

# THE REGIONAL ECONOMIST

*A Quarterly Review  
of Business and  
Economic Conditions*

Vol. 21, No. 1

January 2013

THE FEDERAL RESERVE BANK OF ST. LOUIS  
CENTRAL TO AMERICA'S ECONOMY®

Employment  
Stuck in the Middle  
by Job Polarization

Investments  
Negative Interest Rates:  
How Low Can You Go?



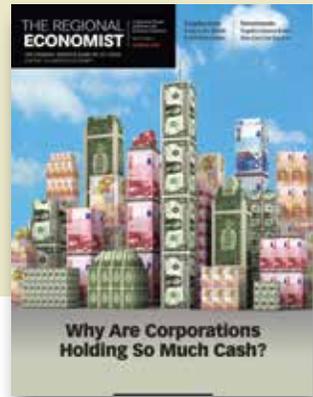
## Why Are Corporations Holding So Much Cash?

# 4

## Why Are Corporations Holding So Much Cash?

By Juan M. Sánchez and Emircan Yurdagul

U.S. corporations are holding record-high amounts of cash. One reason has to do with taxes—both the uncertainty about future taxes and the reality of today’s tax rules. The second reason has to do with the rise of research and development; because of its uncertain nature, this sort of work requires access to high levels of cash.



## THE REGIONAL ECONOMIST

JANUARY 2013 | VOL. 21, NO. 1

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.

**Director of Research**  
Christopher J. Waller

**Senior Policy Adviser**  
Cletus C. Coughlin

**Deputy Director of Research**  
David C. Wheelock

**Director of Public Affairs**  
Karen Branding

**Editor**  
Subhayu Bandyopadhyay

**Managing Editor**  
Al Stamborski

**Art Director**  
Joni Williams

Please direct your comments to Subhayu Bandyopadhyay at 314-444-7425 or by e-mail at subhayu.bandyopadhyay@stls.frb.org. You can also write to him at the address below. Submission of a letter to the editor gives us the right to post it to our web site and/or publish it in *The Regional Economist* unless the writer states otherwise. We reserve the right to edit letters for clarity and length.

Single-copy subscriptions are free but available only to those with U.S. addresses. To subscribe, e-mail dawne.c.luleff@stls.frb.org or sign up via [www.stlouisfed.org/publications](http://www.stlouisfed.org/publications). You can also write to *The Regional Economist*, Public Affairs Office, Federal Reserve Bank of St. Louis, Box 442, St. Louis, MO 63166.

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.



### 3 PRESIDENT’S MESSAGE

#### 9 Stuck in the Middle by Job Polarization



By Maria Canon and Elise Marifian

The economy has increased its demand for high-skilled (high-wage) workers and low-skilled (low-wage) workers, while opportunities for middle-skilled (middle-wage) jobs have declined. This “job polarization” may require a shift in the sort of training that is encouraged for American workers.

#### 12 Negative Interest Rates as a Monetary Policy Tool



By Richard Anderson and Yang Liu

Negative interest rates fascinate economists and the public. It is not uncommon to observe negative interest rates during uncertain times, when investors flee to safety. But the existence of negative market yields provides no support for policies in which central banks set negative interest rates on deposits held at a central bank.

#### 14 Household Financial Stress and Home Prices



By Yang Liu and Rajdeep Sengupta

The rapid deterioration of financial conditions faced by U.S. households since the crisis of 2007-2008 continued unabated well into 2010, after which a gradual recovery began. Moreover, home price changes in a region appear to have a strong association with the average financial condition of the households in that region.

### 16 ECONOMY AT A GLANCE

#### 17 COMMUNITY PROFILE Seymour, Ind.



By Susan C. Thomson

Even though this town has fewer than 20,000 people, it added about 500 jobs in 2012, many of them in manufacturing. Much of the credit can be given to the interest in workforce training, not only on the part of individual employers but the community at large.

### 20 DISTRICT OVERVIEW

#### “Yesterday’s Buyer Is Today’s Tenant”

By Silvio Contessi and Li Li

As homeownership in the Eighth Federal Reserve District declines, multifamily rental housing is booming. “Asking rents” are up, and vacancy rates are down.

### 22 NATIONAL OVERVIEW

#### Modest Expansion Could Pick Up the Pace

By Kevin L. Kliesen

Uncertainty regarding the nation’s near-term economic outlook is higher than normal. But if the impediments that are restraining exports and business capital spending wane, then the economy could grow by more than expected in 2013.

### 23 READER EXCHANGE

## ONLINE EXTRA

#### Mortgage Borrowing: The Boom and Bust

By William Emmons and Bryan Noeth

The buildup of mortgage debt before the crisis and the subsequent deleveraging have had profoundly different effects on different age groups. Younger families generally experienced the most volatility, while older families have emerged with the largest net increases in mortgage debt. Get the details in this online-only article at [www.stlouisfed.org/publications/re](http://www.stlouisfed.org/publications/re)

**James Bullard**, President and CEO  
Federal Reserve Bank of St. Louis

## The Fed's Latest Balance-Sheet Policy: What Constitutes Substantial Labor-Market Improvement?

Monetary policy should be dependent on the state of the economy, or “state-contingent,” rather than based on fixed dates. As I have argued since 2009, the Federal Open Market Committee (FOMC) should take this approach to balance-sheet policy, such as large-scale asset purchases or “quantitative easing,” just as it did with interest-rate policy prior to the financial crisis.<sup>1</sup>

The Committee moved in this direction in the statement following its September 2012 meeting. At that time, the FOMC began a third round of large-scale asset purchases, which is commonly referred to as “QE3,” and stated that this policy will continue until the outlook for the labor market improves substantially. In contrast, the FOMC’s announcement of the start of the previous round of asset purchases (“QE2”) was accompanied by an end date of the second quarter of 2011.

While the Committee’s move toward a more state-contingent balance-sheet policy was appropriate, the language in its September statement leads to the question: What would constitute substantial improvement in the labor market? There is no simple answer to this question. The FOMC looks at many different indicators to assess the health of the labor market.

Although some focus on the unemployment rate, it is only one aspect of the labor market. By itself, this indicator is an incomplete measure of overall labor-market health. The Fed’s dual mandate to promote maximum sustainable employment and price stability refers to employment rather than unemployment. To follow the mandate literally, then, would mean focusing on some measure of employment. Nonfarm payroll employment, a key metric each month, is one of the FOMC’s and financial markets’ preferred measures of labor-market

performance. Thus, when it comes to tying monetary policy closer to labor-market performance, nonfarm payrolls may serve as a better measure than the unemployment rate.

Along with payroll employment and the unemployment rate, the FOMC monitors the labor force participation rate, which has been a very important factor in recent years. Since 2000, this indicator has experienced a declining trend, which was accentuated by the Great Recession. Currently, the labor force participation rate is at roughly the same level as it was during the early 1980s. Given that this rate has fluctuated so much over the past few decades, a good question to consider is where the labor force participation rate should be in the long run. Not everyone will participate in the labor market; many people (e.g., students and retirees) choose not to work or are unable to work for various reasons.

Other labor-market indicators that the FOMC examines include measures of hours worked, which address part-time vs. full-time employment. Changing practices in labor markets could bring more people into part-time and temporary work; from that point of view, hours might be a better indicator of the state of the labor market than simply counting the number of jobs. The quality of jobs is also an important aspect of the health of the labor market. For instance, measures of hours worked and the number of jobs could be good, but policymakers may not like the mix of jobs because many of them are low-wage. In addition, the FOMC considers data from the Job Openings and Labor Turnover Survey (JOLTS) in assessing the labor market. The list goes on.

Measuring the overall health of the labor market involves many dimensions and is a complicated matter.<sup>2</sup> The state of the labor market cannot be adequately summarized



in one number, whether it’s the unemployment rate, payroll employment growth, the labor force participation rate or some other measure. Therefore, evaluating the overall labor market by simply looking at a single indicator would not be appropriate for monetary policy.

A possible alternative is to build an index of labor-market health that gives weight to all of these different dimensions and provides some idea of the health of the labor market in an overall sense. Even in this case, however, the Committee would likely weight the dimensions differently; so, agreement on a specific index would be problematic. What is clear is that, evaluating in a comprehensive way whether the outlook for the labor market has improved substantially and, thus, when to bring the latest balance-sheet policy to an end, will require the FOMC to consider numerous factors. 

### ENDNOTES

<sup>1</sup> For example, see my speech on Dec. 4, 2009, “Three Lessons for Monetary Policy from the Panic of 2008.” [http://research.stlouisfed.org/econ/bullard/BullardPhiladelphiaDec2009PolicyForum\\_FINAL.pdf](http://research.stlouisfed.org/econ/bullard/BullardPhiladelphiaDec2009PolicyForum_FINAL.pdf)

<sup>2</sup> For additional information, see Andolfatto, David; and Williams, Marcela M. “Many Moving Parts: The Latest Look Inside the U.S. Labor Market.” Federal Reserve Bank of St. Louis *Review*, March/April 2012, Vol. 94, No. 2, pp. 135-52. <http://research.stlouisfed.org/publications/review/article/9163>



# Why Are Corporations Holding So Much Cash?

*By Juan M. Sánchez and Emircan Yurdagul*

U.S. corporations are holding record-high amounts of cash. Understanding this phenomenon, many argue, may help us tease out the reasons for the slow recovery from the Great Recession.

A close look at the balance sheets of publicly traded U.S. firms shows that their cash holdings have increased dramatically since the mid-1990s except for a slow-down around the financial crisis. The two explanations most frequently given for the growth in cash pertain to fiscal policy and structural factors.

Fiscal policy affects cash holdings in two ways, both of which involve taxes. First, public firms are seeing their profits rise elsewhere in the world; if these firms were to bring these profits from overseas operations back to the U.S., the profits would be relatively heavily taxed. Second, uncertainty about future taxes is on the rise.

Other explanations point to gradual changes in the nature of the operations of a firm. The leading hypothesis in this group relates the rise in cash holdings of U.S. corporations to the increasing predominance of research and development (R&D). Since R&D is an activity intrinsically connected with uncertainty, the association of R&D and cash holdings is a natural one. The rising importance of R&D in the overall

economy is a long-term phenomenon that is due to the rapid growth of information technology firms.

## **Aggregate Trends**

All the results on cash holdings presented here are obtained using Compustat, a data set that contains balance-sheet information on publicly traded firms. The variable of interest for the purposes of this article is “cash and short-term investments,” which include all securities transferable to cash. Figure 1 displays the sum of cash holdings of all firms. In 2011, cash holdings amounted to nearly \$5 trillion, more than for any other year in the series, which starts in 1980. The increases in cash holdings grew steeper from 1995 to 2010, with an annual rate of growth of 10 percent (from \$1.22 trillion to \$4.97 trillion) compared with the corresponding growth of 7 percent from 1980 to 1995 (from \$453 billion to \$1.22 trillion). This suggests that at least some of the reasons for the record-high cash holdings must have started some 20 years ago—before the upturn in 1995.

Recent studies of this trend have found it useful to split firms into financial and non-financial corporations because these two types of firms likely hold cash for different reasons. Thus, to keep the analysis comparable with the studies discussed below, in the rest of this article the focus will be on publicly traded non-financial non-utility corporations.<sup>1</sup> This segment of the market held about \$1.6 trillion at the end of 2011, as shown in Figure 2. The overall trend is quite similar to that in Figure 1. However, the dynamics during the last 10 years were different. First, cash holdings increased very fast between 2002 and 2004, growing at an annual rate of 19 percent (from \$822 billion to \$1.17 trillion), then plateaued until the end of 2008. At that point, they rose significantly fast again, growing at an annual rate of 11 percent until 2011 (from \$1.18 trillion to \$1.62 trillion). This suggests that there may be two subperiods, one up to 2004 and one after 2008, for which the rise in cash holdings may be explained by different factors.

The trend in cash holdings described above is measured in dollars and could be

FIGURE 1

**Aggregate Cash and Equivalents of U.S. Firms**

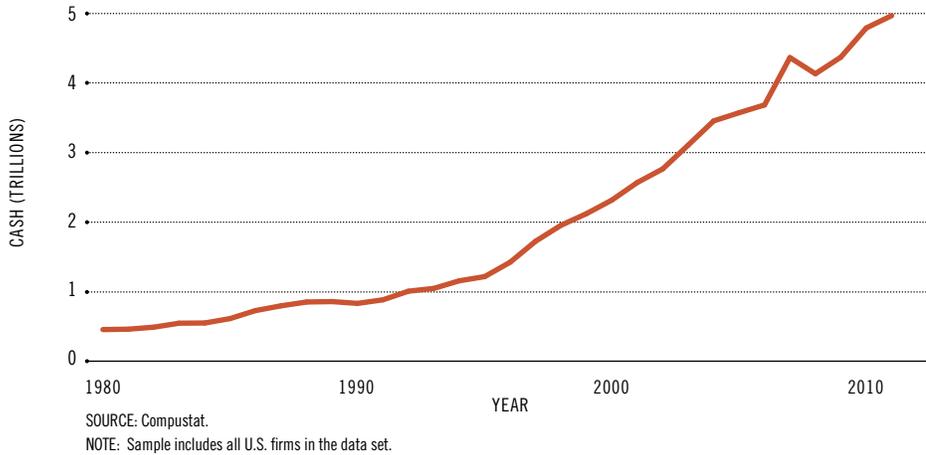


FIGURE 2

**Aggregate Cash and Equivalents of Non-Financial Non-Utility U.S. Firms**

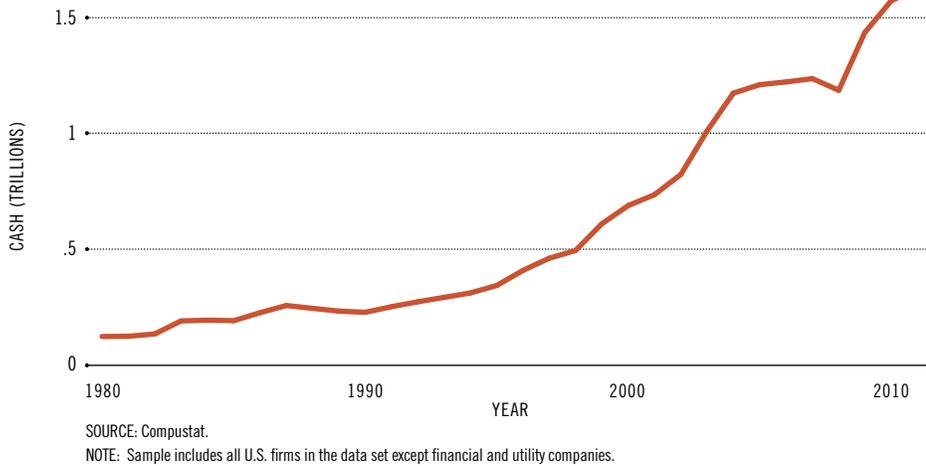
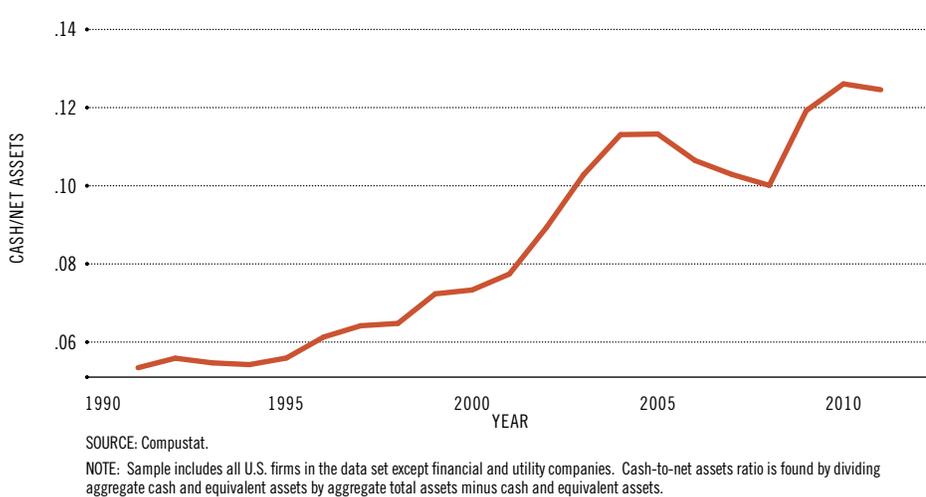


FIGURE 3

**Ratio of Cash to Net Assets**



explained by factors as simple as firms' growth, an increasing number of firms in the sample or inflation. To control for those factors, this analysis focuses on the ratio of cash holdings to total assets of these corporations. The point is to see if U.S. corporations are also holding a larger share of their assets in cash, in addition to piling up higher dollar amounts of cash. Figure 3 presents the evolution of the ratio. This ratio was consistently below 6 percent between 1990 and 1995; for the last couple of years on the figure, the ratio was about 12 percent. Here again, the rise can be divided into two clear periods. Between 1995 and 2004, the ratio increased by five percentage points; then, it stopped and the trend actually reverted until the end of 2008. The second period of the increase starts after the financial crisis and continues until the most recent data.

The data presented above suggest that to understand cash holdings of corporations today, one must consider two different questions. The first one is why firms were increasing their cash ratios from the early 1990s until 2004-2005. The second one is whether the rising trend that started (again) in 2008-2009 is connected to the aftermath of the financial crisis.

**Proposed Explanations**

There are two main reasons why firms find it beneficial to hold cash: precautionary motive and repatriation taxes.<sup>2</sup> The first motive is very simple: Firms hold cash and equivalent liquid assets because they provide the flexibility that firms need in their transactions. Two factors interact directly with this proposed explanation: uncertainty and credit constraints. Firms facing uncertainty about future transactions, either due to firm-specific or aggregate factors, may find it beneficial to pile up significant amounts of cash as a cushion. For example, a firm may want to hold cash to be able to act fast when an acquisition is possible. A firm may also hold cash and postpone investment until uncertainty about fiscal policies is resolved.

The need to hold cash for these situations would be alleviated if firms could obtain credit when funds become necessary. If firms could simply borrow at the

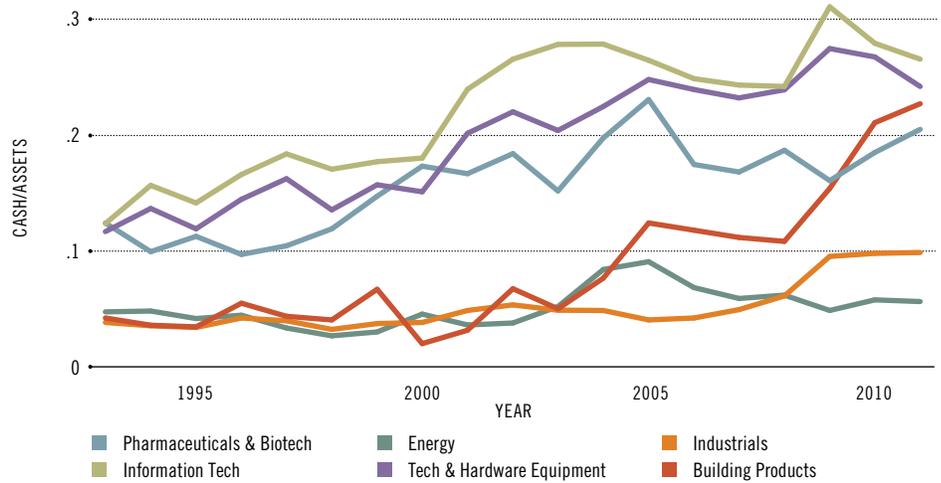
time they face the possibility of an acquisition, for example, they would not need to hold cash for that purpose. This implies that the precautionary motive is more important for firms that find obtaining credit problematic and face higher uncertainty. Therefore, this reason for holding cash is likely to be more important for small firms, which find access to credit harder, and for firms in sectors that spend significant resources in innovation (which naturally involves higher uncertainty).

Economists Thomas Bates, Kathleen Kahle and René Stulz showed in a 2009 article that the increase in the cash-to-assets ratio of firms was related tightly to precautionary motives. They constructed a measure of cash-flow uncertainty and showed that firms with higher uncertainty in their cash flows had higher cash-to-assets ratios. Then, they connected the precautionary motive with the recent rise in cash holdings by showing how uncertainty in the cash flows of firms has recently increased.

The second motive is present for multinational firms and is due to repatriation taxes. Many countries, including the U.S., tax their citizens based on their worldwide income. In particular, taxes due to the U.S. government from corporations operating abroad are determined by the difference between the taxes already paid abroad and the taxes that U.S. tax rates would imply. Importantly, such taxation only takes place when earnings are repatriated. Therefore, firms may have incentives to keep foreign earnings abroad. As a consequence, in times of limited foreign investment opportunities and high profitability, these funds are likely to be held abroad in the form of cash.

In a 2007 article, economists Fritz Foley, Jay Hartzell, Sheridan Titman and Garry Twite analyzed the role of foreign income and repatriation taxes. Through cross-firm comparisons, they found that firms that are subject to higher repatriation taxes hold significantly more cash. In addition, the economists studied how the affiliates of the same firm in different countries facing different repatriation costs followed distinct cash-holding patterns. In particular, they found that affiliates in countries with lower tax rates, which would face higher repatriation taxes, are more reluctant to bring back their foreign profits. For example, if a

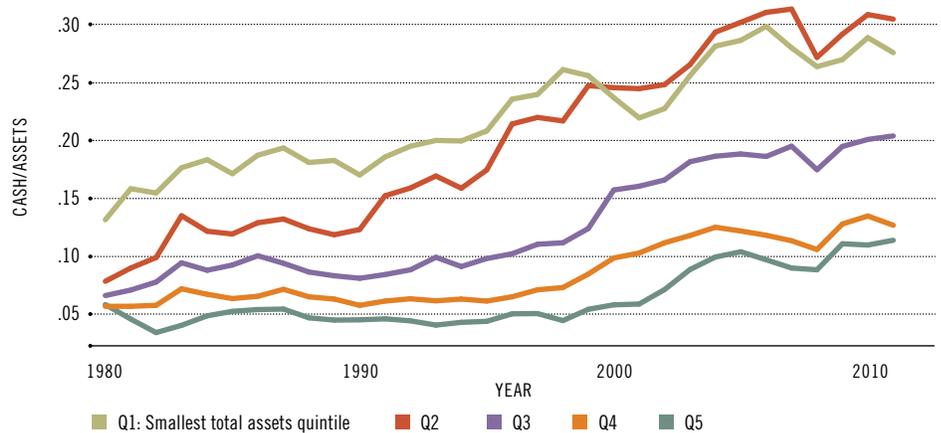
**FIGURE 4**  
**Cash Ratio by R&D Industries**



SOURCE: Compustat.

NOTE: Each line corresponds to the subindex within the S&P 500 with the identifier given in the legend. Cash/assets ratio is found by dividing aggregate cash and equivalents by the aggregate total assets of the firms in a subindex.

**FIGURE 5**  
**Average Cash Ratio by Total Assets**



SOURCE: Compustat.

NOTE: Sample includes all U.S. firms in the data set with positive total assets except financial and utility companies. Quintiles are found by sorting the firms into five equally populated groups according to the size of their total assets, and each line corresponds to the average cash/assets ratio within a quintile.

company has affiliates in both Sweden and Switzerland, and Switzerland has a lower tax rate than Sweden, then the affiliate in Switzerland would bring less cash back to the U.S. than would the affiliate of the same U.S.-based company in Sweden. Importantly, the estimations that these authors performed implied that a modest increase in repatriation taxes would lead to large increases in holdings of cash and equivalent assets.

However, this role of taxes is challenged in a recent working paper by economists Lee Pinkowitz, René Stulz and Rohan Williamson. They compared firms with

headquarters in different countries. After controlling for characteristics of the firms (sector, size, etc.), they showed that U.S. firms were holding more assets in the form of cash than were foreign firms. Then, they focused on the characteristics of other countries that may potentially lead to such differences. They concluded that differences in the way that countries tax foreign income do not alter the cash-holding behavior of the firms. In order to address the discussion on recently changing cash-holding patterns of the U.S. firms, they also assessed the systematic differences that firms exhibit in

their recent cash-holding behavior relative to earlier periods. They defined “abnormal cash holdings” as the difference between the cash holdings of firms predicted using their patterns in the late 1990s and their actual cash holdings in subsequent periods. They showed that abnormal cash holdings of U.S. firms are significantly larger than those of foreign firms. In parallel with the earlier discussion, their results also show that high R&D multinational firms in the sample hold the highest abnormal cash ratio.

### Decomposition

The explanations reviewed above suggest that the behavior of firms in sectors more intensive in R&D is crucial to understanding cash holdings. In fact, in two sub-indexes within the S&P 500 corresponding to two R&D-intensive sectors, cash holdings increased at a high yearly rate between 1995 and 2011: by 15 percent for the pharmaceutical sector and by 11 percent for the information technology sector. In the former sector, some firms had an annual increase as high as 26 percent. Within the latter sector, the top firms had increases between 16 and 22 percent in cash holdings in the same interval.

Figure 4 shows the cash ratio for six sectors that are R&D-intensive. For most of these sectors, the increase in cash holdings can be noted even by looking at the ratio of cash to total assets. For instance, this ratio in the information technology sector rose from 0.14 in 1995 to 0.27 at the end of the sample.

Considering that small firms may find it harder to access credit markets, one would expect smaller firms to have higher cash-to-assets ratios. The results of decomposing the rise in cash holdings by groups of firms of different sizes, measured as their total assets, reconfirm the relevance of uncertainty in cash-holding decisions. This is displayed in Figure 5, where firms are split into size quintiles, five equally populated groups formed and sorted according to the size of assets.<sup>3</sup> Notice that the smallest firms in terms of assets, those in the bottom quintiles of total assets (Q1 and Q2), have higher cash-to-assets ratios. To evaluate whether an increase in uncertainty may have caused the rise in cash holdings after the financial crisis, one should compare the rise in the cash ratios of firms of different size. The evidence in Figure 5 is less conclusive about

this since all the quintiles show a similarly increasing pattern since 2008.

### Structural Factors and Fiscal Policy

The firm-level data and the analysis of the academic literature presented above suggest that U.S. corporations are holding record-high amounts of cash for several reasons. The trend that started in the early 1990s is largely attributed to structural factors and is likely to be independent of the financial crisis. In particular, the rising predominance of R&D and increasing competition in sectors such as information technology seem to have contributed to the rise of cash holdings of U.S. corporations. The role of these factors is likely to be present in the next several years.

There is a structural factor, the increasing importance of multinational corporations, that seems to be important because of the current taxation of the income generated abroad that domestic corporations bring back to the U.S. Here, fiscal policy may be playing an undesirable role, and its modification in the coming years could boost domestic investment and help overcome the slow recovery from the Great Recession.

There is also another role for fiscal policymakers in the near future. Although the magnitude of the effect is not clear, it seems that designing and communicating a long-run plan to deal with the increasing fiscal deficit would reduce uncertainty about future taxes, reduce abnormal cash holdings and potentially favor private investment. 

---

*Juan M. Sánchez is an economist and Emircan Yurdagul is a technical research analyst, both at the Federal Reserve Bank of St. Louis. For more on Sánchez's work, see <http://research.stlouisfed.org/econ/sanchez/>*

### ENDNOTES

- <sup>1</sup> For an analysis of financial firms, see the work of Chang, Contessi and Francis, and of Ennis and Wolman, which focuses on cross-sectional data to study the increase in bank reserves since the end of 2008.
- <sup>2</sup> Another explanation given for holding cash is referred to as the principal-agent motive. Briefly, this reasoning connects the phenomenon with different incentives of the shareholders and the managers.
- <sup>3</sup> A very similar figure can be found in Bates, Kahle and Stulz.

### REFERENCES

- Bates, Thomas W.; Kahle, Kathleen M.; and Stulz, René M. “Why Do U.S. Firms Hold So Much More Cash than They Used to?” *Journal of Finance*, October 2009, Vol. 64, No. 5, pp. 1,985–2,021.
- Chang, Su-Hsin; Contessi, Silvio; and Francis, Johanna. “Excess Reserves during the U.S. Financial Crisis: A Bank-level Perspective.” Manuscript, June 2011.
- Ennis, Huberto M.; and Wolman, Alexander L. “Large Excess Reserves in the U.S.: A View from the Cross-Section of Banks.” Federal Reserve Bank of Richmond Working Paper, August 2012, No. 12-05.
- Foley, C. Fritz; Hartzell, Jay; Titman, Sheridan; and Twite, Garry. “Why Do Firms Hold So Much Cash? A Tax-based Explanation.” *Journal of Financial Economics*, December 2007, Vol. 86, No. 3, pp. 579–607.
- Pinkowitz, Lee; Stulz, René M.; and Williamson, Rohan. “Multinationals and the High Cash Holdings Puzzle.” National Bureau of Economic Research Working Paper, June 2012, No. 18120.

# Job Polarization Leaves Middle-Skilled Workers Out in the Cold

By Maria Canon and Elise Marifian



SHUTTERSTOCK

The U.S. economy's slow and jobless recovery from the Great Recession has prompted a variety of explanations for the labor market's weak performance. One common argument suggests that a mismatch exists between the sectors with job openings and the sectors where unemployed workers search. As a result, vacancies go unfilled, and the unemployed do not re-enter the workforce. If sectoral mismatch is the source of the jobless recovery, then the challenge is to equip workers with skills that can help them transition to jobs in growing sectors.

Yet recent research has revealed that this sectoral mismatch hypothesis cannot explain a large fraction of the increase in unemployment.<sup>1</sup> In a 2012 paper, economists Nir Jaimovich and Henry Siu offered an alternative explanation for the jobless recovery phenomenon. Building upon work of economist David Autor, the two economists argued that the economy's jobless recovery is due to the growing trend of "job polarization."

## Employment Polarization

Autor has published various studies that document the shift in U.S. employment opportunities and wages over the past 30 years. In a 2010 paper, he showed that the economy has increased its demand for high-skilled (high-wage) workers and low-skilled (low-wage) workers, while opportunities for middle-skilled (middle-wage) jobs have declined. The shift toward this U-shaped employment distribution is known as job polarization.

To demonstrate this "hollowing out" of employment opportunities, Autor examined changes in employment shares for different occupational skill levels. He ranked occupations by their skill (wage) level<sup>2</sup> and

then observed each skill level's change in employment share<sup>3</sup> in each of three periods from 1979-2007. His data reveal different behaviors in each of the decades. During the 1980s, occupations below the median skill level lost employment share, while occupations above the median gained share. In the 1990s, the polarization pattern began to appear: The lowest-skilled occupations slightly increased employment share, and the highest-skilled occupations increased employment share significantly; on the other hand, all of the middle-skilled occupations lost employment share. In the last period, from 1999-2007, the low-skilled end of the distribution saw even larger increases in employment share, while the middle-skilled segment again experienced share loss (albeit less than in the previous decade); the high-skilled segment saw no change. Thus, while both low-skilled and high-skilled occupations increased their employment shares over the past two decades, the middle-skilled occupations faced consistent share losses.

## Routine versus Nonroutine Labor

What explains this polarization phenomenon? Why is the demand for middle-skilled labor disappearing? To answer these questions, Autor grouped middle-educated and middle-paid occupations into four major job categories: (1) sales; (2) office and administrative; (3) production, craft and repair; and (4) operators, fabricators and laborers. Although he examined a few possible forces, Autor ultimately concluded that the key contributor to the polarization trend was the automation of routine work.<sup>4</sup> Routine tasks—which he defines as "procedural, rule-based activities"—characterize the work of many middle-skilled occupations. Whether the routine

activities be manual (production, craft and repair; or operators, fabricators and laborers) or abstract/cognitive (sales, office and administrative), they have the common trait of being increasingly performed by machines or computers, goods for which prices have fallen substantially in recent years (both absolutely and relative to labor). Accordingly, the automation process has raised the relative demand for nonroutine labor.

Like routine labor, nonroutine labor can be subdivided into two categories—nonroutine cognitive activities and nonroutine manual activities. Whereas routine cognitive and routine manual tasks embody the work of middle-skilled workers, nonroutine cognitive and nonroutine manual activities characterize jobs at opposite tails of the occupational skill distribution. Nonroutine cognitive activities require workers with analytical and problem-solving skills, intuition and persuasion, and, in many cases, higher levels of education. On the other hand, nonroutine manual activities require little formal education and employ workers with skills like "situational adaptability, visual and language recognition, and in-person interactions," as well as physical ability and, in many cases, oral communication fluency. Many service occupations—such as food service, home health assistance, janitorial and security jobs—require nonroutine manual skills. Given their nonroutine nature, these tasks are often difficult to automate, and they are also difficult to outsource because they usually must be performed in person. As a result, the demand for these workers is generally high; in fact, the U.S. Bureau of Labor Statistics (BLS) projects that low-education service jobs will be a major source of U.S. employment growth through 2018.<sup>5,6</sup>

In short, the growing demand for both high-skilled and low-skilled (nonroutine) workers, combined with the displacement of routine jobs by technological automation (and, in some cases, labor offshoring), has intensified the polarization of employment opportunities in the U.S. over the past 30 years. As a result, middle-skilled

(middle-wage) workers are facing fewer middle-skilled and middle-wage jobs.

### Job Polarization, Recessions and Jobless Recoveries

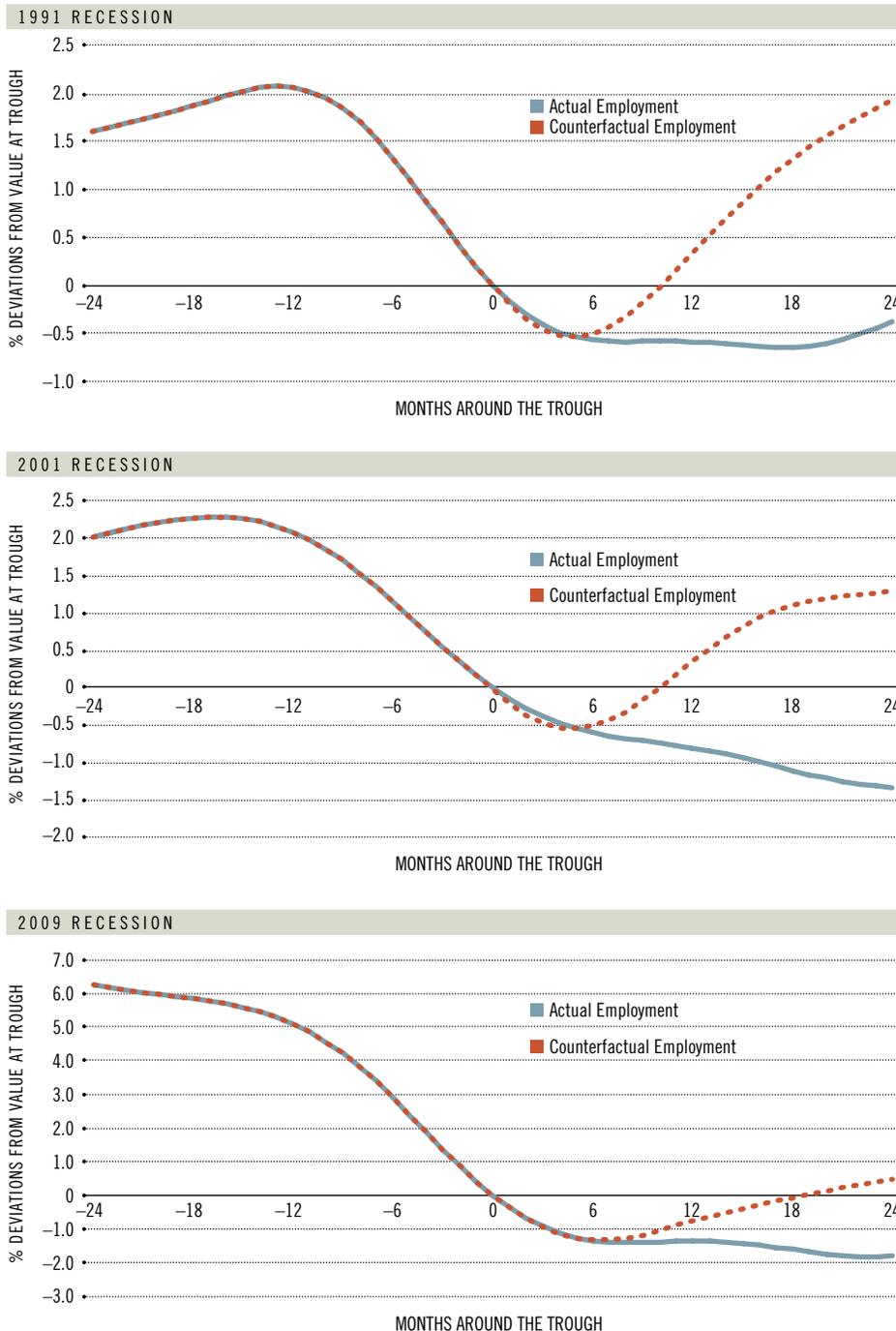
An important point Autor made is that the Great Recession quantitatively reinforced the polarization trends, rather than reversing

them. In other words, the degree of polarization across skill levels, both in terms of job growth and wage growth, was more pronounced during the Great Recession.<sup>7</sup> Building upon Autor's point, Jaimovich and Siu explored the relationship between the Great Recession and job polarization by incorporating into their analysis a specific element of the recent recessions: the jobless nature of the recoveries.

Seeking to understand the jobless recovery phenomenon, Jaimovich and Siu examined the past six recessions and recoveries (as dated by the National Bureau of Economic Research [NBER]), plotting U.S. aggregate per capita employment centered on the troughs of the recessions. This exercise revealed a distinct change in employment behavior from the 1969-1970, 1973-1975 and 1981-1982 recessions to the 1990-1991, 2001 and 2007-2009 recessions (henceforth referenced by the trough year). For each of the recessions in the former group, aggregate employment began its recovery within six months of the recession trough. This robust recovery time, however, did not exist for the latter group. For the 1991 recession, employment did not turn around until 18 months after the recession reached its lowest point. For the 2001 recession, employment fell for 23 months after the trough before beginning to improve, and it did not return to its prerecession level before the 2009 recession began. For the 2009 recession, employment also took 23 months to turn around.<sup>8</sup> Apparently, the jobless recovery phenomenon occurred only in recent recessions.

After studying aggregate employment recoveries for the six most recent recessions, Jaimovich and Siu examined how the employment recovery behaviors change when the employment data are plotted by occupational groups. Like Autor, they disaggregated employment into two main groups and two subgroups: routine versus nonroutine, and manual versus cognitive.<sup>9</sup> Plotting routine, nonroutine cognitive and nonroutine manual per capita employment around the same recessions, they again observed a contrast between the employment behavior around the recessions in 1970, 1975 and 1982 and around those that occurred in 1991, 2001 and 2009. For the earlier time period's recessions, the employment of routine occupations recovered alongside employment in

### Actual and Counterfactual Employment around Recent NBER Recessions



SOURCE: Figure constructed by authors using data from Jaimovich and Siu, p. 15.  
 NOTES: The blue lines show actual employment behavior around the National Bureau of Economic Research (NBER) recession troughs. The red counterfactual lines show how the aggregate employment recoveries would have occurred if routine employment had rebounded as it did during earlier recessions. Actual data from the Bureau of Labor Statistics, Current Population Survey; counterfactual data described in Jaimovich and Siu, Appendix B.

nonroutine jobs.<sup>10</sup> Yet for the later time period's recessions, the recovery of employment in routine occupations was essentially nonexistent. Furthermore, although these later recessions temporarily stopped the growth in nonroutine employment, the growth trends eventually resumed.<sup>11</sup> Jaimovich and Siu's conclusions are novel: First, job polarization is not a gradual process, but rather a phenomenon characterized by job loss in routine occupations during economic downturns;<sup>12</sup> second, jobless recoveries are due to job polarization.<sup>13</sup>

To reaffirm their conclusions, the authors constructed a counterfactual employment series that documents how the recoveries would have occurred during the most recent recessions if the routine employment had recovered as it did during the earlier recessions. The figure shows Jaimovich and Siu's two employment series for the three recent recessions. The series plot the actual and counterfactual employment percent deviations from the value at the NBER recession troughs, for 24 months preceding and 24 months following the trough. To construct the counterfactual aggregate employment series for each recession, they summed the actual employment in nonroutine occupations with their constructed routine-occupation employment.<sup>14</sup> As the three charts demonstrate, jobless recoveries would not have been observed without the polarization of routine jobs. Specifically, the counterfactuals show that aggregate employment's recovery period during the 1991, 2001 and 2009 recessions would not have been delayed, but rather would have experienced a turning point five, five and seven months (respectively) after the troughs. Further, employment would have recovered back to the trough levels, which did not occur within 24 months of any of the recent recessions. Given this outcome, they attribute the jobless recovery to job polarization and the decline in routine employment.

### Not Just a Manufacturing Phenomenon

Since jobs in the manufacturing sector are more "routine-intensive" than jobs in the economy as a whole,<sup>15</sup> it may be tempting to think that "job polarization" and "jobless recovery" are just sophisticated terms to describe job loss in manufacturing. Yet if that were the case, the majority of the

polarization (routine job loss) would be isolated to manufacturing. Instead, the manufacturing sector accounts for only 38 percent of job polarization. Accordingly, Jaimovich and Siu emphasized that job polarization is not just a shift in the sectoral composition of the economy, away from routine-intensive industries (like manufacturing) and toward nonroutine-intensive industries.<sup>16</sup> Rather, it is a shift in the occupational composition within *all* industries, away from routine jobs and toward nonroutine jobs. As for the role of manufacturing in jobless recoveries, the authors showed that, due to manufacturing's small share of total employment (9 percent in 2011), eliminating jobless recoveries in manufacturing would have had little impact on the aggregate employment dynamics following the recession.<sup>17</sup> Therefore, jobless recoveries in the aggregate cannot be attributed to the manufacturing sector.

### Implications

If Jaimovich and Siu's conclusions correctly explain the labor market's recent dynamics, then what are the implications? For one, postrecession policies to stimulate labor market activity may have little effect since the jobless recovery is due to the downturn-induced disappearance of middle-skilled jobs. In addition, the long-term task of equipping American workers for the future economic environment may need to be approached from a different angle. While educational achievement is undoubtedly important as demand continues to increase for college-educated, high-skilled (and high-wage) workers, it also may be useful to emphasize development and training for nonroutine skills since they will grow ever more valuable as technology automates routine work. 

*Maria Canon is an economist and Elise Marifian is a research analyst, both at the Federal Reserve Bank of St. Louis. For more on Canon's work, see <http://research.stlouisfed.org/econ/canon/>*

*The authors would like to thank Nir Jaimovich and Henry Siu for providing the data needed to construct the graphs used with this article.*

### ENDNOTES

- <sup>1</sup> See Şahin, Song, Topa and Violante.
- <sup>2</sup> In his analysis, skill level is approximated by average wages in the occupation in 1980.
- <sup>3</sup> Calculated as a share of total U.S. employment.
- <sup>4</sup> In addition to investigating the role of technology-based automation, Autor also examined how international trade and offshoring, the changing roles of unions, and minimum wage legislation have each contributed to the growing job and wage polarization. Although he concludes that technology-based automation of routine work is the key contributor, Autor notes that similar observations can be made about the consequences of the international integration of labor markets through trade and offshoring. See Autor, pp. 2, 11-15.
- <sup>5</sup> See Autor, p. 12.
- <sup>6</sup> Simultaneously, downward pressure on wages is likely to result as routine (middle-skilled and middle-wage) jobs disappear and many of these workers are reallocated to lower-wage positions in nonroutine activities.
- <sup>7</sup> Qualitatively, the trends continued in the same direction.
- <sup>8</sup> A table with measures of recovery following the early and recent recessions can be found in Jaimovich and Siu, p. 6.
- <sup>9</sup> Ultimately, they report the data in three groups—nonroutine manual, nonroutine cognitive and routine—because the results are consistent within both of the routine subgroups. See Jaimovich and Siu, p. 8.
- <sup>10</sup> Nonroutine manual employment did not recover in the 1970 recession.
- <sup>11</sup> For figures on employment by occupational group, 1967-2011, see Jaimovich and Siu, p. 10.
- <sup>12</sup> In other words, job polarization is a business cycle phenomenon. See Jaimovich and Siu, pp. 9-11, 14, 31.
- <sup>13</sup> Specifically, they state that "jobless recoveries are evident in only the three most recent recessions and they are observed only in routine occupations. In this occupational group, employment never recovers—in the short-, medium- or long-term. These occupations are disappearing. In this sense, the jobless recovery phenomenon is due to job polarization." See Jaimovich and Siu, p. 14.
- <sup>14</sup> The counterfactual employment in routine occupations is the average response in routine occupations following the troughs of the 1970, 1975 and 1982 recessions. They follow the time pattern of the early recessions and match the magnitude of the fall in employment after each recession. See Jaimovich and Siu, p. 14.
- <sup>15</sup> See Jaimovich and Siu, p. 16 and footnote 10.
- <sup>16</sup> See Jaimovich and Siu, footnote 11.
- <sup>17</sup> Jaimovich and Siu constructed a counterfactual to demonstrate that if manufacturing in the most recent recessions had recovered as it had (on average) in earlier recessions, the aggregate recovery would not have been improved. See pp. 16-18.

### REFERENCES

- Autor, David. "The Polarization of Job Opportunities in the U.S. Labor Market." *The Hamilton Project and The Center for American Progress*, April 2010, pp. 1-40.
- Jaimovich, Nir; and Siu, Henry E. "The Trend Is the Cycle: Job Polarization and Jobless Recoveries." NBER Working Paper No. 18334, *National Bureau of Economic Research*, August 2012, pp. 1-36.
- Şahin, Ayşegül; Song, Joseph; Topa, Giorgio; and Violante, Giovanni L. "Mismatch Unemployment." Working paper, Federal Reserve Bank of New York, September 2012, pp. 1-76.

## How Low Can You Go? Negative Interest Rates and Investors' Flight to Safety

By Richard Anderson and Yang Liu



Negative interest rates fascinate both professional economists and the public. Conventional wisdom is that interest rates earned on investments are never less than zero because investors could alternatively hold currency. Yet currency is not costless to hold: It is subject to theft and physical destruction, is expensive to safeguard in large amounts, is difficult to use for large and remote transactions, and, in large quantities, may be monitored by governments. Currency does not provide even a logical zero floor for market interest rates.

Interest rates come in two flavors. *Nominal rates (or yields)* refer to a periodic payment received by an investor relative to either the asset's principal (face) amount or its market price.<sup>1</sup> *Real rates* refer to nominal rates minus the anticipated inflation rate. Each rate, at certain times and for certain securities, can be negative. Consider, for example, nominal Treasury notes and bonds, that is, securities not indexed for inflation. The yield to maturity on the 5-year Treasury note has been below 2 percent since July 2010, and the yield to maturity on the 10-year Treasury note has been below 2 percent since May 2012. Yet, looking forward, the Federal Open Market Committee in January 2012 announced an inflation target of 2 percent—implying an anticipated negative real yield over the life of the securities. Investors, facing uncertainty, appear willing to pay the U.S. government—when measured in real, *ex post* inflation-adjusted dollars—for the privilege of owning Treasury securities.

Nominal interest rates also, at times, are negative. Generally, each occurrence of a negative rate has its own special story. Most stories involve fear or uncertainty, with investors fleeing to perceived safer assets.

Our first example is very simple: negative interest rates on certain deposits in U.S. banks. These negative rates have been observed on large noninterest-bearing demand deposits insured by the Federal Deposit Insurance Corp. (FDIC) under its Transaction Account Guarantee (TAG) program. This program, authorized by the Wall Street Reform (Dodd-Frank) Act through year-end 2012, insures noninterest-bearing demand deposits without limit. Because banks perceive few investment opportunities for these deposits, they charge customers the cost of the FDIC insurance. Overall, customers receive a negative interest rate on their deposit—but also the safety of FDIC insurance. Anecdotal evidence suggests that many such deposits previously were held as shares in money market mutual funds, which have very low risk but are not federally insured.

Our second example is U.S. Treasury inflation-protected securities (TIPS).<sup>2</sup> The yield on the 5-year TIPS has been negative since March 2011, and yields on 7-year and 10-year TIPS have been negative since August and December 2011, respectively. The yield on the 20-year bond hovers near zero. (See Figure 1.)

An illustration is helpful. Owners of Treasury notes and bonds of all types, including TIPS, receive every six months a fixed coupon payment—these coupons are always positive, never negative. A negative *yield to maturity* appears when a bond's price rises to lofty heights. Consider the TIPS bond issued Sept. 28, 2012, maturing on July 15, 2022, with a coupon rate of 0.125 percent (that is, investors receive semiannual coupon payments from the Treasury of 6.25 cents for each \$100 invested). The price at auction was \$108.52. If the bond were to repay \$100

at maturity, the calculated yield to maturity would be  $-0.750$  percent. Why would investors pay such a high price for the bond? One explanation is that they anticipate high inflation during the life of the bond: At maturity, the TIPS investor receives not \$100 but \$100 plus the accumulated inflation (measured by the all-items CPI). What expected inflation rate might justify the bond's price? As a benchmark for comparison, consider the nominal (not indexed) bond issued Sept. 17, 2012, maturing Aug. 15, 2022. At issue, its price was \$98.74, implying a yield to maturity of 1.76 percent. The difference between the two yields is a measure of expected average annual inflation during the bonds' lifetimes, approximately 2.5 percent. The negative yield on the TIPS bond also reflects, in part, strong worldwide demand for the *nominal* Treasury bond. (The high price of the nominal bond pulls up the price of the TIPS bond.)

Negative rates also have been seen in Europe. First, consider the widely discussed negative policy rates set by two central banks: the Riksbank (Sweden) and the Danmarks Nationalbank (Denmark). Both banks set three policy rates (a term deposit rate, an overnight repo rate and a lending rate) and offer overnight and term deposits to commercial banks. The repo rate is the banks' "primary" policy tool; it has been consistently positive. At times, both banks have set their less-important term deposit rate at negative values. The Riksbank between July 8, 2009, and Sept. 7, 2010, set a rate for 7-day deposits at  $-0.25$  percent. Although the rate attracted media attention, it meant nothing because banks historically have placed only very small amounts in term deposits. The Danmarks Nationalbank (DNB) in July 2012 set its 14-day deposit rate at  $-0.2$  percent,

seeking to repel currency inflows from the euro area. (Its repo rate is set at 0.20 percent.)

Second, consider yields on certain French, German, Danish and Swiss government securities. (See Figure 2.) Investors in the euro area seek safety—and appear willing to pay for it. Yields on Swiss 3-month treasury bills slipped negative in mid-2011, and yields on French 3-month treasury bills turned negative (albeit by only one basis point) in August 2012. Danish government bonds with two years to maturity have displayed negative yields to maturity since June 2012; yields on longer maturities are positive. Yields on German bonds with between one and two years to maturity fell to zero in August 2012 but have resisted going negative. In times of turmoil, investors accept zero or negative nominal yields as a fee for safety.

The above examples of negative central bank policy rates are newsworthy because they are unusual. Some analysts have argued that such examples suggest that central banks should consider setting negative policy rates, including negative rates on deposits held at the central bank. Such proposals are foolish for a number of reasons. First, a policy rate likely would be set to a negative value only when economic conditions are so weak that the central bank has previously reduced its policy rate to zero. Identifying creditworthy borrowers during such periods is unusually challenging. How strongly should banks during such a period be encouraged to expand lending? Second, negative central bank interest rates may be interpreted as a tax on banks—a tax that is highest during periods of quantitative easing (QE).<sup>3</sup> Central banks typically implement QE policies via large-scale asset purchases. Sellers of these assets are paid in newly created central bank deposits, which, in due course, arrive in the accounts of commercial banks at the central bank. It is an axiom of central banking that the banking system itself cannot reduce the aggregate amount of its central bank deposits *no matter how many loans are made* because the funds loaned by one bank eventually are redeposited at another. Is it reasonable for the central bank to impose a tax on deposits held at the central bank when the central bank *itself* determines the amount of such deposits held by banks and the banking system? Perhaps these and other considerations caused European Central Bank President

Mario Draghi in a recent press conference to label negative deposit rates “uncharted waters” and dismiss any possibility that the ECB would consider it.

In summary, in normal economic times, both nominal and real interest rates are positive. But in unusual times, negative nominal and real yields are not unusual. Both often reflect investors’ flight to safety. The existence of negative yields, however, provides no support for the argument that central banks should consider negative policy rates as a monetary policy tool. [Q](#)

*Richard Anderson is an economist and Yang Liu is a senior research associate, both at the Federal Reserve Bank of St. Louis. For more on Anderson’s work, see <http://research.stlouisfed.org/econ/anderson/>*

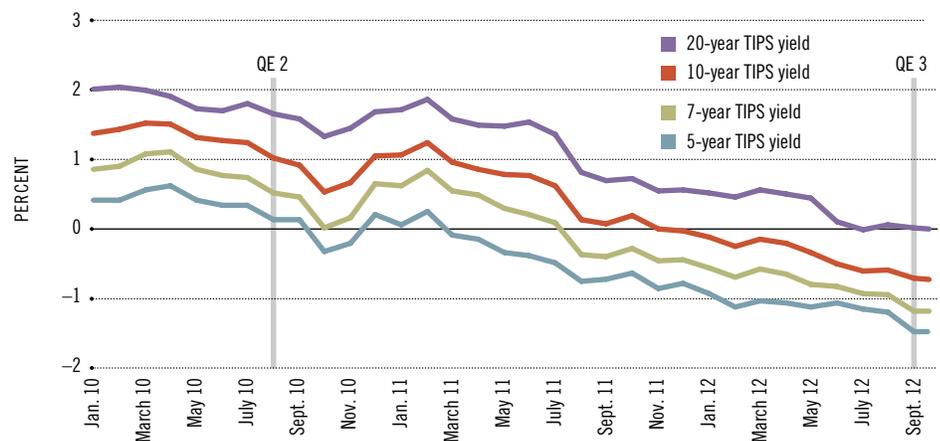
## ENDNOTES

- 1 Formulas for exact yield calculations are beyond the scope of this article.
- 2 Additional information regarding prices and yields on Treasury bonds is available at [www.treasurydirect.gov](http://www.treasurydirect.gov)
- 3 See Anderson et al. (2010) and Anderson (2012).

## REFERENCES

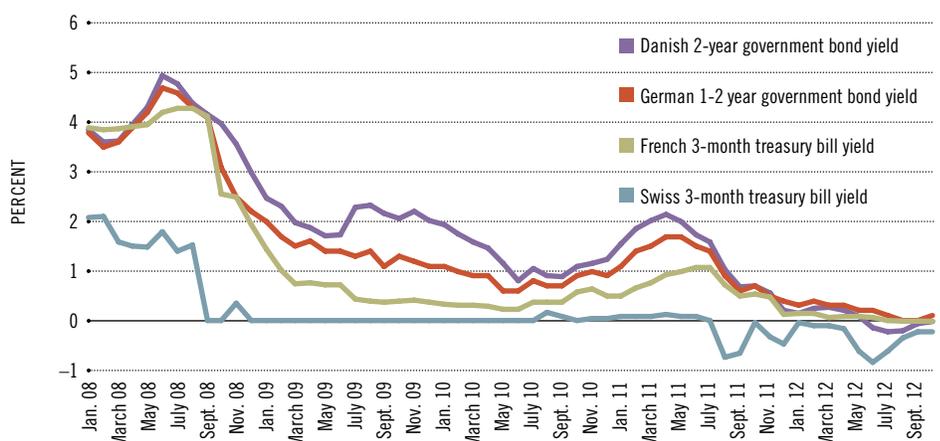
- Anderson, Richard; Gascon, Charles; and Liu, Yang. “Doubling Your Monetary Base and Surviving: Some International Experience.” *Federal Reserve Bank of St. Louis Review*. November/December 2010. Vol. 92, No. 6, pp. 481-505.
- Anderson, Richard G. “Quantitative Easing the Swedish Way.” *Federal Reserve Bank of St. Louis Economic Synopses*. Nov. 16, 2012, No. 33. See <http://research.stlouisfed.org/publications/es/article/9550>
- Draghi, Mario. Introductory statement at the press conference. Aug. 2, 2012. See [www.ecb.int/press/pressconf/2012/html/is120802.en.html](http://www.ecb.int/press/pressconf/2012/html/is120802.en.html)

**FIGURE 1**  
**U.S. Treasury Inflation-Protected Securities (TIPS) Yields**



SOURCE: U.S. Treasury Department/Haver Analytics.  
NOTE: QE=quantitative easing.

**FIGURE 2**  
**European Government Securities Yields**



SOURCES: Danmarks Nationalbank, Deutsche Bundesbank, Bank of France, Swiss National Bank/Haver Analytics.

# Household Financial Stress and Home Prices

By Yang Liu and Rajdeep Sengupta



© OCEAN/CORBIS

The financial stress faced by U.S. households began to deteriorate quickly with the onset of the financial crisis in 2007-2008. By some measures, this deterioration continued unabated well into 2010, after which a gradual recovery began.

A common measure of financial stress is the serious delinquency (SD) rate. This measures the proportion of consumer debt balances that is at least 90 days delinquent.<sup>1</sup>

Figure 1 displays the SD rates for the continental U.S. for the years 2008, 2010 and 2012. In the third quarter of 2008, the national SD rate was 9.76 percent.<sup>2</sup> The states with the lowest SD rates were North Dakota (5.05 percent), Wyoming (6.35 percent), South Dakota (6.52 percent), Washington (6.60 percent) and Utah (6.79 percent). The states with the highest rates were Nevada (13.50 percent), Florida (12.58 percent), Texas (12.22 percent), Mississippi (11.68 percent) and South Carolina (11.42 percent). Overall, 12 out of 49 states had SD rates higher than 10 percent.

The consumer credit market reached its highest levels of distress in 2010:Q3, when the national SD rate peaked at 13.97 percent. The best SD rates were in North Dakota (7.85 percent), the District of Columbia (8.84 percent), Nebraska (9.07 percent), Wyoming (9.43 percent) and Kansas (9.58 percent). The worst rates were in Nevada (22.73 percent), Florida (20.98 percent), California (18.28 percent), Arizona (17.81 percent) and South Carolina (15.63 percent). Of the 49 states, 33 had SD rates between 10 percent and 14 percent, and eight states had SD rates above 14 percent.

The addition of Arizona and California to the group of states with the worst SD rates, which already included Nevada and Florida, shows the important role played by the housing bust in exacerbating financial distress

across U.S. households. There is significant evidence to suggest that the rapid increase in home prices in these states allowed households to extract home equity loans. To the extent these loans were used to pay off other forms of debt, they may have kept household distress levels in check. Needless to say, this source of funds dried up with the steep decline in house prices.

As of 2012:Q3, the national SD rate had declined moderately to 11.40 percent. The states with the lowest SD rates then were North Dakota (4.69 percent), Nebraska (6.45 percent), South Dakota (6.79 percent), Iowa (7.20 percent) and Wisconsin (7.24 percent). The states with the highest SD rates were Nevada (18.53 percent), Florida (18.49 percent), California (14.58 percent), Arizona (14.09 percent) and South Carolina (14.01 percent). Again, the number of states with SD rates between 10 percent and 14 percent fell, from 33 in 2010:Q3 to 21 in 2012:Q3; only five states have SD rates above 14 percent. These data also provide support for the hypothesis that deleveraging by households is a slow and lengthy process.

In all 49 states, the 2012:Q3 SD rates were lower than their 2010:Q3 levels; in eight of the 49 states, the 2012:Q3 SD rates were lower than their 2008:Q3 levels. The trend shows an unambiguous improvement in household credit conditions.

## Bankruptcy Filings

Another indicator of household-level financial conditions is household bankruptcy filings. The common form of (nonbusiness) bankruptcy filings occurs under two procedures: Chapter 7 (liquidation) and Chapter 13 (reorganization and rescheduling of debt repayment).<sup>3</sup> In 2008, the national Chapter

7 filing rate was 1.95 per 1,000 population, and the Chapter 13 filing rate was 1.12. As economic conditions worsened, Chapter 7 filing rates increased to 2.84 in 2009 and to 3.53 in 2010; Chapter 13 filing rates increased to 1.24 in 2009 and 1.36 in 2010. In 2011, the Chapter 7 filing rate dropped to 3.36 but the Chapter 13 filing rate continued to increase slightly, to 1.37.

There is significant geographic variation in bankruptcy filing rates. For example, in 2008, the 10 metropolitan statistical areas (MSAs) with the lowest Chapter 7 filing rates were all in North Carolina, South Carolina and Texas. Meanwhile, six of the 10 MSAs with the highest Chapter 7 filing rates were in Indiana; the other four MSAs were in Arkansas, Michigan, Nevada and Ohio. In 2011, all 10 MSAs with the lowest Chapter 7 filing rates were still in North Carolina, South Carolina and Texas;<sup>4</sup> their filing rates were somewhat lower than in 2008. In contrast, the 10 MSAs with the highest Chapter 7 filing rates were spread across seven states; their rates were mostly higher than in 2008.

The MSA-level Chapter 13 filing trends are also worth mentioning. In 2008, the 10 MSAs with the lowest Chapter 13 filing rates were spread across seven states. But the 10 MSAs with the highest Chapter 13 filing rates were all located in Southern states, namely, Alabama, Arkansas, Georgia, Louisiana, Mississippi and Tennessee. Similarly, in 2011, the 10 MSAs with the lowest Chapter 13 filing rates were spread across 10 states; their rates were mostly higher than in 2008. The 10 MSAs with the highest Chapter 13 filing rates were all located in the same Southern states; their rates were mostly lower than in 2008, however.

**TABLE 1**  
**Bankruptcy Filing Rates and Housing Price Trends in Selected MSAs**

MSAs with lowest Chapter 7 filing rates			MSAs with lowest Chapter 7 filing rates		
MSA	Chapter 7 filing rate during 2008 fiscal year*	Housing price change from 2000 to 2008	MSA	Chapter 7 filing rate during 2011 fiscal year	Housing price change from 2008 to 2011
	Filings per 1,000 population	Percent change since 2000		Filings per 1,000 population	Percent change since 2008
Jacksonville, N.C.	0.32	68.76	McAllen-Edinburg-Mission, Texas	0.25	-2.47
College Station-Bryan, Texas	0.36	34.66	College Station-Bryan, Texas	0.27	9.11
Midland, Texas	0.44	80.50	Jacksonville, N.C.	0.27	-3.25
McAllen-Edinburg-Mission, Texas	0.45	34.72	Laredo, Texas	0.36	-4.69
Florence, S.C.	0.45	33.42	Florence, S.C.	0.37	-2.17
Odessa, Texas	0.46	76.58	Wilmington, N.C.	0.38	-20.69
Charleston-North Charleston-Summerville, S.C.	0.51	76.52	Odessa, Texas	0.40	4.49
Sumter, S.C.	0.51	44.78	Beaumont-Port Arthur, Texas	0.43	0.46
Wilmington, N.C.	0.51	79.87	Victoria, Texas	0.45	6.37
Corpus Christi, Texas	0.53	48.20	Corpus Christi, Texas	0.45	-2.92
MSAs with highest Chapter 7 filing rates			MSAs with highest Chapter 7 filing rates		
MSA	Chapter 7 filing rate during 2008 fiscal year	Housing price change from 2000 to 2008	MSA	Chapter 7 filing rate during 2011 fiscal year	Housing price change from 2008 to 2011
	Filings per 1,000 population	Percent change since 2000		Filings per 1,000 population	Percent change since 2008
Indianapolis-Carmel, Ind.	4.55	20.08	Lake Havasu City-Kingman, Ariz.	5.70	-41.86
Muncie, Ind.	4.69	15.55	Fort Wayne, Ind.	5.73	-3.78
Elkhart-Goshen, Ind.	4.70	23.41	Vallejo-Fairfield, Calif.	5.80	-50.12
Canton-Massillon, Ohio	4.91	17.30	San Luis Obispo-Paso Robles, Calif.	5.82	-52.39
Jackson, Mich.	5.12	20.08	Michigan City-La Porte, Ind.	5.85	-6.60
Kokomo, Ind.	5.37	8.72	Coeur d'Alene, Idaho	6.13	-27.32
Las Vegas-Paradise, Nev.	5.52	109.85	Anderson, Ind.	6.31	-5.79
Fort Wayne, Ind.	5.53	16.14	Las Vegas-Paradise, Nev.	7.60	-57.15
Anderson, Ind.	6.80	10.61	Bend, Ore.	7.75	-43.47
Jonesboro, Ark.	8.63	21.09	Jonesboro, Ark.	7.75	2.45

SOURCES: Administrative Office of the U.S. Courts/Haver Analytics and Federal Housing Finance Agency. \*Fiscal year ends June 30.

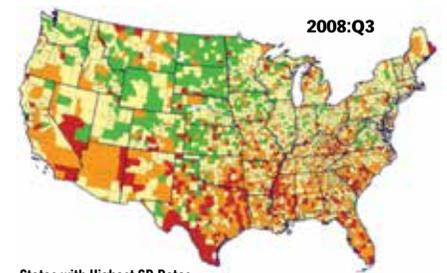
**The Role of House Price Changes**

Given the variation in bankruptcy filings across MSAs, it would be interesting to know how house price changes correlate with financial distress.<sup>5</sup> For example, one would guess that regions where house prices are appreciating would be more likely to witness low rates of bankruptcy filings. Conversely, regions with a steep decline in house prices would witness higher filing rates.

We compared 2008 bankruptcy rates with 2000-2008 housing price changes and

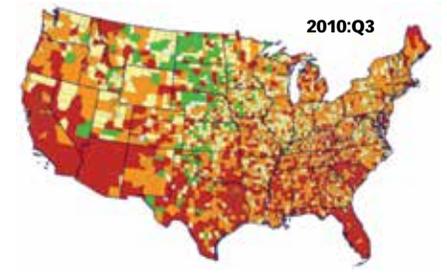
compared 2011 bankruptcy rates with 2008-2011 housing price trends. We found no clear pattern between Chapter 13 bankruptcy rates and housing prices; however, there is a significant inverse correlation between Chapter 7 filing rates and housing price changes. (See Table 1.) For the 10 MSAs with the lowest Chapter 7 filing rates in 2008, housing prices increased 58 percent between 2000 and 2008; the 10 MSAs with the highest Chapter 7 rates in 2008 experienced a 26 percent housing price increase. Clearly, the Las Vegas-Paradise

**FIGURE 1**  
**Evolution of U.S. Consumer Debt: The Serious Delinquency (SD) Rate**



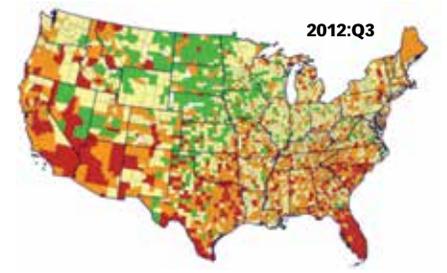
**States with Highest SD Rates**

Nevada	13.50%
Florida	12.58%
Texas	12.22%
Mississippi	11.68%
South Carolina	11.42%
<b>National Average</b>	<b>9.76%</b>



**States with Highest SD Rates**

Nevada	22.73%
Florida	20.98%
California	18.28%
Arizona	17.81%
South Carolina	15.63%
<b>National Average</b>	<b>13.97%</b>



**States with Highest SD Rates**

Nevada	18.53%
Florida	18.49%
California	14.58%
Arizona	14.09%
South Carolina	14.01%
<b>National Average</b>	<b>11.40%</b>

0% - 5.99%    6% - 9.99%    10% - 13.99%    14% and Up

SOURCE: Federal Reserve Bank of New York Consumer Credit Panel/Equifax.  
 NOTE: "Serious delinquency" refers to consumer debt that is at least 90 days past due.

MSA shows anomalous behavior: a significantly high filing rate alongside some of the highest appreciation of home prices in recent history.

In a similar fashion, the 2008-2011 housing price trends are correlated to differences in 2011 Chapter 7 filing rates. The 10 MSAs with the lowest Chapter 7 rates in 2011 had a 2 percent drop in housing prices between 2008 and 2011; the 10 MSAs with the highest Chapter 7 rates suffered a 29 percent drop in housing prices. Obviously, higher Chapter 7 bankruptcy filing rates are associated with deeper housing price declines. However, this does not imply causation. Here, too, there are exceptions to this behavior: The Wilmington MSA in North Carolina witnessed a significantly large decline in home prices without a concomitant increase in bankruptcy rates. These results seem to suggest that home price changes have a strong association with the financial condition of the household—however, further research is needed to better understand the degree and nature of this association. <sup>1</sup>

Rajdeep Sengupta is an economist and Yang Liu is a senior research associate, both at the Federal Reserve Bank of St. Louis. For more on Sengupta's work, see <http://research.stlouisfed.org/econ/sengupta/>

ENDNOTES

- <sup>1</sup> See Liu and Sengupta.
- <sup>2</sup> This article analyzes only the 48 states in the continental U.S. and the District of Columbia (D.C.), which is considered a state in this case.
- <sup>3</sup> A brief discussion and comparison of bankruptcy under Chapter 7 and Chapter 13 can be found in Li and White (2011).
- <sup>4</sup> 2011 data are the most recent observations. It is important to note that under the 2005 bankruptcy law, filings under Chapter 7 are means-tested using state median incomes. Therefore, filing rates in a given MSA could be higher depending on how the incomes of individuals in the MSA compare with those in the state.
- <sup>5</sup> See Li.

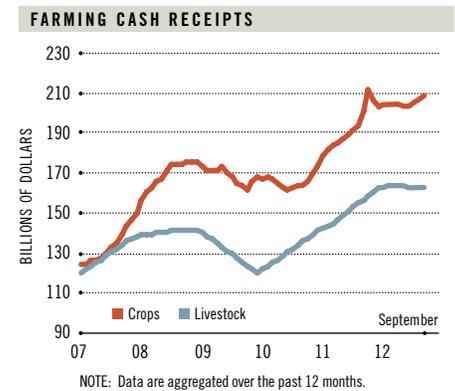
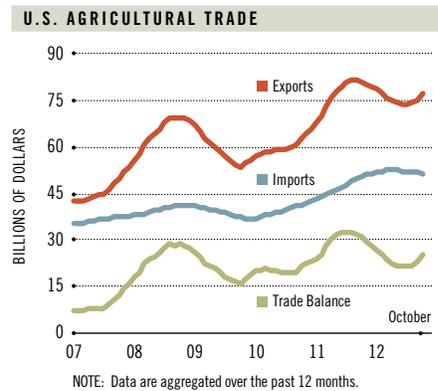
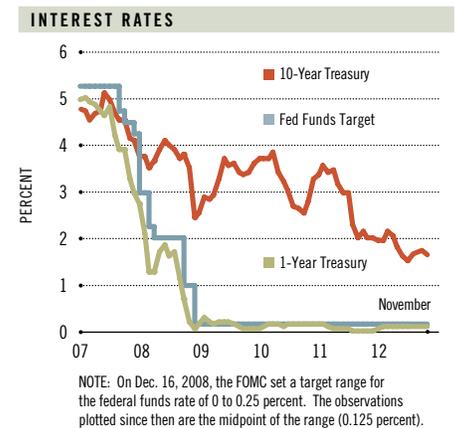
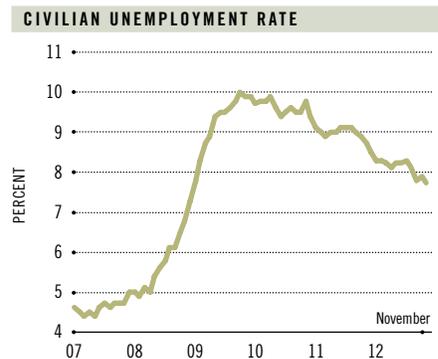
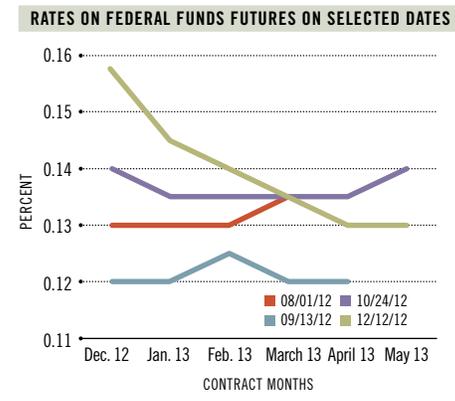
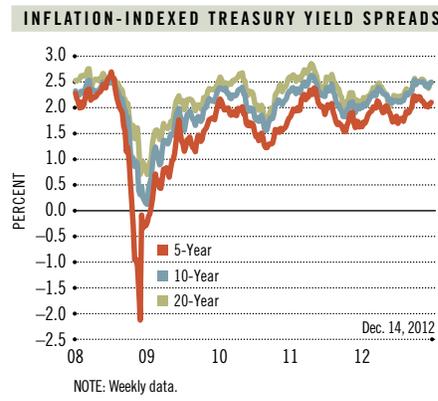
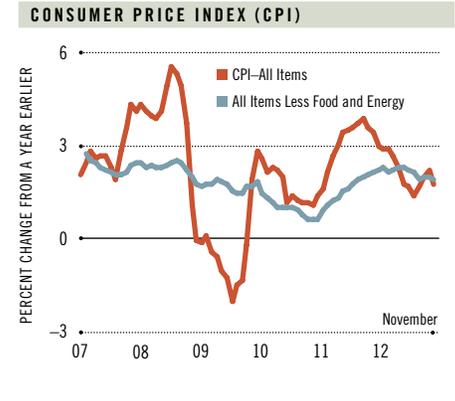
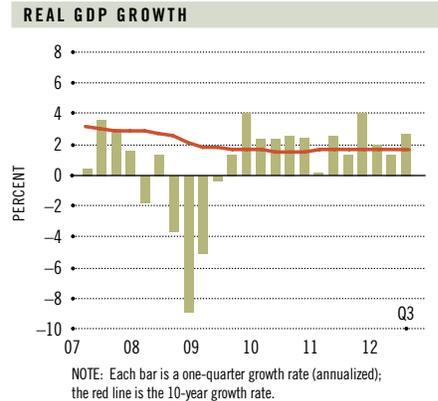
REFERENCES

Li, Wenli. "Residential Housing and Personal Bankruptcy." Federal Reserve Bank of Philadelphia *Business Review*, 2009 Q2, pp. 19-29.

Li, Wenli; and White, Michelle. "Did Bankruptcy Reform Cause Mortgage Defaults To Rise?" *American Economic Journal: Economic Policy*, November 2011, Vol. 3, No. 4, pp. 123-47.

Liu, Yang; and Sengupta, Rajdeep. "Household Financial Stress Declines in the Eighth District." The Federal Reserve Bank of St. Louis' *The Regional Economist*, October 2012, Vol. 20, No. 4, pp. 20-21.

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 are specific to the Eighth District. To see these charts, go to [stlouisfed.org/economyataglance](http://stlouisfed.org/economyataglance)





# STAYED IN AMERICA

## Manufacturing Jobs Aren't Leaving Seymour, Ind.

PHOTO BY SUSAN C. THOMSON

By Susan C. Thomson

Hundreds of skilled manufacturing jobs that were at risk for leaving this country are bound instead for Seymour, Ind. A plant in the city won them by outbidding two sister factories overseas for the opportunity to build a new line of sophisticated high-horsepower engines for power plants and other heavy industries.

“The competition was Europe and India,” but the local plant prevailed on its record of safety, quality and profitability, says Darren Wildman, manager of the Seymour location of Cummins, an international company based in Columbus, Ind.

On the basis of that 2010 decision, the plant has embarked on a \$219 million expansion that will roughly double factory space and add an office building and warehouses. The new jobs have begun arriving, boosting employment at the plant by about 200 since then. Wildman estimates that when the project wraps up in 2015, Cummins will employ about 1,200 people in

town, many of them engineers and other professionals at an average wage of \$38 an hour.

Along with those jobs, the area stands to gain up to \$5 million from a special Indiana state tax incentive that the plant won for being a growing high-technology business. The proceeds from the tax incentive will be turned over to the community to support its ongoing workforce training.

That has been a priority since local leaders realized several years ago that postsecondary education “was not at a level that it needed to be” for purposes of economic development, says C.W. “Bud” Walther, president of the Community Foundation of Jackson County, where Seymour is located. The result was the Jackson County Education Coalition. The group’s several initiatives came to major fruition in 2010 with the opening of the \$2.4 million Jackson County Learning Center, a one-stop location for two- and four-year college

**Above:** A major expansion is under way at the Cummins plant after it was chosen over plants in Europe and India to build a new line of engines. Employment at the Seymour plant is expected to more than double by 2015.



### Seymour/Jackson County, Ind. by the numbers

	CITY	COUNTY
Population	18,283*	42,966*
Labor Force	NA	21,441**
Unemployment Rate	6.4%*	6.5%**
Per Capita Personal Income	NA	\$32,941***

\* U.S. Census Bureau, 2011 estimate.  
 \*\* BLS/Haver, October 2012, seasonally adjusted.  
 \*\*\* BEA/Haver, 2011.

#### LARGEST EMPLOYERS

Aisin U.S.A. Manufacturing Inc.	1,777
Valeo Sylvania	1,250
Walmart Distribution and Transportation	1,105
Schneck Medical Center	862
Cummins	515
Kremers Urban Pharmaceuticals	511

SOURCE: Jackson County Industrial Development Corp.



© PHOTO COURTESY OF THE TRIBUNE NEWSPAPER (SEYMOUR, IND.)

**Above:** Industry and other community leaders have emphasized postsecondary education to ensure a trained workforce in the Seymour area. At the Jackson County Learning Center, which opened in 2010 at a cost of \$2.4 million, adult students can take classes in job-related skills and toward high school diplomas and college degrees.

**Above right:** At auto parts maker Aisin U.S.A. Manufacturing, employee Gordon Bell works on a seat adjuster. Aisin is the largest employer in town. It was the first North American plant for its parent company, Aisin Seiki Co. Ltd. of Japan.



PHOTO COURTESY OF AISIN U.S.A. MANUFACTURING

classes, GED preparation and job-related short courses.

To Dan Hodge, executive director of the coalition, its overarching purpose is clear. “We have to do a better job to prepare people for some of these new high-tech jobs,” which especially require a more rigorous math and science background than the factory jobs of the past, he says.

Such a philosophy is consistent with that of the Cummins plant, Wildman says. The plant has its own in-house continuing education programs. “We want to drive improvement in our employees’ knowledge,” he says.

The Cummins project represents “the largest investment at any one time in Seymour,” says Jim Plump, executive director of the Jackson County Industrial Development Corp. Add the company’s \$5 million investment in workforce education, and the benefits will accrue “for many years to come.”

Cummins was but one contributor to the 500 jobs Plump calculates Seymour gained in 2012, a banner year by that measure. By fall, the city’s unemployment rate had dropped to 6.4 percent—a far cry from the city’s spike above 12 percent in June 2009.

### Dependence on Auto Industry

That roller-coaster rate is, to a great extent, a barometer of the global auto industry and Seymour’s dependence on it by way of its top two employers, parts makers Valeo Sylvania and Aisin U.S.A. Manufacturing.

Valeo Sylvania has deep roots in Seymour, where it began in the 1970s as GTE Sylvania. It is now a joint German-French venture, making headlamps and other automotive

lighting products. Its long-term record has been one of “consistent expansion” and “good-paying technical kinds of jobs,” says David Geis, president and chief executive of Jackson County Bank.

Aisin is the newer arrival, the first North American plant for its parent, Aisin Seiki Co. Ltd. of Japan. The Seymour plant makes door frames, latching systems, trim molding and other auto parts. It began small, with about 100 people, in the mid-1980s, which was about the same time that its first client, the Toyota plant 120 miles away in Georgetown, Ky., opened for business. Other customers, foreign and domestic, quickly followed, and the plant grew exponentially.

Seymour lies on Interstate 65, roughly halfway between Louisville, Ky., and Indianapolis, Ind. The town is also a two- to three-hour interstate drive away from several auto plants. Given the geography, it makes sense to Plump that the city should have become a center of auto parts making.

Seymour’s growing dependence on that sector became evident during the recession, when, according to Plump, both parts companies were “very hard hit.” They weren’t alone, however. “Hundreds of jobs were lost across the board, even at the Walmart distribution center,” he adds.

At Aisin during that tough time, employees “had to make a lot of sacrifices,” recalls Shawn Deppen, general manager—corporate production department. Salaried staff took pay cuts, hourly workers’ pay was frozen and retirement incentives were offered, he says. Then, when the industry came back, “it came back strong,” bringing Aisin along with it.

By 2012, Valeo Sylvania also was back on what Geis describes as “a good path.” The year found both suppliers in “fast forward” gear again, announcing plant additions and winning state tax credits tied to the creation of 300 jobs between them. Both were also granted 10-year phase-ins of their incremental local real estate and personal property taxes. The deals are typical of those the Industrial Development Corp. puts together for companies relocating to or expanding in Seymour. Cummins, in addition to its special high-tech award, previously received a similar package of state and local incentives.

So did Pet Supplies Plus. The expanding chain of more than 250 stores in 23 states closed two existing distribution centers in

Michigan and consolidated those operations in Seymour in 2012, hiring more than 200 people, including temporaries and part-timers.

Although small by Seymour standards, the company brought what Plump sees as a welcome element of needed diversification to an automotive-dominated economic base. Toward that end as well, he views Kremers Urban Pharmaceuticals as coming on promisingly strong. The fast-growing maker of generic drugs, once a small Seymour start-up, was acquired in 2006 by Belgium-based UCB. The company hires, among others, chemists and physicists, including Ph.D.s, for “excellent high-paying jobs,” he says.

### Luring New Talent to Town

These are not the kinds of employees readily available in such a small town, nor are the professionals Cummins will continue to hire. Carolyn Ruml, human resources manager at the new Pet Supplies Plus distribution center, says she had to look elsewhere for managers and supervisors. The same goes for physicians, says Gary Meyer, president and chief executive of Jackson County-owned Schneck Medical Center.

The 94-bed center, which underwent \$60 million in renovations and additions between 2006 and 2009, is “a big, big selling point” for Seymour, Plump says.

The same can’t be said for downtown. Mayor Craig Luedeman concedes it has seen more vibrant days. Those were before the mom-and-pop stores began losing business to the chain restaurants, stores, gas stations and motels that now line the two-mile stretch of Highway 50 leading into town from the interstate.

However, with income from a citywide tax increment financing district, some downtown storefronts are being upgraded, Luedeman says. Those measures will still leave the downtown ringed with blocks and blocks of tiny homes dating to the mid-1900s, evidence of what he and others agree is Seymour’s biggest shortcoming when it comes to attracting residents.

“We need higher-end apartments and houses,” the mayor says. “Our industries tell us that.”

As they hire more new employees from out of town, the overriding question on many local minds is where these people are going



to live. Newer, larger, more-attractive houses can be found on the fringes of town, but new construction has recently been limited, says banker Geis. In his view, the more pressing need is upscale apartments “with nice amenities” like swimming pools. Newcomers will likely be happy to rent for a couple of years before they buy, he theorizes.

An immediate alternative is Columbus, Cummins’ headquarters city, 20 miles north on Interstate 65, where Wildman, for instance, chooses to live. It’s also not unheard of for workers to commute to Seymour from Indianapolis or Louisville. [Q](#)

---

*Susan C. Thomson is a freelance writer and photographer.*



**Top:** The 94-bed Schneck Medical Center helps Seymour attract new industries and residents.

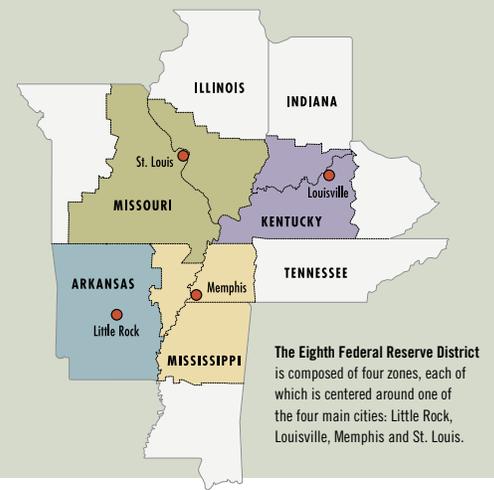
**Middle:** Officials say the city’s most critical need is more and newer housing. Blocks of small houses like these, dating from the mid-20th century, surround downtown.

**Bottom:** Income from a tax increment financing district is paying for some cosmetic improvements to buildings downtown, which has lost retail business to the road to Interstate 65.

PHOTOS BY SUSAN C. THOMSON

# Multifamily Rental Housing Is Growing: “Yesterday’s Buyer Is Today’s Tenant”

By Silvio Contessi and Li Li



While housing prices are recovering slowly from the bursting of the bubble, there’s one segment of the real estate market that has seen robust growth: multifamily housing (buildings with more than four residential rental units). Activity in this segment has been expanding both in terms of rising apartment rents and declining vacancy rates.

In this article, we consider the period between 2006:Q1 and 2009:Q2 as the period when the bubble burst and the quarters between 2009:Q2 and 2012:Q3 as the recovery period.

As shown in the figures, the nation’s weighted average asking rent for apartments increased by 5.0 percent during the recovery period, while the nation’s vacancy rate for apartments decreased from 7.7 percent in 2009:Q2 to 4.6 percent in 2012:Q3. All of the major urban areas of the Eighth District—Little Rock, Louisville, Memphis and St. Louis—showed very similar changes for “asking rents,” and all but one of these urban areas—Memphis—did the same for “vacancy rates.”

## The Dynamic of Housing Prices<sup>1</sup>

In terms of housing price indexes, until 2012, the Eighth District performed better than the average national level during the housing contraction and the recovery periods. During the 13 quarters of contraction, home prices in the four zones of the District—zones based in Little Rock, Louisville, Memphis and St. Louis—fell by 10.3 percent on average (weighted by population), substantially less than the nation’s contraction of 29.3 percent. Prices in the Little Rock and Louisville zones fell by only 3.3 percent and 2.0 percent, respectively, while prices in the Memphis and St. Louis zones fell by 13.3 and 12.5, respectively.<sup>2</sup>

The Eighth District’s zones show some diversity in the pace of the recovery of home

prices. As of the third quarter of 2012, the available data indicate that the Little Rock and Louisville zones were experiencing positive year-over-year growth in home prices, while the Memphis and St. Louis zones were still suffering declines. Among the four zones, the housing market in the Little Rock Zone has suffered the least. For the first three quarters of 2012, the Little Rock Zone had consecutive positive growth rates on a year-over-year basis, while the other three zones had at least one quarter with a decline or no growth at all.

Meanwhile, the nation’s year-over-year growth rate in house prices was, at first, lower than the growth rates in the Little Rock, Louisville and Memphis zones, but interestingly, starting at the beginning of 2012, the nation’s growth rate gradually outpaced those of the four zones. In the third quarter of 2012, the year-over-year growth rate for the nation was 4.4 percent, almost twice as high as the growth rate of home prices in the Little Rock Zone.

## Strong Multifamily Rentals

“Yesterday’s buyer is today’s tenant,” one real estate agent in the Eighth District recently said. Multifamily rental activity has been the bright spot of the housing market since mid-2010. Both data and anecdotal evidence suggest a robust increase in apartment rents, as well as a continuous decrease in vacancy rates. During the recovery period, the “asking rent” for apartments in the MSAs of Little Rock, Louisville, Memphis and St. Louis increased by 6.6 percent, 5.9 percent, 4.7 percent and 4.3 percent, respectively, while the nation’s increased by 5.0 percent.

In the third quarter of 2012, vacancy rates in the Little Rock, Louisville, Memphis and St. Louis MSAs and in the nation declined to

6.0 percent, 4.3 percent, 9.1 percent, 5.9 percent and 4.6 percent, respectively, reaching their lowest levels since 2002 (Figure 2). During the recovery period, apartment vacancy rates in Little Rock, Louisville, Memphis and St. Louis dropped by 31.0 percent, 37.7 percent, 24.8 percent and 33.0 percent, while the nation’s fell by 40.3 percent.

Among the four MSAs, Louisville’s performance is outstanding: The vacancy rate has been below the national level since the first quarter of 2009 and far below Louisville’s precrisis levels. According to a real estate agent in Louisville, for the attractive projects, the average occupancy rate in the third quarter of 2012 was 96-97 percent and waiting lists have become common. As the market for apartments expands, the Louisville data also point to an increase of permits for this segment of the market, which has been recovering steadily since 2008.

## Reasons

What explains the fast-closing gap between the demand and supply of apartments? First, the availability of finance has become an important barrier for potential homeowners. Despite the historically low mortgage interest rates and the high housing affordability index, many prospective buyers for new and existing homes are being rejected by mortgage providers due to underwriting standards that are stricter now than before the real estate crisis. According to several real estate agents in the Eighth District, applicants with even the slightest blemishes on their credit records are being refused mortgages, even if they are well-employed.

Second, potential first-time homebuyers are facing competition from investors, who can pay cash up front. Private investors, real

estate investment trusts (REITs), public and private pension funds, and venture capitalists are becoming more active in the housing market. Some of these companies, such as venture capital enterprises, pool financial resources to invest in the apartment segment, anticipating hefty profits from “buy now and sell later” strategies. One indicator of the success of this strategy is that the stock price of apartment REITs increased by roughly 325 percent from February 2009 until August 2012, while all REITs and the S&P 500 increased by 210 percent and 120 percent, respectively, during the same period.<sup>3</sup> One homebuilder described the market as a “capital-starved” industry.

Third, renting has become more appealing to younger people who, before the crisis, would have been eager homebuyers. In part, this is a response to changes in lifestyle, as younger more-educated households prize their mobility and flexibility; they are also discouraged by the substantial responsibilities, costs and, especially, risks attached to homeownership. In the end, they are more willing to pay rent than to own equivalent properties. Another reason for younger generations to be skittish about buying homes stems from their being scarred by the labor market outcomes of the Great Recession; they are having trouble finding jobs that match their skills—or finding any job.

### What Does the Future Hold?

The robust multifamily rental market is triggering a strong response in the multifamily construction segment. Anecdotal evidence suggests that multifamily developers have intensified the search for new projects; even those companies that normally focus on offices are looking to invest in multifamily housing. As supply adjusts, the increase in rents could decelerate.

While the multifamily segment is sending positive signals through most of the Eighth District, its developments have also raised some concerns.

In particular, the target home size of move-up homebuyers is shrinking. Traditional real estate markets consist of first-time buyers and repeat buyers, whether move-up, move-across or move-down. Before the crisis, first-time buyers would easily and relatively quickly move up and acquire larger, pricier homes. The current

residential market, however, is characterized by an increased presence of investors, far fewer first-time buyers and a declining number of move-up buyers.<sup>4</sup> In the current environment, traditional buyers have much less room to maneuver because of difficulties in accessing mortgage financing, either through first mortgages or through refinancing. As a result, either by choice or by force, many households are currently paying rent that is substantially higher than the mortgage payment for an equivalent property. These higher payments are probably curtailing consumer spending on other goods and services.

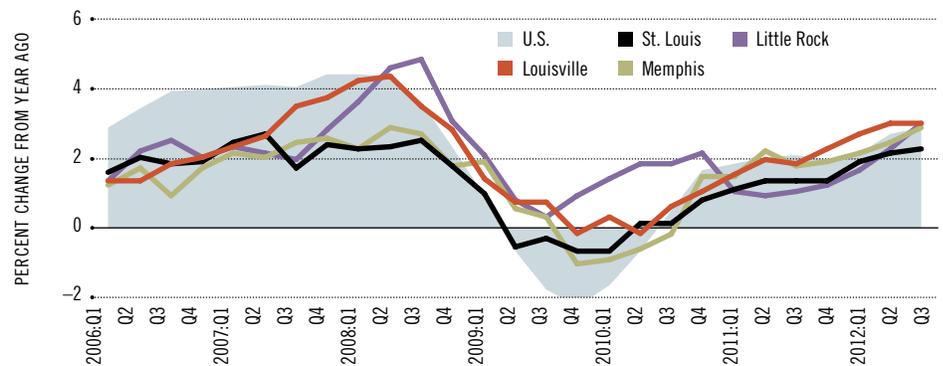
What’s more, homeownership has declined significantly during the recovery period. For example, homeownership rates in Louisville, Memphis and St. Louis have

### ENDNOTES

- <sup>1</sup> In this article, home prices are measured by the CoreLogic Home Price Index (HPI), which includes distressed sales, unless otherwise specified. The HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancing on the same properties in 363 metropolitan areas. The aggregated home price index for the four zones—Louisville, Little Rock, Memphis and St. Louis—is calculated as the average of the home price indexes of the counties within the zones, weighted by population. The same methodology was used for home prices for the Eighth District.
- <sup>2</sup> Cohen, Jeffrey P.; Coughlin, Cletus C.; and Lopez, David A. “The Boom and Bust of U.S. Housing Prices from Various Geographic Perspectives.” *Federal Reserve Bank of St. Louis Review*, September/October 2012, Vol 94, No. 5, pp. 341-67.
- <sup>3</sup> “Apartment REITs Surging.” See [www.nuwireinvestor.com/articles/apartment-reits-surging-59880.aspx](http://www.nuwireinvestor.com/articles/apartment-reits-surging-59880.aspx)
- <sup>4</sup> “Repeat Home Buyers a Rare Breed.” See [www.sfgate.com/realestate/article/Repeat-home-buyers-a-rare-breed-3829628.php](http://www.sfgate.com/realestate/article/Repeat-home-buyers-a-rare-breed-3829628.php)

FIGURE 1

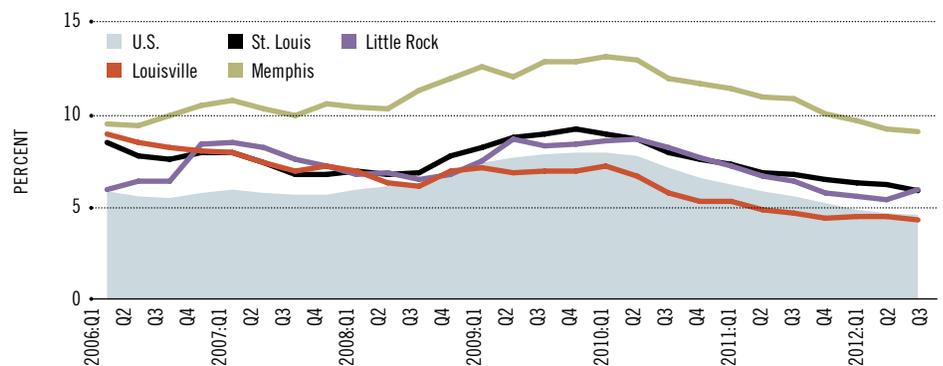
### Asking Rents for Apartments Increase for All Four Metropolitan Statistical Areas (MSAs)



SOURCE: Reis.com.

FIGURE 2

### Vacancy Rates for Apartments Continue To Decline for All Four MSAs



SOURCE: Reis.com.

decreased by 8.0 percent, 5.3 percent and 0.6 percent, respectively (data for Little Rock are not available), while the nation’s rate has decreased by 2.9 percent.

*Silvio Contessi is an economist and Li Li is a research associate, both at the Federal Reserve Bank of St. Louis. For more on Contessi’s work, see <http://research.stlouisfed.org/econ/contessi/>*

## Fiscal Uncertainty Clouds Outlook for Growth

By Kevin L. Kliesen

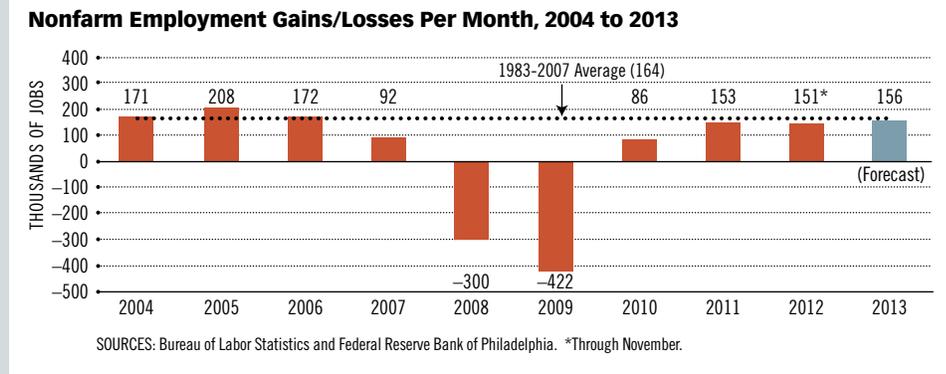
The U.S. economy continues to expand at a modest pace. By and large, businesses and consumers remain cautious spenders, although the housing sector is experiencing relatively strong growth. Average monthly job gains through the first 11 months of 2012 (151,000) were running about the same as the gains for all of 2011 (153,000). Still, the unemployment rate remains well above its natural rate. Despite last summer's drought, which caused some commodity prices to skyrocket, inflation pressures are generally in check. A wild card for the economy remains the near-term outlook for fiscal policy. Should the economy plunge over the so-called fiscal cliff, many forecasters expect a recession to follow shortly thereafter.

### Sluggish Growth ... Still

The economy is on track for the third consecutive year of real GDP growth of about 2 percent. After growing at a 1.6 percent annual rate over the first half of 2012, the U.S. economy grew at a healthy 3.1 percent annual rate in the third quarter. Heading into the fourth quarter of 2012, though, forecasts and key data flows pointed to a significant slowing in the pace of growth—perhaps to about 1.25 percent or less.

Early in the recovery, the economy benefited from a vigorous manufacturing sector, which was powered by strong growth of business capital spending and goods exports. These gains, however, were tempered by a moribund construction sector, which was reeling from the residential and commercial real estate bust.

But the tables have turned. Now, the residential housing sector is exhibiting strong growth, and the manufacturing sector is sputtering. Bolstered by low mortgage rates



and relatively low prices, housing starts and home sales strengthened appreciably in 2012. With the inventory of new and previously-sold (existing) homes on the market dropping to levels last seen in late 2001, house prices are expected to continue rising, though at a modest pace.

Normally, rising house prices and a resurgence in homebuilding trigger a rapid rise in consumer expenditures on durable goods. And, indeed, consumer outlays for durable goods such as automobiles and appliances remained strong in the third quarter. Meanwhile, spending on services—the largest part of consumer spending—and nondurable goods remained rather tepid. Rising levels of consumer confidence and extremely low interest rates usually point to solid gains in household spending, but a continuation of modest after-tax real income growth will likely keep total consumer spending growing at a moderate pace.

Exports and business spending on capital goods (equipment, machinery and structures), which were sources of strength during much of this business expansion, slowed markedly in 2012. The downshift in business capital spending is especially significant because firms, being forward-looking, adjust their planned outlays in response to changing business conditions. With profit margins still relatively wide, much of the weakness in capital spending probably stems from relatively high levels of uncertainty about the fiscal cliff and its effects on the economy. A second concern is the soft global economy. Europe is in a recession, and several key Asian economies, which are important markets for U.S. manufacturers, have experienced weaker growth.

Going into 2013, uncertainty about the near-term outlook is, thus, higher than

normal. Nevertheless, equity prices in 2012 were up by about 13 percent through the fourth week of December, financial stresses remained below average and commercial bank loan growth, while moderate, was on pace to post its largest increase in four years. In short, if the impediments that are restraining business capital spending and exports wane, then the economy could grow by more than expected in 2013. However, an extremely large federal budget deficit probably means that fiscal policy will contribute little, if any, to the economy's near-term growth.

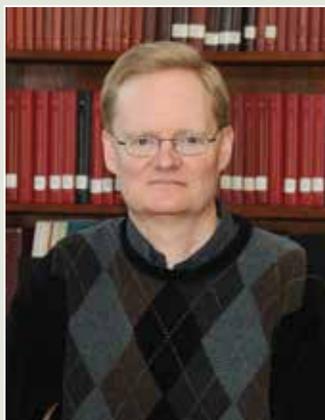
### Inflation

Inflation was relatively subdued in 2012. Through November, the headline Consumer Price Index (CPI) was on pace to rise by about 2 percent in 2012 after rising by 3 percent in 2011. This slowing occurred primarily because of smaller increases in food and energy prices. The slowing in food price inflation could be only temporary, thanks to last summer's drought. Faster global growth in 2013 and a further strengthening in the housing sector could also put upward pressure on inflation in the new year—the former because of rising energy and commodity prices, the latter because of upward pressure on rents (via rising home prices). Together, food, energy and the implicit rental cost facing households comprise slightly less than 50 percent of the CPI basket. For the present, the near-term inflation outlook remains fairly stable, and inflation expectations appear quiescent. [Q](#)

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/kliesen/> for more on his work.

ASK AN ECONOMIST

**David Wheelock**, vice president and economist at the St. Louis Fed, is deputy director of the Research division. His research interests are financial and monetary history—especially the Great Depression—and banking. His outside interests include traveling, playing trumpet in the University City Symphony Orchestra and helping to coach his son’s sports teams. For more on Wheelock’s work, see <http://research.stlouisfed.org/econ/wheelock/>



*Q. Does the Fed’s regional structure play a role in monetary policy?*

**A.** The regional structure of the Federal Reserve System plays an important role in determining U.S. monetary policy. The Federal Open Market Committee (FOMC), which is the Fed’s primary monetary policymaking body, is comprised of all members of the Fed’s Board of Governors and five of the 12 Reserve bank presidents. The president of the Federal Reserve Bank of New York is a permanent member of the FOMC, while the presidents of the other Reserve banks serve as members on a rotating basis. However, all 12 Reserve bank presidents participate in the committee’s deliberations; those who are not currently voting members contribute as much to the discussion around the FOMC table as those who are. At the meetings, the presidents report on economic conditions in their districts and offer their views and perspectives on appropriate monetary policy.

In addition to helping bring information about economic conditions throughout the country to bear in setting policy, the Fed’s regional structure contributes to the deliberative process by giving a voice to diverse views about policy that come from the economic research functions of the Reserve banks. Each Reserve bank has a staff of economists who support their president in his or her role on the FOMC. Having 13 different research divisions throughout the system (including that of the Board of Governors) facilitates a healthy competition of ideas. For example, in the 1960s and 1970s, the president of the Federal Reserve Bank of St. Louis, with supporting research by his staff economists, challenged the conventional wisdom about the cause of inflation. He argued that monetary policy alone is responsible for determining a country’s long-term rate of inflation. The Fed’s regional structure enabled the St. Louis Fed president’s views to be heard at the FOMC table, and eventually his views became the conventional wisdom.

As the example shows, the structure of the Fed promotes a diversity of views and helps to avoid a groupthink mentality. Ultimately, this helps bring about better monetary policymaking.

LETTER TO THE EDITOR

This is in response to the “Ask an Economist” column in the October issue of *The Regional Economist*. The question was: Why doesn’t the U.S. return to the gold standard so that the Fed can’t “create money out of thin air”? The question was answered by St. Louis Fed economist David Andolfatto.

**Dear Editor:**

Continuing with the answer given to the gold standard question, here’s a follow-up question: Isn’t it a fact that all the major currencies of the world are no longer based on the gold standard (since Aug. 15, 1971)? Doesn’t this mean that the United States, as a sovereign nation and the sole issuer of the dollar, no longer has to borrow gold in order to create its sovereign currency? Which leads to the fact that the United States cannot ever run out of dollars. The only limit on creating dollars out of thin air is the fear of inflation. The Fed targets this by managing the interest rates and by bond purchases. Isn’t this true? Why doesn’t the Fed come out and say these in clear terms and in plain English so that the citizens of the United States can understand? By being silent, the Fed is feeding the debt hysteria that is gripping this nation and destroying its productivity and creativity.

**Gopinath Pulyankote**, IT manager in Santa Clara, Calif.

**Author’s Response:**

Not only is it true that major currencies of the world are no longer tied to the value of gold, I think it is reasonable to assume that this knowledge is widespread. The great peacetime inflation of the 1970s showed U.S. citizens what happens with excessive money growth. Thus, I think you go too far in suggesting that the Fed is somehow keeping this knowledge suppressed. Please go the Fed’s web site for more information; see here: <http://www.federalreserve.gov/pf/pf.htm>

The Fed’s main goal, publicly announced, is to keep prices “stable” in the sense of maintaining an inflation target of 2 percent. I am not sure what you mean by suggesting that the Fed’s silence along the gold standard dimension is feeding a debt hysteria. The concerns with debt have to do with the fact that Congress continues to approve deficit spending, with the debt-to-GDP ratio rising rapidly to unsustainable levels. The Fed is not promising to monetize this debt, as long as one believes in the 2 percent inflation target. If the Fed were to use its powers to create money out of thin air to monetize the debt forever, then history tells us that holders of U.S. dollar-denominated securities will be subject to a heavy inflation tax. The Fed believes that taxation should be left to an elected Congress, not an unelected body in charge of maintaining a smoothly operating payments system.

We welcome letters to the editor, as well as questions for “Ask an Economist.” You can submit them online at [www.stlouisfed.org/re/letter](http://www.stlouisfed.org/re/letter) or mail them to Subhayu Bandyopadhyay, editor, *The Regional Economist*, Federal Reserve Bank of St. Louis, Box 442, St. Louis, MO 63166. To read other letters to the editor, see [www.stlouisfed.org/publications/re/letters/index.cfm](http://www.stlouisfed.org/publications/re/letters/index.cfm)



## FEDERAL RESERVE BANK of ST. LOUIS

CENTRAL to AMERICA'S ECONOMY®

P.O. Box 442  
St. Louis, MO 63166

STLOUISFED.ORG

### N E X T I S S U E



## Banks vs. Credit Unions: 14 Years Later

It has been 14 years since President Clinton signed the Credit Union Membership Access Act, which allowed credit unions to serve broader groups of members. The banking industry fiercely opposed the legislation as unfair. Has the competitive landscape between banks and credit unions changed? Find out in the April issue of *The Regional Economist*.

## Research Symposium To Focus on Household Financial Stability

Registration is still open for a research symposium at the St. Louis Fed **Feb. 5-7**. The symposium is titled "Restoring Household Financial Stability after the Great Recession: Why Household Balance Sheets Matter." Through commissioned papers, keynote speeches and a competitive call for papers, this conference will highlight the critical role of household balance sheets in restoring household financial stability and national economic growth.

Keynote speakers will include **Michael Barr**, former assistant secretary for financial institutions at the Treasury and current professor at the University of Michigan Law School; **Christopher Carroll**, professor of economics at Johns Hopkins University; and Federal Reserve Governor **Jeremy Stein**.

The symposium is sponsored by the Federal Reserve Bank of St. Louis' Household Financial Stability initiative, the Bank's Research department and the Center for Social Development at Washington University in St. Louis. Registration, which is **free**, closes **Jan. 29**. For more information, see [www.stlouisfed.org/event/46CB](http://www.stlouisfed.org/event/46CB)

## HOUSEHOLD FINANCIAL STABILITY



**FOLLOW THE FED** | [Twitter](https://twitter.com/stlouisfed) | [Facebook](https://www.facebook.com/stlouisfed) | [YouTube](https://www.youtube.com/stlouisfed) | [LinkedIn](https://www.linkedin.com/company/stlouisfed) | [Instagram](https://www.instagram.com/stlouisfed) | [S](https://www.stlouisfed.org)