net worth for each of 12 categories of families between 1989 and 2010, based on SCF data. Figure 1 displays the median net worth over time of historically disadvantaged minority families partitioned along two dimensions, age and college-degree status of the family head. Figure 2 shows the mean net worth over time for these groups. Figures 3 and 4 are analogous for white, Asian and other minority families.

Not surprisingly, the wealthiest among all age- and education-defined subgroups in most surveys was old college-grad families, whatever the race or ethnicity. Among WOM families, this was true in every survey, whether measured by median (Figure 3) or mean (Figure 4) net worth. For HDM families, the only exceptions were for the median in the 2010 survey (Figure 1) and for the mean in the 2004 survey (Figure 2). Families headed by a college graduate 55 years or older generally earned higher incomes over a longer period than families in other groups. In addition, higher cognitive abilities and more time to gain financial knowledge and experience likely aided wealth accumulation. Families with the lowest wealth among both race-defined groups in every survey were those headed by young non-college grads.

Figures 1 through 4 show that the second-wealthiest subgroup is families of any race headed by middle-aged college grads. The remaining three subgroups within each set of race-defined groups—middle-aged or old non-college grads and young college grads—have had similar wealth levels through the past several decades. At any given time, middle-aged and old non-college grad families have had more time to save and gain financial experience than young families. But non-college grad families likely earned less at similar stages in their lives and may have had more difficulty mastering some financial challenges than college grads. Apparently, the various factors roughly offset each other at any given point in time for these subgroups.

Finally, careful comparison of Figures 1 through 4 reveals that, when holding age and college-degree attainment constant, the

WOM median or mean value in each of the six age-education subgroups had higher net worth than the corresponding HDM median or mean family for each wave of the survey.⁶ In other words, whether we use the median or the mean inflation-adjusted value of net worth, every age-education subgroup that is a historically disadvantaged minority had lower wealth than its corresponding white, Asian and other minority counterpart in every survey, from 1989 to 2010.

In the 2010 survey, for example, HDM families' median net worth ranged from a low of 19.5 percent of the corresponding value of WOM families' net worth, in the old college-grad category, to a high of 42.9 percent of the WOM families' value, in the middle-aged college-grad category. Using mean values, HDM families' net worth ranged from 16.6 percent to a high of 36.1 percent of WOM families' net worth, holding constant the age and education attributes of those families.

Which Families Were Hit the Hardest?

Figures 1 through 4 reveal that all 24 of the subgroup measures (12 median measures and 12 mean measures) identified here showed declines in wealth between 2007 and 2010. The percentage declines in median inflation-adjusted net worth ranged from 14.2 percent, among old WOM college-grad families, to 54.1 percent, among young WOM college-grad families. Mean declines ranged from 11.3 percent, among old WOM non-college grads, to 65.8 percent, among young HDM college-grad families.

Tables 2 and 3 report median and mean percent changes, respectively, in real net worth between 2007 and 2010 for each of the 12 age- and education-defined subgroups we have identified, first for historically disadvantaged minorities and then for whites, Asians and other minorities.

Tables 2 and 3 show that, by either measure, the hardest-hit subgroups generally were young or middle-aged families. For example, 10 of the 24 subgroup measures of inflation-adjusted wealth declined by 40 percent or more (considering Tables 2 and 3 together); nine of these 10 represented young or middle-aged family groups. Using the same metric (40 percent or larger decline in net worth), seven of the 10 subgroup measures corresponded to historically

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FIGURE 1

Median Inflation-Adjusted Net Worth among Historically Disadvantaged Minority Families

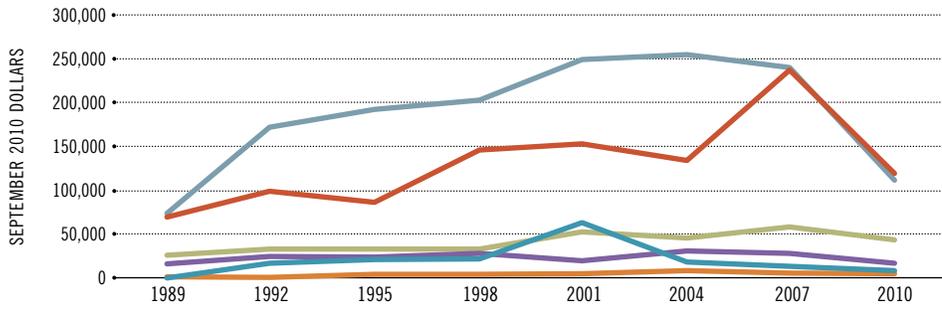


FIGURE 2

Mean Inflation-Adjusted Net Worth among Historically Disadvantaged Minority Families

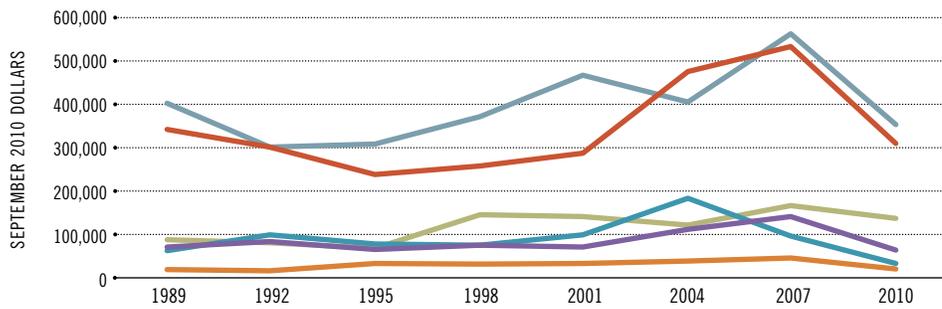


FIGURE 3

Median Inflation-Adjusted Net Worth among White or Other Minority Families (excluding African-Americans and Hispanics)

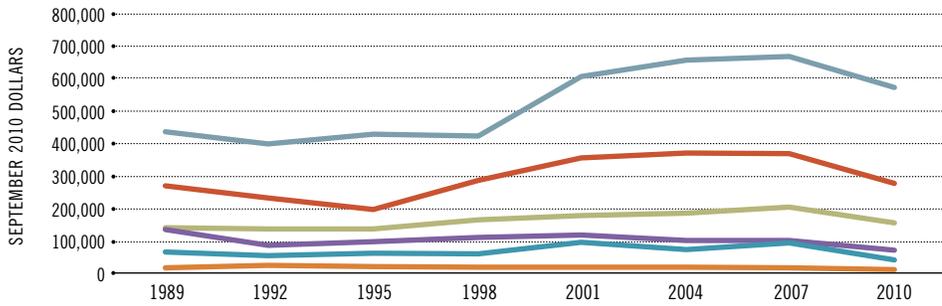
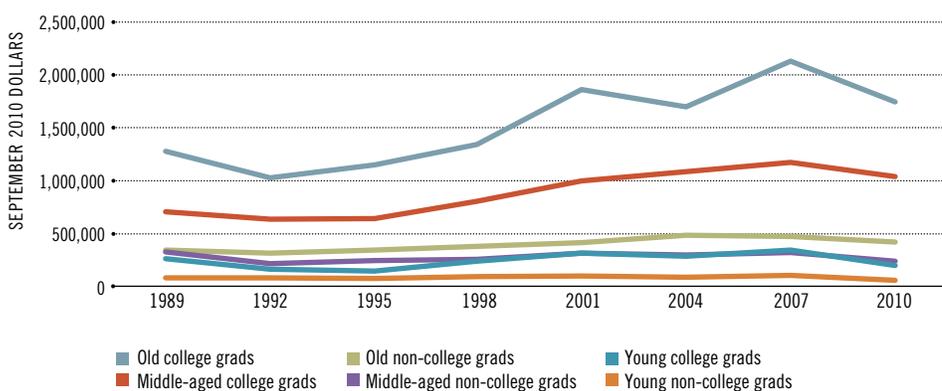


FIGURE 4

Mean Inflation-Adjusted Net Worth among White or Other Minority Families (excluding African-Americans and Hispanics)



SOURCE: Survey of Consumer Finances, various years.

TABLE 1

Change in Reported Net Worth between 2007 and 2010 Medians and Means, in Percent

Group	Percent change in medians between 2007 and 2010	Percent change in means between 2007 and 2010
Entire SCF sample	-39.1	-15.0
Race and/or ethnicity		
White, Asian or other minority	-30.4	-11.0
African-American or Hispanic	-28.6	-37.2
Age		
Younger than 40	-37.6	-43.8
40-54	-42.0	-19.9
55 or older	-18.6	-11.5
College-degree status		
College grad	-35.2	-15.5
Non-college grad	-38.9	-22.3

TABLE 2

Change in Reported Net Worth between 2007 and 2010 Medians, in Percent

	African-American or Hispanic		White, Asian or other minority	
	Non-college grad	College grad	Non-college grad	College grad
Younger than 40	-15.0	-33.2	-33.8	-54.1
40-54	-40.0	-49.6	-29.5	-24.6
55 or older	-24.9	-53.4	-23.5	-14.2

TABLE 3

Change in Reported Net Worth between 2007 and 2010 Means, in Percent

	African-American or Hispanic		White, Asian or other minority	
	Non-college grad	College grad	Non-college grad	College grad
Younger than 40	-54.3	-65.8	-42.3	-42.1
40-54	-54.5	-41.9	-25.7	-11.6
55 or older	-17.6	-37.0	-11.3	-18.1

SOURCE: Survey of Consumer Finances.

CATEGORY DEFINITIONS

Historically Disadvantaged Minorities (HDM): Interviewee is African-American or Hispanic of any race.
Whites and Other Minorities (WOM): Interviewee is white, Asian or of another minority group not included elsewhere.
College grad: Family head has either a two-year or four-year college degree.
Non-college grad: Family head does not have a two-year or four-year college degree.
Young: Family head is less than 40 years old.
Middle-aged: Family head is at least 40 but less than 55 years old.
Old: Family head is 55 years or older.

disadvantaged minorities. Combining the dimensions of age and race, six of the 10 subgroup measures that declined 40 percent or more were young or middle-aged historically disadvantaged minority groups.

At the other end of the scale, just six of the 24 subgroup measures of wealth declined less than 20 percent. Four of the six corresponded to middle-aged or old white, Asian or other minority families, while three of the six were white, Asian or other minority families aged 55 or older. Indeed, the wealthiest subgroup of all by a wide margin on any measure—old, college-educated white, Asian or other minority families—suffered comparatively small losses. The median net-worth decline in this group was 14.2 percent, the lowest among all 12 subgroups (six HDM and six WOM). The mean net-worth decline of this group was 18.1 percent, which was the fourth-lowest among the 12 subgroups.

We conclude that the financially most vulnerable groups—young and middle-aged, non-college-educated families belonging to a historically disadvantaged minority—typically suffered the biggest wealth declines during the financial crisis and recession. While other subgroups also experienced large declines—such as young white, Asian or other minority families with or without college degrees—the survey evidence suggests that the most severe wealth losses were borne by historically disadvantaged minority families.

Conclusion

Median, or typical, wealth losses during the 2007-10 period generally were largest in percentage terms, and likely most painful, for some of the most vulnerable segments of the population—namely, families that were young or middle-aged, non-college-educated, and African-American or Hispanic. Based on our ongoing analysis of the Federal Reserve's Survey of Consumer Finances, we hypothesize that three important sources of unusually large percentage declines in wealth among young, middle-aged and HDM families were:

- 1) large portfolio concentrations in housing before the crash—that is, housing represented a relatively large share of total assets;
- 2) relatively large reported percentage

declines in the value of real-estate assets, perhaps related to characteristics of neighborhoods inhabited by young, middle-aged, HDM and less-educated households; and

3) higher “leverage,” or mortgage-debt financing rather than equity financing, before house prices began to fall. Higher leverage meant that any decline in the value of a house was multiplied into a proportionately larger decline in the family's net worth.

What does it mean to conclude that young and middle-aged, less-educated HDM families suffered the greatest wealth declines during the financial crisis, perhaps because they were more likely to have shifted toward more highly leveraged, less-diversified balance sheets? Our use of demographic dimensions of diversity allows us to conclude that:

- Being young or middle-aged matters. This may be due to having children in the household and, therefore, facing constraints on how many hours can be worked and what unavoidable expenses are incurred; having relatively little financial knowledge or experience; or having had insufficient time to accumulate much wealth.
- Being a non-college grad matters. This may be due to the lack of certain cognitive abilities or specific learned skills that are important in financial decision-making.
- Being a member of a historically disadvantaged minority matters. This may be due to the fact that many minority households have faced discrimination—or the legacy of discrimination—in education, employment, housing or credit markets. 

William R. Emmons is an economist and Bryan J. Noeth is a policy analyst at the Federal Reserve Bank of St. Louis. For more on Emmons' work, see http://www.stlouisfed.org/banking/pdf/SPA/Emmons_vitae.pdf



While other subgroups also experienced large declines—such as young white, Asian or other minority families with or without college degrees—the survey evidence suggests that the most severe wealth losses were borne by historically disadvantaged minority families.

ECONOMY AT A GLANCE

ENDNOTES

- ¹ See Federal Reserve Flow of Funds Accounts.
- ² See Bucks et al. and Bricker et al. (2011 and 2012).
- ³ In a special interim follow-up survey in 2009, the Fed reinterviewed almost 90 percent of the 2007 survey participants in order to see how the financial crisis and recession were affecting Americans of all backgrounds. Due to the unique structure and limitations of that survey, we do not include results from it here. For more information, see Bricker et al. (2011).
- ⁴ All values are expressed in terms of September 2010 purchasing power, as measured by the Consumer Price Index for All Urban Consumers, Research Series, or CPI-U-RS. The median value is the one in an ordered group that is larger than half of all observations and smaller than the other half. The mean value is the arithmetic average of all observations.
- ⁵ See Bricker et al. (2012) and Taylor et al.
- ⁶ Using a different data source, Taylor et al. reach similar conclusions.
- ⁷ See Raskin.

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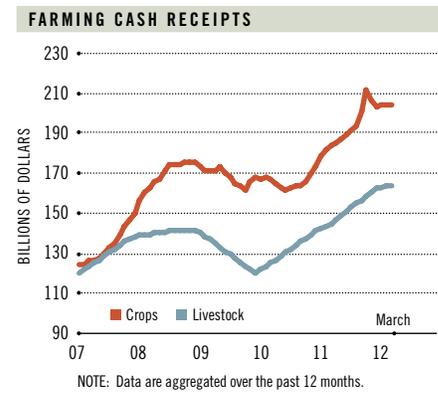
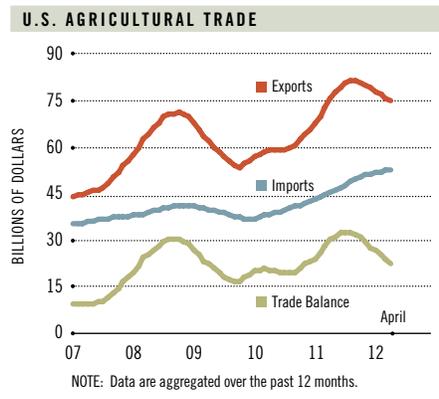
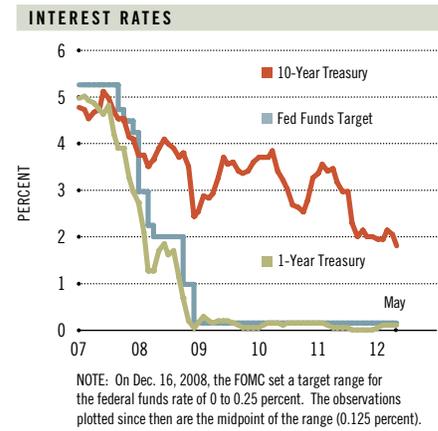
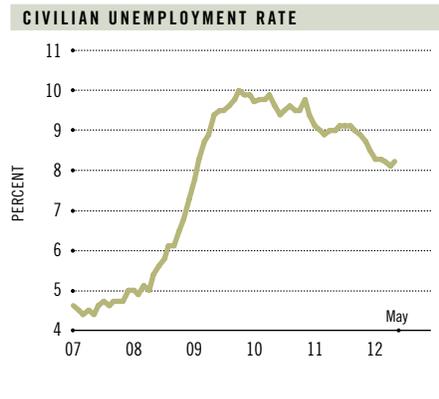
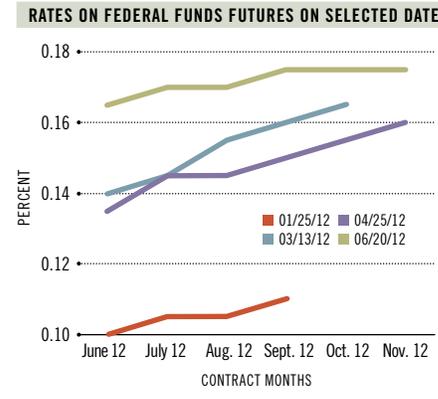
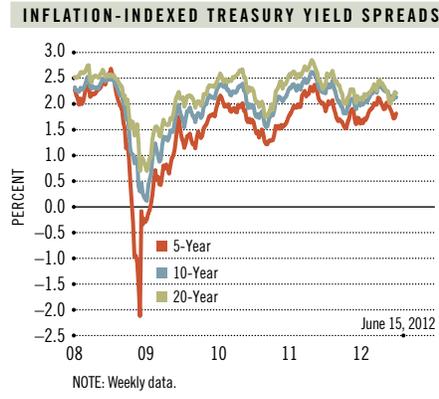
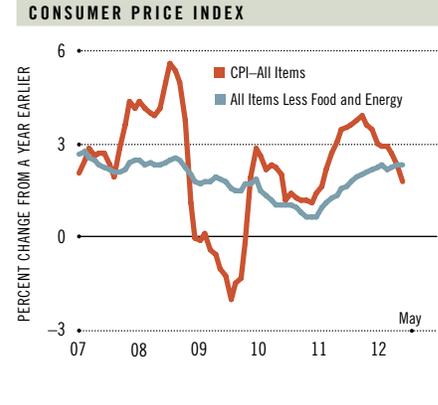
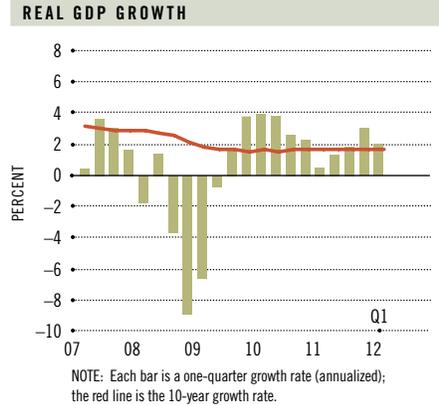
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Eleven more charts are available on the web version of this issue. Among the areas they cover are agriculture, commercial banking, housing permits, income and jobs. Much of the data is specific to the Eighth District. To see these charts, go to stlouisfed.org/economyataglance



Eighth District Has Fared Better than Nation in Some Labor Statistics

By Maria E. Canon and Mingyu Chen



Recent economic data indicate that the U.S. labor markets may have finally begun a steady recovery. The unemployment rate for the country decreased from 9.1 percent in August 2011 to 8.1 percent in April 2012.

Household employment increased 1.5 percent and job vacancies increased 9.7 percent during the same period.¹ Labor markets in the Eighth Federal Reserve District, served by the Federal Reserve Bank of St. Louis, experienced a similar recovery.² The District's unemployment rate fell from 9.5 percent to 8.1 percent, while employment and job vacancies increased 1.5 percent and 8.7 percent, respectively.

Before the recent improvement in labor markets, the unemployment rate remained high after the Great Recession. Popular explanations include the extension of unemployment benefits, the effect of discouraged workers re-entering the work force and the increase in mismatch between job vacancies and unemployed workers. The extension of unemployment benefits might have kept unemployed workers from taking unattractive jobs, keeping the unemployment rate high. Discouraged workers are those who stop searching for jobs; such workers might choose to re-enter the labor force after the recession is over, dramatically increasing the number of job seekers and preventing the unemployment rate from decreasing. The unemployment rate could remain high in this case even if employment increases. Mismatch refers to a poor match between the characteristics (such as skills and location) of vacant jobs and the characteristics of unemployed workers. The worse the mismatch, the longer it might take for a job seeker to find an ideal job, again keeping the

unemployment rate high. Many people have suspected that job mismatch is on the rise because the unemployment rate remained high even though the number of job openings increased significantly.³

Below, we delve into three important economic indicators for labor markets: the unemployment rate, household employment and job vacancies. The recovery in labor markets in the Eighth District is compared with that of the nation.

Unemployment and Employment

The accompanying figure compares changes in unemployment and household employment in multiple geographical areas, represented by different shapes. The change in unemployment is given in percentage points because it is the difference between two unemployment rates (which already are percentages). The change in employment is given in percent because it is the rate of change between two numbers of employed people.

Changes in the Eighth District states can be compared easily with changes in the other states in the nation. The left panel shows the change from November 2007, the month before the recession started, to April 2012, while the right panel shows the change from the end of the recession (June 2009) to April 2012. A drop in the unemployment rate between two periods would show up as a point below the horizontal axis; an increase in the rate would show up as a point above the same axis. Similarly, a drop in

employment would place a dot to the left of the vertical axis; an increase in employment would show up as a point to the right of the same axis. Hence, a recovery in labor markets would show up as a point in the bottom-right (or fourth) quadrant.

As seen in the left panel of the figure, the unemployment rate and household employment had not returned, as of April 2012, to their prerecession levels. All the District states and most of the remaining states in the nation are located in the top-left (second) quadrant of the graph, indicating an increase in the unemployment rate and a decrease in employment from November 2007 to April 2012. Similar to that of the nation, the unemployment rate in the District was still 2.8 percentage points higher than its prerecession level, and employment was 3.2 percent lower. Among the District states, unemployment and employment in Illinois and Indiana were the ones furthest from their prerecession numbers.

Nevertheless, the labor markets improved relative to the end of the Great Recession. (as shown in the right panel). The District unemployment rate decreased 2.0 percentage points and household employment increased 2.5 percent between June 2009 and April 2012. For both statistics, the District performed better than the nation. All the District states also improved in both unemployment and employment. Tennessee outperformed all the District states, and most of the states in the nation, with a decrease of 3.2 percentage points in the unemployment rate

and an increase of 5.7 percent in household employment. In contrast, Arkansas and Mississippi had only small declines in their unemployment rates (0.4 and 0.6 percentage points, respectively), and Missouri experienced a small increase in employment (0.5 percent).

Job Vacancies

The improvement in the labor markets is more pronounced in terms of job vacancies. Vacancies surpassed their prerecession levels in both the nation and the District, increasing 11.7 and 26.2 percent, respectively, between November 2007 and April 2012. The average increase in vacancies in the District states was 43.7 percent. Illinois was the only state that experienced a decline (-4.7 percent). Both Arkansas and Mississippi experienced increases over 60 percent.

The table shows the changes in job vacancies (broken down into 10 occupations) since November 2007. The Eighth District fared better than the nation did in all categories of jobs. In the nation, vacancies in management, business and financial (MBF) occupations and in office and administrative support (OAS) occupations had not returned, as of April 2012, to their prerecession levels. In the District, MBF is the only occupation category that had not recovered,

while the OAS occupations experienced the smallest increase relative to other occupations. Transportation and material moving jobs improved the most in both the nation and the District, with increases of 71.4 percent and 121.9 percent, respectively. ¹

Maria E. Canon is an economist at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/canon/> for more of her work. Mingyu Chen is a research associate at the Bank.

Change in Job Vacancies by Occupation from November 2007 to April 2012

Occupations	Nation	District
Total	11.7%	26.2%
Management, business and financial	-6.6	-6.2
Professional and related	13.3	21.7
Service	50.6	88.8
Sales and related	7.1	18.5
Office and administrative support	-10.4	8.1
Farming, fishing and forestry	46.8	83.6
Construction and extraction	17.0	61.8
Installation, maintenance and repair	25.5	53.7
Production	34.9	46.8
Transportation and material moving	71.4	121.9

SOURCE: The Conference Board.

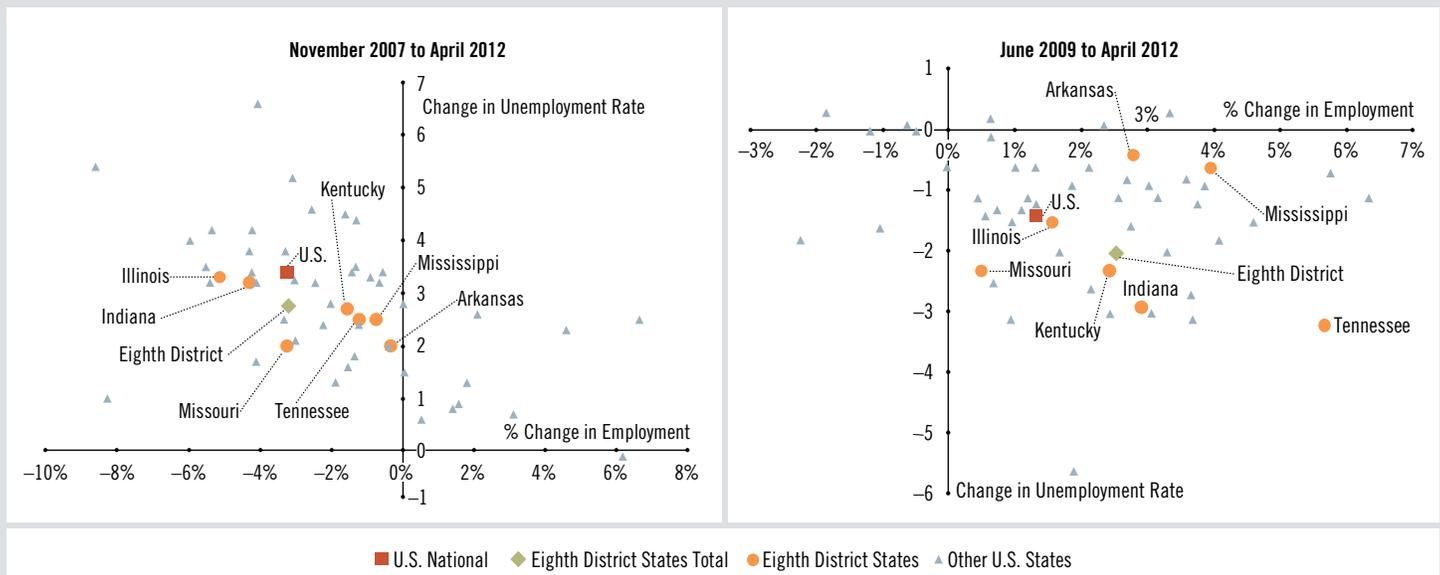
ENDNOTES

- 1 Job vacancies are measured by the number of online job advertisements from the Conference Board's Help Wanted Online Data Series.
- 2 Data for the Eighth Federal Reserve District are aggregated for the entirety of the seven states in the District, even though parts of six of those states are not within the borders of the District. The seven states are Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee.
- 3 See Canon and Chen, as well as Şahin et al., for more details on mismatch.

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Change in Unemployment Rate vs. Percent Change in Household Employment



SOURCE: The Bureau of Labor Statistics.



Paragould Finds Formula To Attract Manufacturers

By Susan C. Thomson

Bill Fisher follows kilowatt-hours. It goes with his job as chief executive of Paragould Light Water and Cable, a city-owned utility in Paragould, Ark. He observes, for instance, that industries bought 51 percent of all of the electricity his company sold in 2011, up from 48 percent in 2009. That's "a larger percentage of electrical usage by manufacturing than you normally would see in a community this size," 35 percent or so being more typical, he says. From the numbers, it's obvious to him that this is a community with an unusually strong and growing manufacturing base.

That base, established a decade and a half ago, has been building since early 2011, when the city's four largest industrial employers set off on simultaneous hiring sprees, thanks to upturns in orders for their various products. Kelly Wright, chairman of the Greene County Economic Development Corp., calculates that together they have created upward of 1,500 jobs since then. American Railcar Industries

Inc. (ARI) alone took on 600 new hires last year to meet a sudden, steep surge in demand for the cars it makes in Paragould and in the smaller Greene County community of Marmaduke. Company officials project they'll increase employment by another 200 before 2012 is out.

ARI was wooed to Paragould in the mid-1990s, an unusually fruitful period in economic development that also brought Anchor Packaging Co., Utility Trailer Manufacturing Co. and Sunlite Casual Furniture to town.

Paragould Mayor Mike Gaskill says Sunlite never came close to the 1,200 jobs it promised and had only 200 employees when it lapsed into bankruptcy liquidation in 2002, five years after arriving. The city has not lost a major employer in his 15-year tenure, he says.

The other three newcomers stayed and, from small beginnings, thrived through occasional layoffs. With prosperous, homegrown Tenneco—a maker of shock absorbers and other "ride-control" products for the



Paragould/Greene County, Ark.

by the numbers

	CITY	COUNTY
Population	26,113*	42,720*
Labor Force	NA	19,081**
Unemployment Rate	NA	9.1%**
Per Capita Personal Income	NA	\$25,166***

* U.S. Census Bureau, 2010 for city, 2011 for county.
 ** BLS/Haver Analytics, April 2012, seasonally adjusted.
 *** BEA/Haver Analytics, 2010.

LARGEST EMPLOYERS†

American Railcar Industries	1,520 ††
Tenneco	1,350 †††
Arkansas Methodist Medical Center	790 †††
Anchor Packaging	675 ††
Utility Trailer Manufacturing	600 †††

† Self-reported
 †† Includes plant in Marmaduke
 ††† Includes part-time employees

automotive aftermarket—they make up the city’s big four industries today.

While conceding that the city may have benefited from “a little bit of luck” in the jobs-creation area, Gaskill insists that most of the credit can be traced to hard work. The strategy, he says, has been to deliberately and tirelessly pursue any employer, including those looking to relocate, that offers the city “better-paying ... secure jobs”; in return, the city offers the employers reasonably priced sites with utility hookups and infrastructure improvements.

State financial incentives for job creation are also said to have proved persuasive in attracting and retaining these companies. Jack Pipkin, ARI’s vice president of global railcar manufacturing, says the company has been further won over by “the best workforce we have ever encountered.”

In this northeastern corner of the state, farms still far outnumber factories. Besides wheat, soybeans, cotton and rice, their products include, in Pipkin’s view, people who are accustomed to and eager for hard work.

“They’re (also) mechanically inclined,” the result of growing up on those farms, adds Tenneco’s plant manager, Richard Hartness.

That’s a plus, given these companies’ continuing needs for shop-floor labor, skilled and unskilled. These are nonunion jobs. They pay, though, from about \$12.50 to as much as \$15 or \$16 an hour, says Sue McGowan, economic development director and chief executive of the Paragould Regional Chamber of Commerce. “Most offer health benefits, dental benefits and eye care” and “a lot of incentives for performance, attendance and safety,” she adds.

Recognizing the need for their employees’ continuing education, the city’s big industries were instrumental in a community effort that led to the 1998 founding of the Greene County Industrial Training Consortium. Under the umbrella of the Paragould campus of Black River Technical College, the consortium provides custom short courses in subjects like welding, management, computers and manufacturing, tailored to the needs of local businesses, big or small, manufacturing or other.

Hand in hand with the jobs boom, Paragould has seen a substantial increase in population—up 18.6 percent in the 2010 U.S. census. That was after

an 18.5 percent gain in the 2000 census.

To keep up, the city has expanded services and amenities, most obviously with a community center, which features two racquetball courts, two regulation basketball courts, a walking track, a competition-sized indoor pool with retractable roof and an outdoor water park. The city built it and a nearby fire station and improved parks with the proceeds of \$13.5 million in bonds, retired over 10 years thanks to a dedicated, temporary ½-cent sales tax. City voters approved it by about 2-to-1 in 2001, along with a permanent ½-cent sales tax to employ 10 more police officers and three more firefighters and to maintain the parks and new facilities.

The community center opened in 2004, followed the next year by a Holiday Inn Express next door. Commercial development has continued to grow with, for example, a Lowe’s and a Chili’s restaurant, both new to town in the past five years.

Arkansas Methodist Medical Center, meanwhile, “has continued to grow and grow,” bringing “a lot of good doctors, a lot of specialists” to Paragould, says Bobby Kasserman, community president of Liberty Bank.

The 129-bed hospital completed a new office building, atrium and emergency room in 2000. Late last year, it made a big splash when it opened Chateau on the Ridge, a 59-unit assisted living facility that cost \$11.2 million. Over the coming 10 years, hospital chief executive Barry Davis envisions expanding this into a community offering a full range of retirement



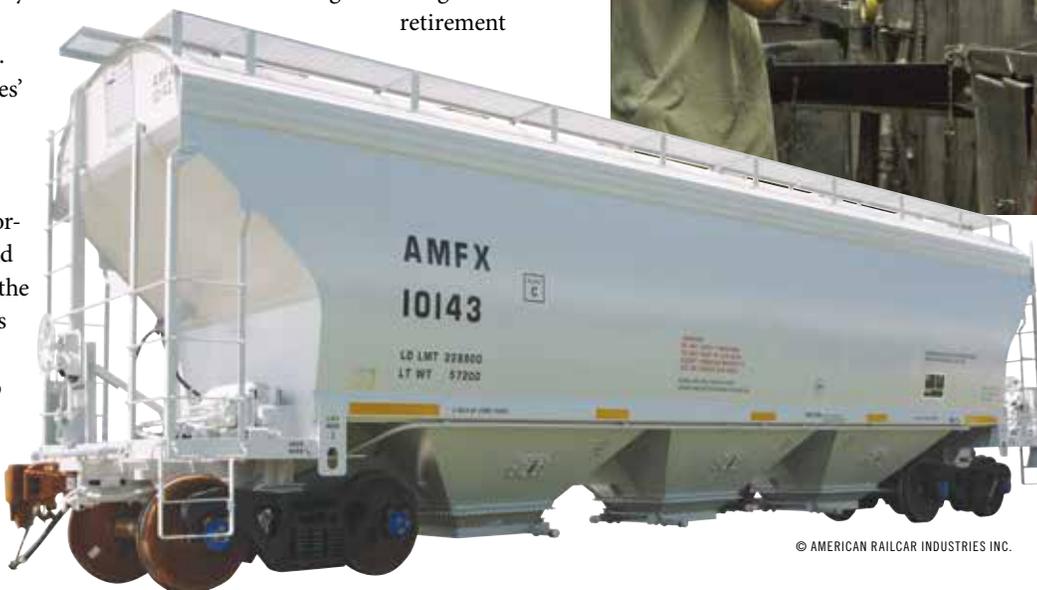
PHOTO BY SUSAN C. THOMSON

At Tenneco (top), shock absorbers enter a water-based electrostatic paint booth. The plant opened as Monroe Automotive Equipment in 1970 and was bought by Tenneco in 1977. Tenneco has since expanded it.

John B. McKay Jr. (middle), a Tenneco employee, performs a quality inspection on a product component made from powdered metal by a compacting press.

One of the railcars (bottom) made by American Railcar Industries in Paragould.

PHOTO BY SUSAN C. THOMSON



© AMERICAN RAILCAR INDUSTRIES INC.



PHOTO BY SUSAN C. THOMSON

Chateau on the Ridge, a 59-unit assisted living center, opened late last year. It was built at a cost of more than \$11 million by the hospital in town, Arkansas Methodist Medical Center. The hospital's operations are growing as more industry is attracted to town; conversely, more medical services help to attract more industry, says the hospital's CEO.



© ANCHORPAC

Anchor Packaging is the fourth-largest employer in town. Above is an in-line thermoforming machine at its Paragould plant.

living options, including a nursing home. Sooner, perhaps within two years, he imagines the hospital itself breaking ground on an addition, which will include a new outpatient entrance, expanded dietary and imaging services, plus space for the hospital to complete its conversion to all private rooms. Details, including financing, remain to be worked out.

Davis describes the relationship between industry and the hospital as mutually beneficial: The hospital gains from the creation of jobs providing health insurance and becomes, in turn, "a very important tool for recruitment of industry."

The recruitment continues with as great a sense of urgency as ever. "The only way we can keep from dying is we've got to create and maintain jobs," says Wright.

To that end, city voters in June 2011 approved by a ratio of about 2-to-1 a ¼-cent sales tax for economic development. The

proceeds are estimated to amount to about \$1 million a year, beginning this year. The city's Industrial Development Corp., which manages the funds, expects to use the bulk of them to buy property suitable for industrial development. One 40-acre parcel has already been purchased and is for sale, along with a 6-year-old 100,000-square-foot spec building.

Kasserman is optimistic. "I think that industry is always going to be looking for a place to locate that's got a good workforce, and we've got that," he says. But will there be enough of it?

Satya Garg, who manages the plant where Anchor Packaging makes plastic containers and film for food packaging, isn't so sure. He's concerned that the company's growth may be "outpacing the availability" of workers.

For Utility Trailer as well, "it's getting more and more difficult to hire employees," says David Neighbors, who manages the plant. It's running at its peak employment to date, coping with what he describes as "a torrent of orders." The rush has followed a period during the recent recession when sales "fell off a cliff"; the plant responded by reducing employment by more than half. Its products—53-foot-long, rear-wheeled semitrailers that attach to truck cabs—are "hugely cyclical," Neighbors says.

Railcars are cyclical, too. Kasserman sees additional risk in ARI, Utility Trailer and Tenneco all being transportation-related. In the future, he says, he "would like to see a little more diversification" in Paragould's industrial lineup. **Ω**

Susan C. Thomson is a freelance writer and photographer.

Paragould Voices



"People are just so accommodating and so friendly. They make it easy to live and work here."

Dr. David Quinn, pathologist



"Even during the economic downturn, ... we still had jobs here. It's exciting to live someplace where people have jobs."

Renee Dwyer, owner, Room to Grow, clothing and accessories boutique for children and teens

PHOTOS BY SUSAN C. THOMSON

ASK AN ECONOMIST



In Wu Zhen, China, a city likened to Venice, Italy.

YiLi Chien joined the Federal Reserve Bank of St. Louis as an economist earlier this year. His areas of interest are macroeconomics, household finance and asset pricing, asymmetric information, and dynamic contracting. In his spare time, he and his wife travel internationally; he also enjoys surfing the Internet, watching movies and reading. His Ph.D. in economics is from UCLA; his bachelor's and master's in economics are from National Tsing Hua University and National Taiwan University, respectively. Both are in Taiwan. See <http://research.stlouisfed.org/econ/chien/> for more on his work.

Q. Is the large and persistent U.S. trade deficit a concern?

A. The answer to this question depends on several factors. Under certain favorable conditions, it is possible that the trade deficit is not a major concern.

The fact that the U.S. has a trade deficit means that the U.S. consumes more than it produces net of investment. This deficit must be financed either by reducing U.S. external assets or by increasing U.S. external liabilities. On balance, it seems possible that a persistent trade deficit would deplete U.S. overseas assets and perhaps, in the longer run, lead to insolvency.

However, this may not be the case because assets pay dividends and are associated with capital gains. Although the current difference between U.S. external assets and liabilities is negative, the U.S. is able to generate a net inflow because of the return difference between U.S. external assets and external liabilities. Economists Pierre-Olivier Gourinchas and H el ene Rey have documented that the U.S. earns a higher rate of return on its overseas assets than it pays on its liabilities to foreigners. The return difference is actually quite large: The U.S. external assets pay on average 3.3-percent-higher annual returns than do external liabilities. This return differential stems from a difference in the composition of U.S. external assets and liabilities. Assets with a higher return and risk, like foreign direct investment (FDI) and private equity, have a larger portfolio share in the U.S. external assets. The large return differential implies that the U.S. can have net inflows in spite of being a debtor country.

In sum, as long as the net investment income from the U.S. external account is sufficiently large, the trade deficit can be paid for and is not a major concern.

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Submit your question in a letter to the editor. Do so online at www.stlouisfed.org/re/letter or mail it to Subhayu Bandyopadhyay, editor, *The Regional Economist*, Federal Reserve Bank of St. Louis, Box 442, St. Louis, MO 63166.

LEARN WHAT'S BEHIND THE SOVEREIGN DEBT CRISIS, ALONG WITH ITS IMPLICATIONS FOR THE U.S.

An easy-to-understand explanation of the debt crisis in Greece and other parts of Europe can be found in the new annual report of the Federal Reserve Bank of St. Louis. Research Director Christopher J. Waller and Senior Economist Fernando M. Martin wrote "**Sovereign Debt: A Modern Greek Tragedy**," an essay that is the core of the annual report. Besides explaining today's crisis in Europe, the authors provide a short history of government debt and briefly discuss the deficit and debt challenges facing the U.S. In a related message, St. Louis Fed President James Bullard calls the debt crisis a **wake-up call for the U.S.** Rounding out the report are a letter from Chairman of the Board Ward M. Klein, financial statements for the St. Louis Fed, and a snapshot of our work and employees.

The entire report can be read online at www.stlouisfed.org/ar. There, you will also find a **10-minute video** that captures the highlights of the essay. In addition, a **Spanish version** of the essay is available.

To order a hard copy of the full annual report, e-mail your name and address to carol.a.musser@stls.frb.org. The report will be mailed to addresses in the U.S. only.



  ANTHONY FRIEDA

IN THE NEW REVIEW: CENTRAL BANKS' ACTIVISM, SMOKING BANS, OUTSOURCING AND MORE

The July/August issue of *Review*, our research journal, features the Homer Jones Memorial Lecture given at the St. Louis Fed earlier this year by **Mohamed A. El-Erian**, CEO and co-chief investment officer of the investment firm PIMCO. He advocates for public and private agencies to work with central banks to deal with the economic and financial challenges that resulted from the Great Recession and financial crisis.



He warns that central banks may find themselves facing one of two extremes: complementing policies by other agencies that put the global economy back on the path of high sustained growth and ample job creation, or cleaning up in the midst of a global recession, forced deleveraging and disorderly debt deflation.

Other articles examine:

- The extent and impact of **outsourcing**, with Germany as the case study.
- Whether the boom in **smoking bans** at workplaces, bars and restaurants is discouraging people from smoking.
- The relationship among **bank runs**, withdrawal history and depositors' private information.

To read this issue online, go to <http://research.stlouisfed.org/publications/review/>



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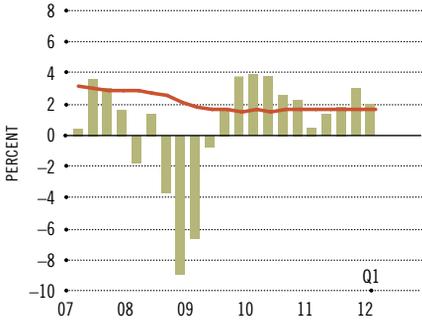
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This is our main economic database, containing more than 45,000 data series. The topics range from something as simple as the value of exports to something as specific as “the charge-off rate on commercial real estate loans (excluding farmland), booked in domestic offices, top 100 banks ranked by assets.” You can change the timelines on the graphs, aggregate data from daily

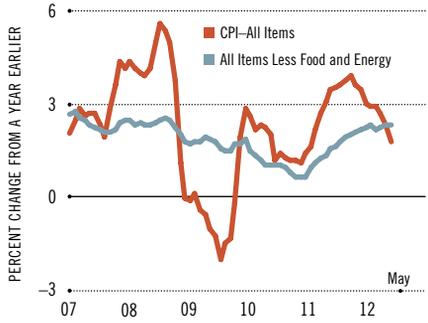
to monthly or monthly to annual observations, and even transform data from levels to percent change. And now you can grab FRED data anywhere your brain desires, from your Android device to Excel to advanced statistical packages, such as EViews. If you want to access data, you want FRED. Start at <http://research.stlouisfed.org/fred2/>

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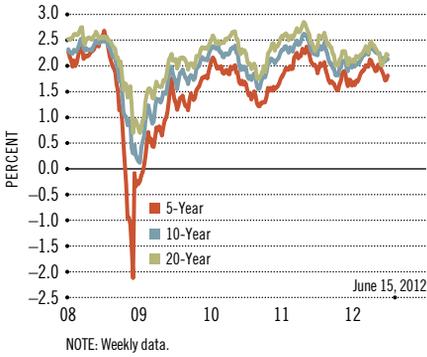
REAL GDP GROWTH



CONSUMER PRICE INDEX



INFLATION-INDEXED TREASURY YIELD SPREADS



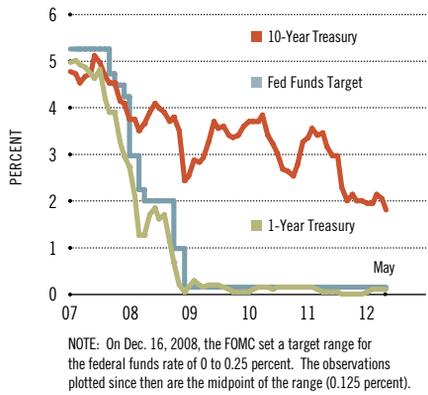
RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



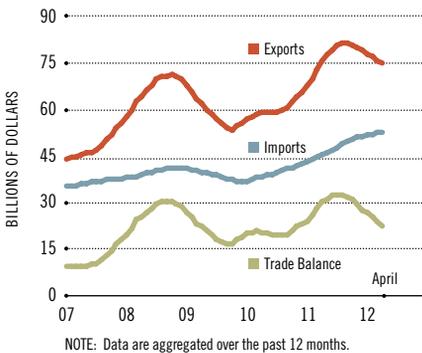
CIVILIAN UNEMPLOYMENT RATE



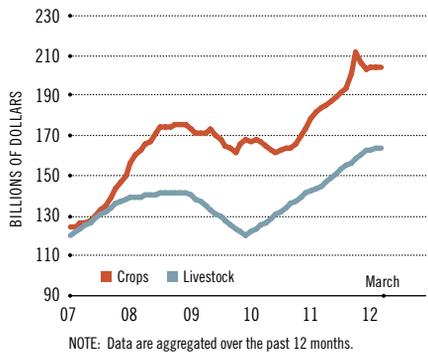
INTEREST RATES



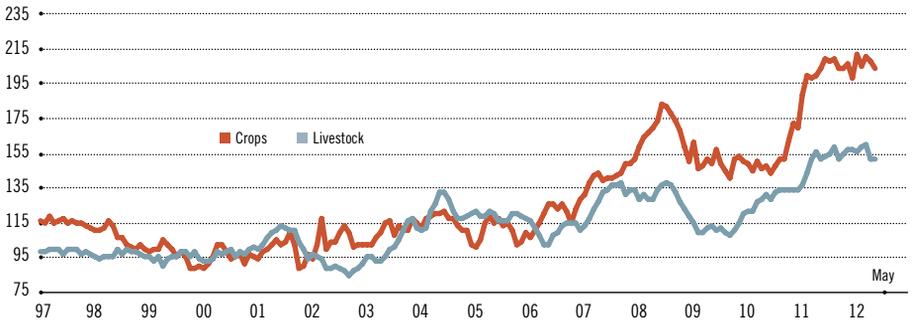
U.S. AGRICULTURAL TRADE



FARMING CASH RECEIPTS



U.S. CROP AND LIVESTOCK PRICES / INDEX 1990-92=100

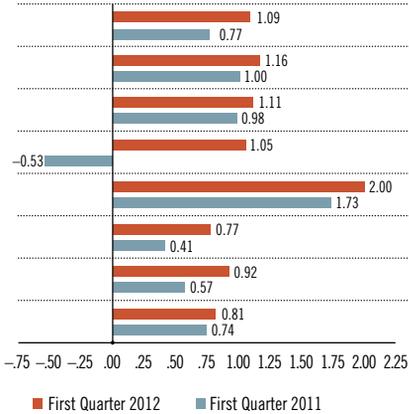


COMMERCIAL BANK PERFORMANCE RATIOS

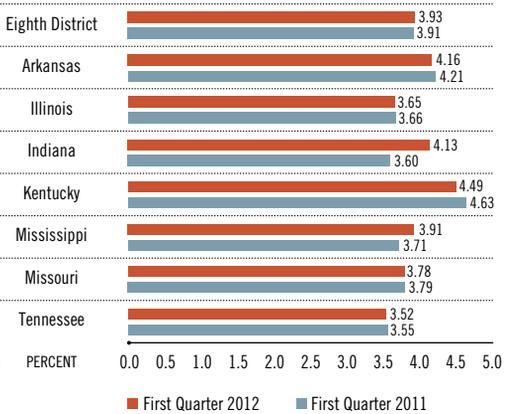
U.S. BANKS BY ASSET SIZE / FIRST QUARTER 2012

	All	\$100 million-\$300 million	Less than \$300 million	\$300 million-\$1 billion	Less than \$1 billion	\$1 billion-\$15 billion	Less than \$15 billion	More than \$15 billion
Return on Average Assets*	1.00	0.84	0.83	0.90	0.87	0.99	0.93	1.02
Net Interest Margin*	3.45	3.91	3.91	3.84	3.87	3.94	3.91	3.33
Nonperforming Loan Ratio	4.24	2.82	2.73	3.16	2.96	3.48	3.24	4.54
Loan Loss Reserve Ratio	2.60	1.93	1.92	1.98	1.95	2.11	2.04	2.77

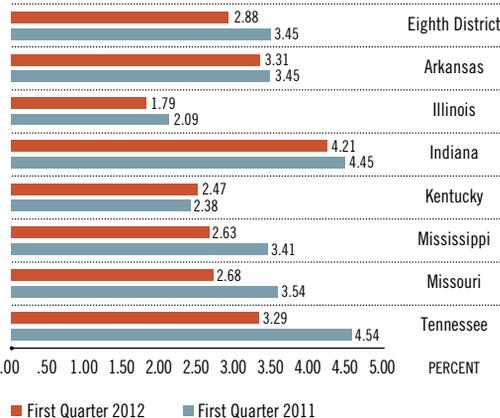
RETURN ON AVERAGE ASSETS*



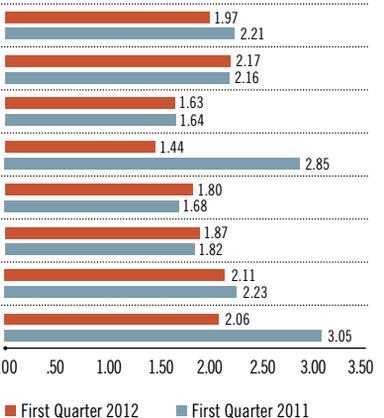
NET INTEREST MARGIN*



NONPERFORMING LOAN RATIO



LOAN LOSS RESERVE RATIO



NOTE: Data include only that portion of the state within Eighth District boundaries. SOURCE: FFIEC Reports of Condition and Income for all Insured U.S. Commercial Banks * Annualized data

For additional banking and regional data, visit our web site at: www.research.stlouis.org/fred/data/regional.html.

REGIONAL ECONOMIC INDICATORS

NONFARM EMPLOYMENT GROWTH / FIRST QUARTER 2012

YEAR-OVER-YEAR PERCENT CHANGE

	United States	Eighth District †	Arkansas	Illinois	Indiana	Kentucky	Mississippi	Missouri	Tennessee
Total Nonagricultural	1.6%	1.0%	0.5%	0.6%	1.6%	2.1%	0.0%	0.2%	1.8%
Natural Resources/Mining	12.4	1.2	0.6	4.9	1.6	-1.8	3.8	4.2	NA
Construction	1.7	0.4	2.0	-3.7	7.8	2.5	-2.2	-1.1	NA
Manufacturing	2.1	2.0	-3.0	2.1	4.2	1.7	-0.1	2.4	1.8
Trade/Transportation/Utilities	1.5	0.0	0.4	-0.2	0.8	1.5	-0.6	-0.8	-0.3
Information	-1.6	-1.3	-5.1	-1.0	-1.4	-2.5	-3.3	-1.1	0.4
Financial Activities	0.4	-0.9	-2.3	0.4	-2.7	-1.9	0.2	-2.1	-0.3
Professional & Business Services	3.7	3.4	-1.4	3.1	3.4	9.8	-0.4	2.4	4.4
Educational & Health Services	2.3	1.7	2.6	1.2	0.5	2.8	3.1	2.1	2.4
Leisure & Hospitality	2.7	1.6	4.0	1.6	3.0	4.5	-2.1	-0.5	1.2
Other Services	0.6	-0.2	1.5	-0.9	0.3	0.3	0.9	-0.1	-0.3
Government	-1.0	-0.4	1.8	-1.2	-0.8	-1.0	0.3	-1.7	2.0

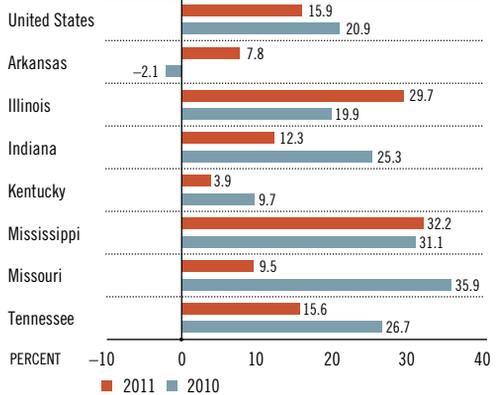
† Eighth District growth rates are calculated from the sums of the seven states. For Natural Resources/Mining and Construction categories, the data exclude Tennessee (for which data on these individual sectors are no longer available).

UNEMPLOYMENT RATES

	I/2012	IV/2011	I/2011
United States	8.3%	8.7%	9.0%
Arkansas	7.5	7.9	8.0
Illinois	9.1	9.8	9.3
Indiana	8.4	9.0	8.9
Kentucky	8.7	9.1	9.8
Mississippi	9.5	10.6	10.5
Missouri	7.4	8.1	8.9
Tennessee	8.0	8.7	9.5

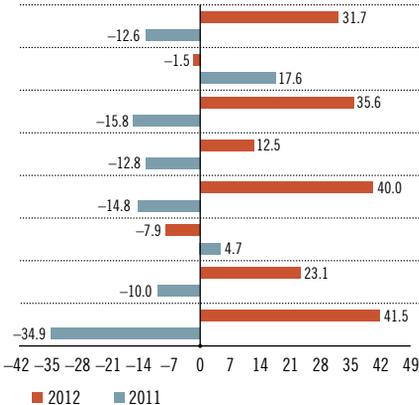
EXPORTS

YEAR-OVER-YEAR PERCENT CHANGE



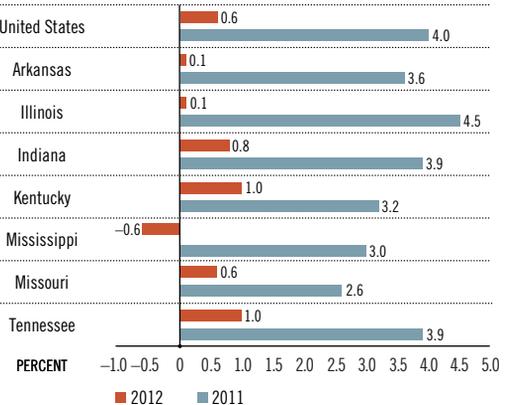
HOUSING PERMITS / FIRST QUARTER

YEAR-OVER-YEAR PERCENT CHANGE IN YEAR-TO-DATE LEVELS



REAL PERSONAL INCOME* / FIRST QUARTER

YEAR-OVER-YEAR PERCENT CHANGE



All data are seasonally adjusted unless otherwise noted.

*NOTE: Real personal income is personal income divided by the PCE chained price index.