Economic Trends

May 2013 (April 13, 2013-May 17, 2013)

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Banking and Financial Markets

An Enhanced Approach to Measuring Financial Stress

4.19.13
by Timothy Bianco

Financial regulators have been working for some time on ways to identify and mitigate financial crises. One line of work has been in developing financial stress indexes that would alert regulators to instability building in the financial system.

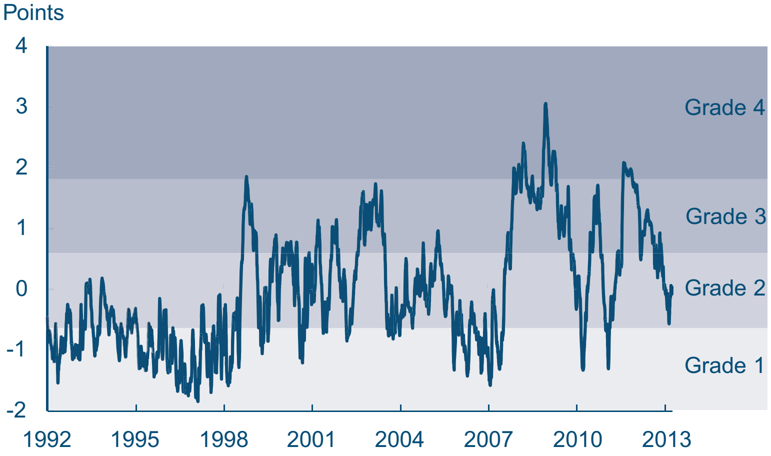
The Cleveland Financial Stress Index (CFSI) is one such index. The CFSI monitors stress in the overall financial system by tracking conditions in different types of financial markets. Two new markets have just been incorporated into the index, making it more sensitive to potential instability. The CFSI now tracks six types of markets: funding markets, credit markets, equity markets, foreign exchange markets, and the two new markets, real estate markets and securitization markets. Real estate and securitization markets were key contributors to the depth and duration of the 2008 financial crisis, and incorporating them into the stress index enhances the ability of the CFSI to detect emerging instability as it occurs.

Because early detection is critical, the CFSI will now be updated daily. When stress occurs in multiple markets, overall financial stress can be amplified. Daily updates will give regulators and financial analysts the ability to track the reaction of markets to specific economic events and monitor stresses as they are building.

In recent months, the CFSI has remained low, as key financial conditions continued to improve. After falling to a recent low of –0.57 on March 14, 2013, the index's latest reading stands at 0.03. The current reading of 0.03 places the level of stress in Grade 2, a "normal stress" period. The index is down 0.86 units over the previous 12 months and nearly 3.03 points since its peak in December 2008.

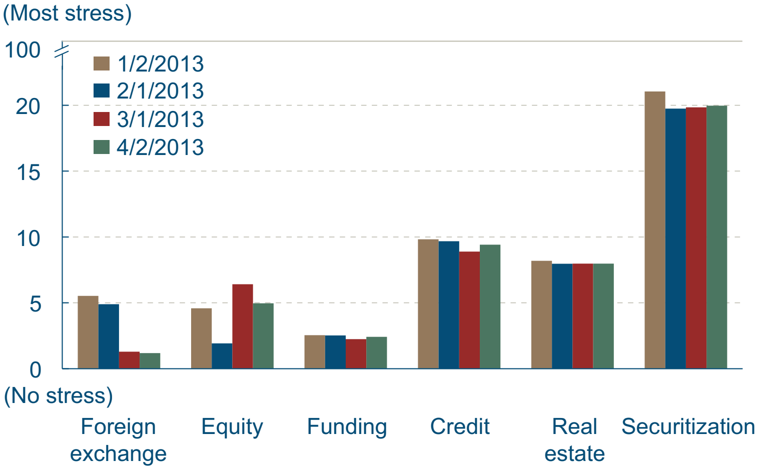
Stress in each of the component submarkets can also be analyzed by decomposing the CFSI into the contribution each market makes to the total level of system stress. The individual components

Cleveland Financial Stress Index



Source: Oet, Bianco, Gramlich, and Ong (2012).

Relative Stress-Level Contributions of Component Markets to CFSI



Note: These contributions refer to levels of stress, where a value of 0 indicates the least possible stress and a value of 100 indicates the most possible stress. The sum of these contributions is the level of the CFSI, but this differs from the actual CFSI, which is computed as the standardized distances from the mean, or the z-score.

of the CFSI were elevated at the beginning of 2012—though not to the same degree as during the financial crisis—but as the year progressed, stress in many of these markets decreased, indicating that the potential for widespread stress had fallen. So far in 2013, the CFSI's securitization market component has been contributing the most to the overall level of stress, while the foreign exchange and funding markets have been contributing little.

For more information on the Federal Reserve Bank of Cleveland's CFSI, please visit http://www.clevelandfed.org/research/data/financial_stress_index/.

For the working paper "Financial Stress Index: A Lens for Supervising the Financial System" visit http://www.clevelandfed.org/research/workpaper/2012/wp1237.pdf.

For more on the individual components of the CFSI visit http://www.clevelandfed.org/research/data/financial_stress_index/components.cfm?id=1.

The Delayed Recovery of Investment in Nonresidential Structures

05.06.13

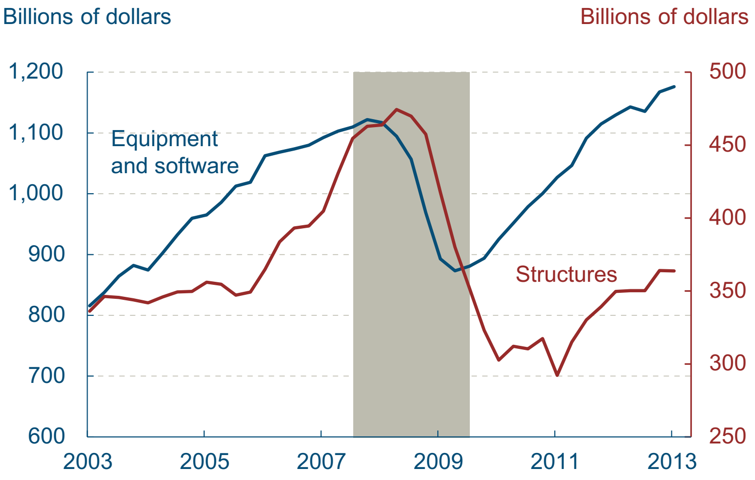
by Margaret Jacobson and Filippo Occhino

While real GDP has long passed its pre-recession peak, business fixed investment is still 4 percent below its previous high. This is mainly due to the delayed recovery of one of its components, investment in nonresidential structures (factories, plants, office buildings, stores, hospitals etc.). This investment category dropped by 35 percent in the years 2008-2009 and didn’t begin to recover until mid-2011, two years after the recession ended. Since then, it has been growing fast, but it is still 23 percent below its peak. In contrast, investment in equipment and software, the other component of business fixed investment, dropped by 20 percent during the recession, began to pick up right when the recovery started, rapidly bounced back, and is now 4.8 percent above its previous peak.

Investment activity across industries followed a similar pattern. Investment in equipment and software tended to reach bottom in 2009, the year the recession ended, while investment in structures tended to remain depressed throughout 2011 (the most recent year for which industry data are currently available). This was true both for industries that performed relatively well during the business cycle, like information and health care, and for industries that were hit harder by the recession, like manufacturing (See The Recession and Recovery from an Industry Perspective).

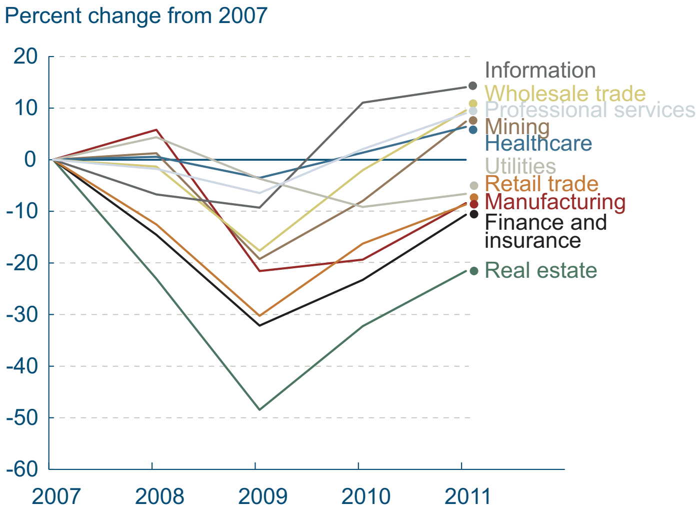
One reason why investment in structures recovered later was that it was held down by the overhang of structures that had been built before the recession. Structures are very long-lived productive assets, with an average age of approximately 24 years, so investment in these assets crucially depends on forecasts of long-term growth. Forecasts of long-term growth were revised down around the beginning of the Great Recession (see Behind the Slowdown of Potential GDP). Suddenly, the stock of structures that had been built based on pre-recession forecasts became excessive, and firms had to reduce their investment activity, absorb the overhang, and bring

Real Investment



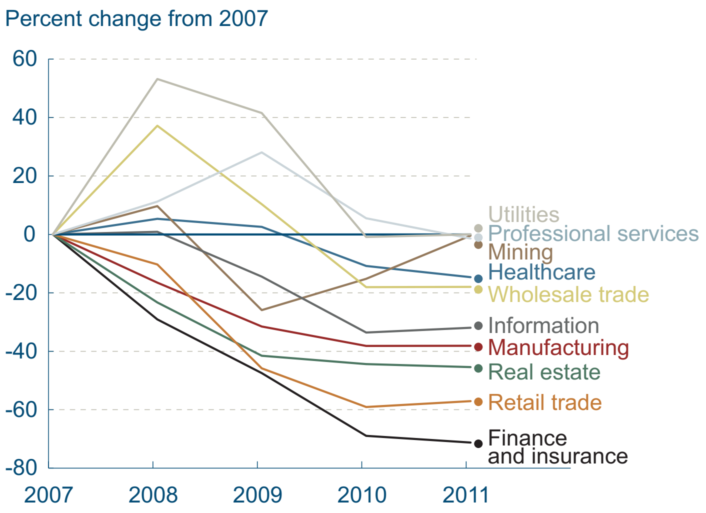
Note: Shaded bar indicates a recession.
Source: Bureau of Economic Analysis.

Investment in Equipment and Software by Industry



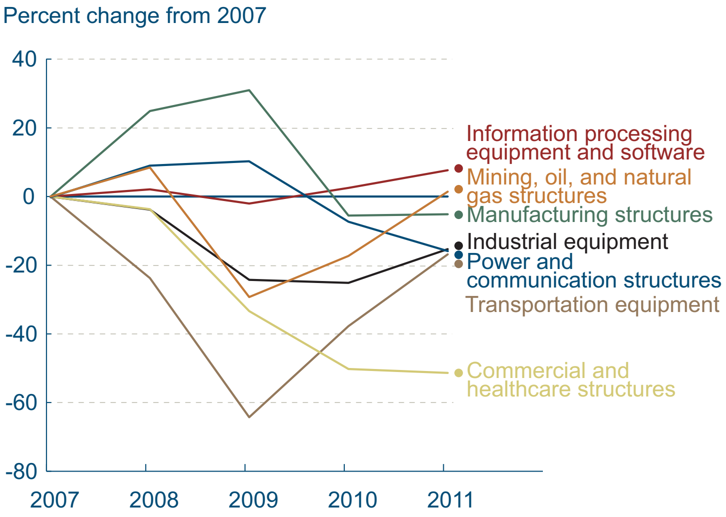
Source: Bureau of Economic Analysis.

Investment in Structures by Industry



Source: Bureau of Economic Analysis.

Investment by Type



Source: Bureau of Economic Analysis.

the stock back in line with the new forecasts. This process took especially long because these assets last so long. Equipment and software, in contrast, are shorter-lived assets, with an average age of approximately 7 years, so the overhang of equipment and software was smaller and quicker to absorb.

Data on investment activity by type confirm our previous observations—Investment in equipment and software tended to behave more in sync with economic activity, dropping during the recession and bouncing back during the recovery, while investment in structures tended to lag. Within each category of investment, however, different types behaved differently. In 2011, investments in industrial and transportation equipment were on their way to recovery, but still well below their peaks. In contrast, investment in information processing equipment and software didn't decline much during the recession, and in 2011 it was already above its previous peak, due in part to its stronger underlying trend growth. Investment in structures tended to decline later, as investing in these long-lived assets is planned more in advance and is more difficult to reverse. In 2011, investments in most types of structures were still below their peaks. Investment in commercial structures, which include office buildings and multi-merchandise shopping structures, was especially depressed, 50 percent less than its 2007 level.

The Evolution of Debt Balances

05.02.13

by Sam Chapman and Yuliya Demyanyk

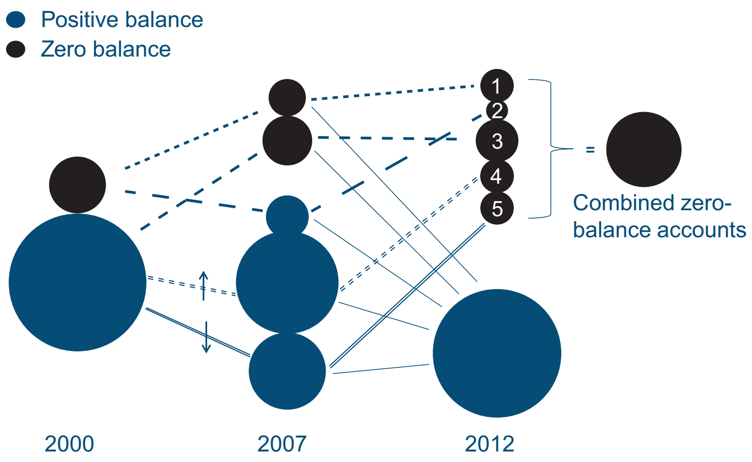
Since the end of the recent financial crisis, individuals have been reducing the large amounts of debt that they had built up prior to the recession. Recent studies show that the percentage of individuals holding debt in 2012 is less than in 2000. (See this Census Bureau study[1] and "Uneven Debt Burdens across the States"[2]).

As of the end of 2012, 25.6 percent of individuals in a representative sample we analyzed have no debt. This fraction increased from 14.5 percent in 2000 and 17.3 percent in 2007. Forces driving this large deleveraging may include foreclosures, bankruptcy, decreased bank lending, decreased consumer spending, or simply a decreased individual appetite for debt. Whatever the cause, it is informative to follow those individuals with zero debt over the past 12 years to analyze the trends that may have led them to their current deleveraged state.

Using data from Equifax's Consumer Credit Panel, we look at individuals' debt in the fourth quarters of 2000, 2007, and 2012 (henceforth referred to as 2000, 2007, and 2012). Equifax provides us with the credit bureau data for a 5 percent random sample of the U.S. population. We restrict all available data to the individuals that existed in all three periods so that we can see the evolution of debt over those years as opposed to the behavior of new borrowers entering or other borrowers exiting the sample. As a result of this restriction our data sample covers about 9 million individuals, for whom we adjust debt to account for joint accounts with other individuals (so everybody's debt is counted just once).

The chart below shows this evolution of individual debt through the three periods. It shows shifts to and from zero balances and positive balances in each year. The black and blue bubbles represent the proportion of individuals with zero and positive balances, respectively, in the corresponding year. If an individual had a zero balance in 2000 (black

Evolution of Debt Balances



Notes: The size of the bubble represents the proportion of individuals with the corresponding balance. The arrows indicate a change from a positive balance to either a larger positive balance (up arrow) or a smaller positive balance (down arrow).
Source: Equifax Consumer Credit Panel; authors' calculations.

bubble), he or she could have a zero balance or a positive one in 2007. In 2012, again their balance could be positive or zero. Those with a positive balance in 2000 could increase, decrease to a smaller positive balance, or decrease to zero in 2007, and then have a zero balance or a positive balance in 2012.

Following the lines next to the numbered black circles allows us to trace consumers' respective balances in 2007 and 2000. The black bubble labeled number 1 represents those who had zero balance in all three periods. The largest black bubble in 2012, labeled 3, represents those individuals who began in 2000 with a positive balance, decreased to zero in 2007, and then remained at zero in 2012.

A more common trend expected during a boom-bust cycle is the one represented by the black bubbles labeled 2 and 4. Number 2 begins with zero debt in 2000, increases to a positive value in 2007, and then returns to zero in 2012. Number 4 begins with a positive debt balance, increases even further in 2007, and then decreases to zero in 2012. These bubbles represent those who increased their debt balances during the "boom" years between 2000 and 2007, but who have since decreased to a zero balance in 2012, four years after the crisis. Number 2 and number 4 combined represent about 29 percent of those with a zero balance in 2012. Finally, the black bubble labeled 5 represents those individuals with some form of debt in 2000, who had a decrease in 2007 (although they are still above zero), and finally a further decrease to a zero balance in 2012.

Of the final 25.6 percent of accounts with a zero balance in 2012, 19.7 percent were zero throughout the three periods (group 1), and 32.1 percent had a positive balance in 2000 and then zero in 2007 and 2012 (group 3). Combined, groups 1 and 3 represent 51.8 percent of zero-balance accounts in 2012, which means over half of those with a zero balance in 2012 had a zero balance in 2007. This implies that many of those zero accounts may have deleveraged prior to the onset of the recession in 2008.

Next, 8.5 percent of the zero-balance accounts in 2012 began with a zero balance in 2000, increased to some level of positive balance in 2007, and then reverted back to zero in 2012 (group 2). The two remaining groups (4 and 5) had some form of positive debt in 2000 and 2007 and combined represent 39.8 percent of the zero-balance accounts in 2012. Groups 2, 4, and 5 all represent those with some form of positive balance in 2007 who had completely deleveraged themselves by 2012, after the recession occurred.

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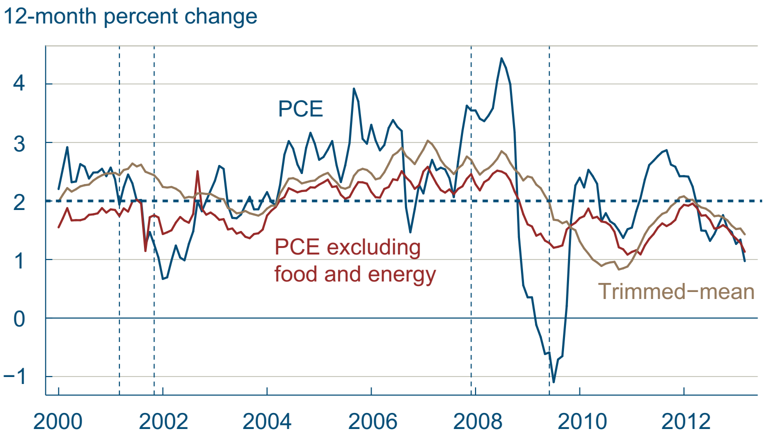
1. “Household Debt in the U.S.: 2000 to 2011” < http://www.census.gov/people/wealth/files/Debt%20Higlights%202011.pdf>

2. “Uneven Debt Burdens across the United States” <http://clevelandfed.org/research/trends/2013/0213/01houcon.cfm>

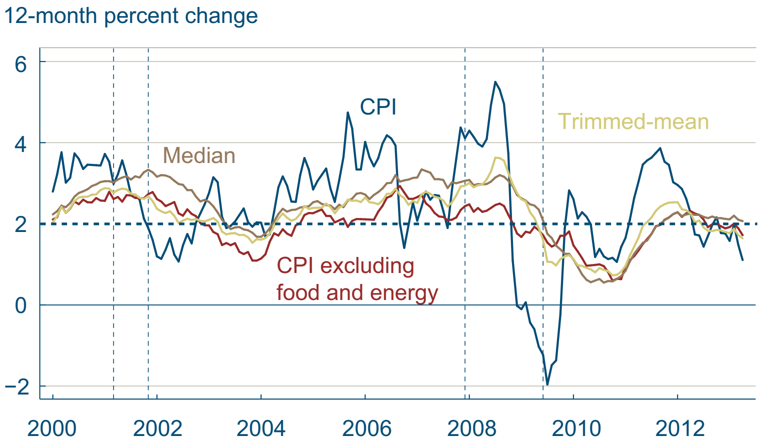
Why Are the CPI and the PCE Giving Different Estimates of Inflation?

PCE-Based Measures



Sources: Bureau of Economic Analysis; Federal Reserve Bank of Dallas.

CPI-Based Measures



Sources: Bureau of Labor Statistics; Federal Reserve Bank of Cleveland.

05.21.13
by Guhan Venkatu

In January 2012, the Federal Open Market Committee (FOMC), the Federal Reserve's monetary policymaking body, announced that its long-run objective for inflation was 2 percent as measured by the Personal Consumption Expenditures price index (PCE). At the time, the PCE appeared to be moving toward this target. Moreover, "underlying" measures, like the PCE excluding food and energy and a trimmed-mean version of the PCE, which tend to provide a less noisy signal of the inflation trend, were already close to the 2 percent target. But since then, PCE-based measures have drifted down. Toward the end of 2011, the year-over-year change in the PCE was close to 3 percent, but by March, when the PCE fell 0.1 percent, the 12-month percent change in the index had fallen to just under 1 percent. This has prompted some FOMC participants to suggest recently that the Committee may need to act to address this disinflation.

Another price measure, however, the Consumer Price Index (CPI), has generally hewn more closely to 2 percent since the beginning of 2012. In April, the CPI fell 0.4 percent and has risen rose percent from the previous April. But prior to that, year-over-year changes in the CPI have essentially moved in a half-percentage-point band between 1.5 percent and 2.0 percent. CPI-based "underlying" measures have remained even more closely tethered to the 2 percent target during this period. For instance, year-over-year changes in the median CPI have registered 2.1 or 2.2 percent in every month since the fourth quarter of 2011 with only one exception.

Why are these two price measures providing such different signals of the inflation trend? Analysts at the government agencies that produce the two indexes have identified three major factors: differences related to their respective formulas, the weights attached to their price components, and the breadth or scope of coverage. Interestingly, one of the elements that doesn't differ much between the two measures is price index data; where their coverage overlaps, the two measures tend to use the same underlying information on the prices of products.

With respect to formula differences, the CPI is constructed using a formula which assumes that consumers purchase the same set of goods in the same quantities every period. This "market basket" is updated periodically, typically every two years in the case of the CPI. The PCE, by contrast, uses a formula that allows the quantities of its goods to vary from one period to the next. As a result, the PCE is able to more accurately capture how consumers adjust their purchases in response to price changes than the CPI. One implication of this is that, because consumers are likely to shift their consumption toward products whose prices are rising less rapidly, the PCE often registers less inflation than the CPI.

On the weighting factor, the two indexes take their weights from different sources. The CPI uses a survey that asks households about their expenses to determine the weights in its market basket. The PCE, by contrast, relies largely on information from businesses detailing what they've sold to households to produce its weights.

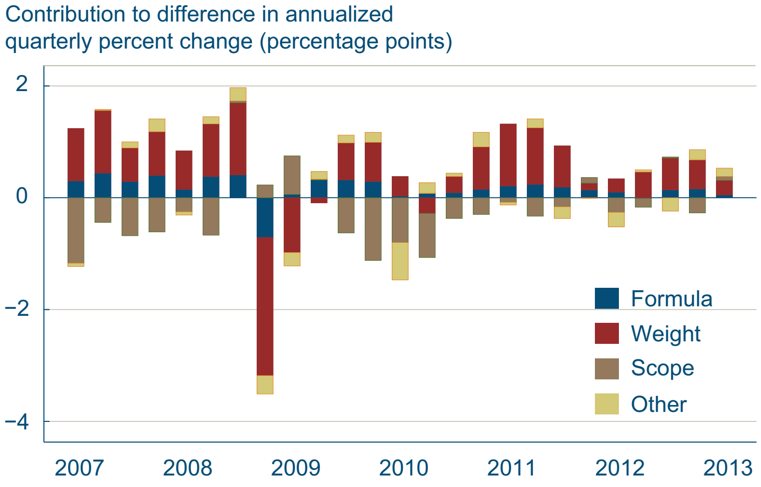
Finally, regarding the third factor, scope differences, the two indexes were constructed to cover slightly different things. The CPI covers the out-of-pocket spending of urban households. The PCE, however, was designed to be somewhat broader, covering consumer purchases by, as well as for, all U.S. residents. Specifically, some items, such as medical care, may be purchased by firms for their workers, or the government or a nonprofit organization on behalf of other consumers. In these cases, any cost not covered out-of-pocket by the consumer wouldn't be factored into the CPI's calculations but would be included in the PCE. Unpriced or "free" financial services are another example of a price the PCE attempts to measure and incorporate into its calculations, which wouldn't appear in the CPI. Roughly, the CPI covers about 75 percent of the PCE's scope. There are also some items that the CPI covers that are not included in the PCE.

2010 Market Baskets

	CPI	PCE	February
Food and beverages	15.3	14.0	1.2
Housing	41.0	23.4	17.6
Rent	6.5	6.7	−0.2
OER	24.0	12.1	11.8
Apparel	3.6	3.5	0.1
Transportation	16.9	9.7	7.2
Medical care	7.1	20.6	−13.5
Education and communication	6.8	4.9	1.9
Recreation	6.0	9.1	−3.1
Other goods and services	3.4	14.8	−11.4
	100	100	

Sources: Bureau of Economic Analysis; Bureau of Labor Statistics.

Factors Accounting for Difference between CPI and PCE



Source: Bureau of Economic Analysis.

Even before the different formulas are applied, the differences in item weights and scope are evident in the two measures' market baskets. For example, the PCE's broader treatment of medical care and financial services shows up as much larger market-basket shares for these items (where the latter is included in the "other goods and services" category). Notably, medical care has a market-basket share that's almost three times larger in the PCE than in the CPI. Differing answers from firms and households on surveys also generate meaningful differences between the two measures for housing and transportation. Owners' Equivalent Rent of Primary Residence (OER), which attempts to estimate the rent for owner-occupied properties, is almost twice as large in the CPI as it is in the PCE.

In the first quarter of 2013, these three factors, as well as other unspecified factors, produced a gap between the annualized percent changes in the two price measures of about 0.5 percentage points. Over the last four quarters, the gap between the two measures has been similar—about 0.6 percentage points. Among the factors driving these differences, the variation in item weights has been important in holding the CPI above the PCE over this period. Indeed, in the first quarter, about half of the 0.5 percentage-point gap is attributable to the differences in item weights, with much of this being driven specifically by differences in OER.

Has the Natural Gas Boom Impacted the Trade Deficit?

04.26.13
by Margaret Jacobson

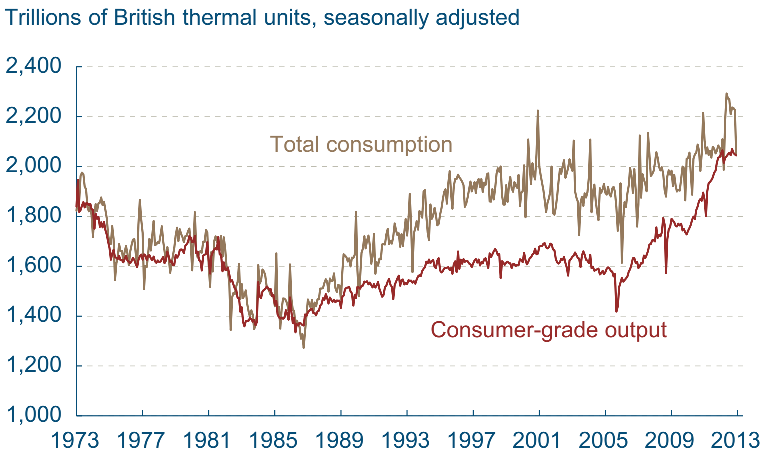
Natural gas production in the United States has surged, thanks to innovations and expansions of shale drilling activity. Prices have fallen, and consumption has risen in turn. Though the boom has the potential to affect the broader economy, its impact on the trade deficit has thus far been small. When domestic production of natural gas started to climb in 2006, net imports of natural gas did begin to drop. But the decline in net imports has not improved the trade deficit. Net imports of natural gas are too small a portion of total imports to have that much of an impact.

In the late 1980s, the United States became a net importer of natural gas, as consumption began outstripping domestic production. Since then, the gap between consumption and output has been shrinking, and net imports of natural gas have declined. Domestic output grew roughly 17 percent from 1986 to 1996, and 29 percent from 2006 to 2012. Domestic natural gas now represents a larger portion of the total natural gas consumed in the United States. In 2006, domestic output represented 86 percent of total consumption, and by 2012, it was 95 percent.

When consumption growth was outpacing output growth between 1986 and 2001, net imports were increasing about 10 percent per year on average. When production began to expand faster than consumption in 2006, net imports dropped 11 percent per year on average. Imported natural gas now accounts for only 6 percent of total U.S. natural gas consumption, while it stood at 16 percent of U.S. consumption in 2006.

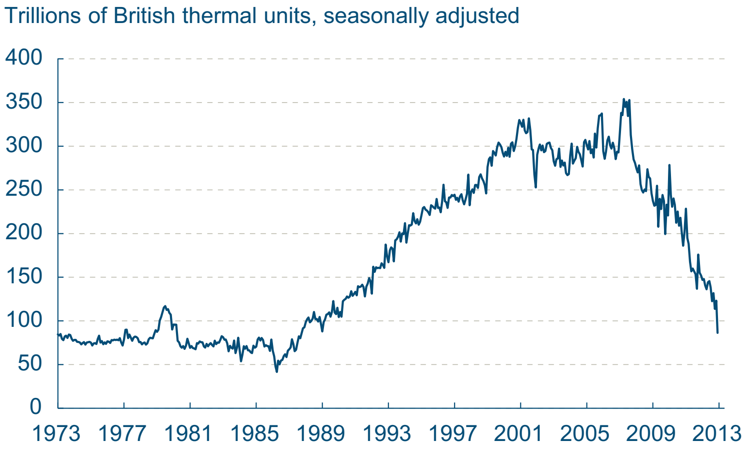
The decline in net imports of natural gas should translate into a decrease in total imports and an improvement in the overall trade deficit. But the trade deficit does not move in sync with net imports of natural gas over the same period, hinting at the small impact of the natural gas sector. Net imports of natural gas have been falling since 2006,

Natural Gas Production and Consumption



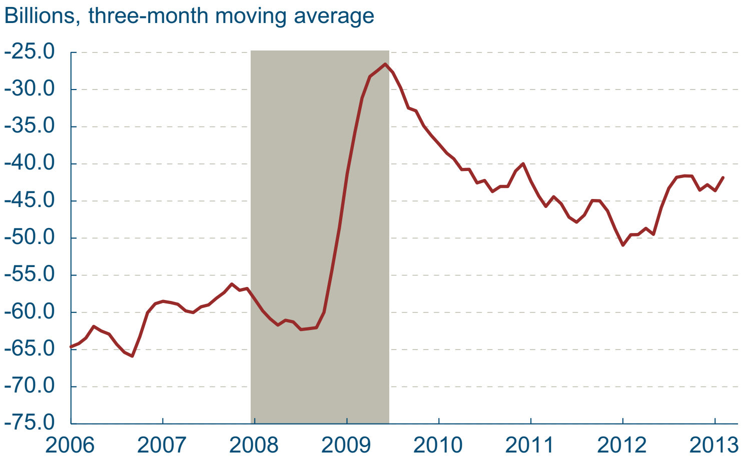
Notes: Consumer grade output consists of dry natural gas. The series is calculated by subtracting extraction loss from output marketed for production.
Source: U.S. Energy Information Administration.

Net Imports of Natural Gas



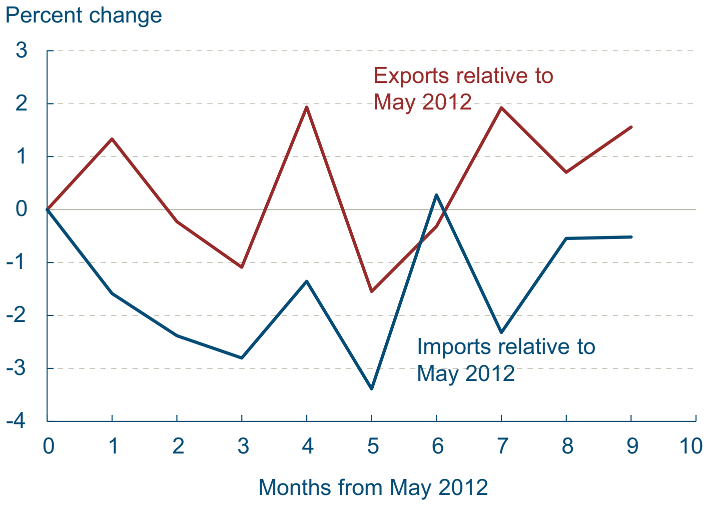
Source: US Energy Information Administration.

Trade Deficit



Note: shaded area indicates a recession.
Source: Census Bureau.

Imports and Exports



Source: Census Bureau.

while the trade deficit has improved over only three periods. One of those improvements, in late 2008, was driven by the recession. During another, from 2006 to the start of the recent recession, net imports of natural gas were actually flat. The only instance where net imports of natural gas could be contributing to the improvement in the trade deficit is from May 2012 to the present.

A look at export and import growth since May 2012 shows that the improvement in the trade deficit is due to export growth outpacing import growth. Imports mostly decreased relative to their May 2012 level, and exports fluctuated around their May 2012 level. Many factors could be contributing to the gap in import and export growth. Previous work (see "Behind the Strength in Exports") shows that long-run factors and the lower level of the dollar relative to other currencies account for current export activity. A sputtering domestic economy can help explain soft import activity, since slow growth is usually accompanied by slower consumption of both foreign and domestic goods.

Although the quantity of imported natural gas declined 4.7 percent per month on average from May 2012 to the present, the total value of natural gas imports represented just 0.35 percent of total imports. In terms of value, natural gas imports averaged $0.79 billion per month over this period, while total imports averaged $226.8 billion. In 2012, the average month-to-month change in natural gas imports was $55 billion, while the average change in total imports was $4.5 billion. Natural gas accounted for only 1.2 percent of the average month-to-month change in imports. Since natural gas represents a miniscule proportion of total imports, any changes in natural gas imports are unable to account for changes in total imports or the trade deficit. Thus far, the direct impact of the shale boom on the trade deficit is hardly visible.

Yield Curve and Predicted GDP Growth, April 2013

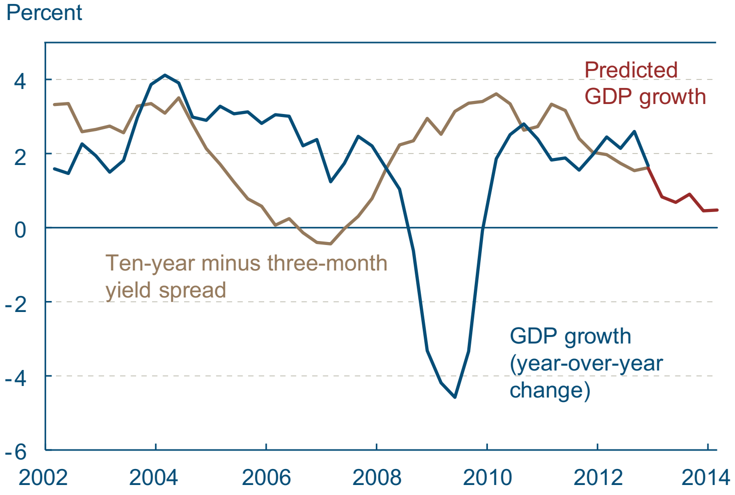
Covering March 16, 2012–April 19, 2013
by Joseph G. Haubrich and Patricia Waiwood

Highlights

	April	March	February
Three-month Treasury bill rate (percent)	0.06	0.10	0.13
Ten-year Treasury bond rate (percent)	1.73	2.04	2.00
Yield curve slope (basis points)	167	194	187
Prediction for GDP growth (percent)	0.5	0.5	0.4
Probability of recession in one year (percent)	8.1	5.9	6.4

Sources: Board of Governors of the Federal Reserve System; authors' calculations.

Yield Curve Predicted GDP Growth



Sources: Bureau of Economic Analysis, Federal Reserve Board, authors' calculations.

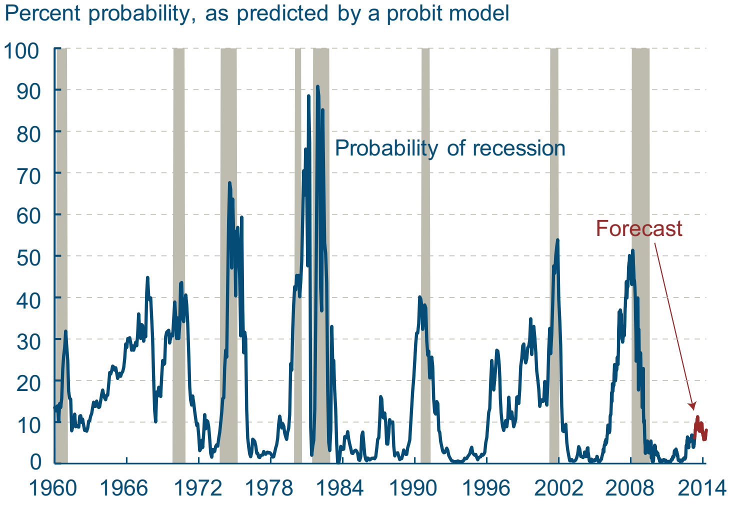
Overview of the Latest Yield Curve Figures

Over the past month, the yield curve has moved down, and though both short and long rates fell, the change in long rates dominated, and the curve became significantly flatter. The three-month Treasury bill fell to 0.06 percent (for the week ending April 19), down from March's 0.10 percent and from February's 0.13 percent. The ten-year rate moved down to 1.73 percent, down from March's 2.04 percent, and below February's 2.00 percent. The slope decreased to 167 basis points, down from March's 194 basis points and February's 187 basis points. The ten-year–three-month spread hasn't been this low since December of last year.

The steeper slope had only a small impact on projected future growth, however. Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 0.5 percent rate over the next year, even with March's number and up just a bit from February's 0.4 percent. The strong influence of the recent recession is still leading toward relatively low growth rates. Although the time horizons do not match exactly, the forecast comes in on the more pessimistic side of other predictions, but like them, it does show moderate growth for the year.

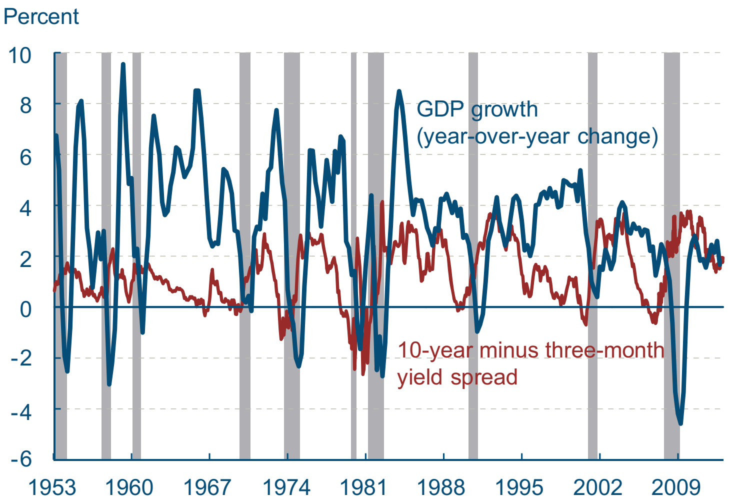
The change in slope had a bit more impact on the probability of a recession. Using the yield curve to predict whether or not the economy will be in recession in the future, we estimate that the expected chance of the economy being in a recession next April is 8.1 percent, up a bit from March's prediction of 5.9 percent, and even above February's number, which came in at 6.4 percent. Although our approach is somewhat pessimistic as regards the level of growth over the next year, it is quite optimistic about the recovery continuing.

Recession Probability from Yield Curve



Note: Shaded bars indicate recessions.
Sources: Bureau of Economic Analysis, Federal Reserve Board, authors' calculations.

Yield Curve Spread and Real GDP Growth



Note: Shaded bars indicate recessions.
Source: Bureau of Economic Analysis, Federal Reserve Board.

The Yield Curve as a Predictor of Economic Growth

The slope of the yield curve—the difference between the yields on short- and long-term maturity bonds—has achieved some notoriety as a simple forecaster of economic growth. The rule of thumb is that an inverted yield curve (short rates above long rates) indicates a recession in about a year, and yield curve inversions have preceded each of the last seven recessions (as defined by the NBER). One of the recessions predicted by the yield curve was the most recent one. The yield curve inverted in August 2006, a bit more than a year before the current recession started in December 2007. There have been two notable false positives: an inversion in late 1966 and a very flat curve in late 1998.

More generally, a flat curve indicates weak growth, and conversely, a steep curve indicates strong growth. One measure of slope, the spread between ten-year Treasury bonds and three-month Treasury bills, bears out this relation, particularly when real GDP growth is lagged a year to line up growth with the spread that predicts it.

Predicting GDP Growth

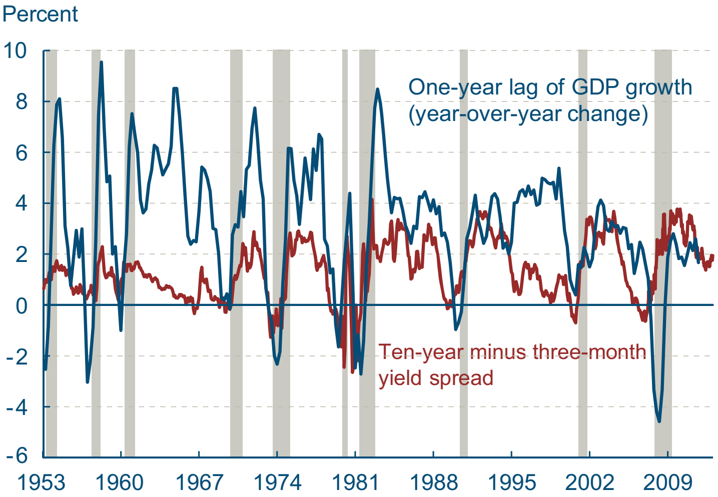
We use past values of the yield spread and GDP growth to project what real GDP will be in the future. We typically calculate and post the prediction for real GDP growth one year forward.

Predicting the Probability of Recession

While we can use the yield curve to predict whether future GDP growth will be above or below average, it does not do so well in predicting an actual number, especially in the case of recessions. Alternatively, we can employ features of the yield curve to predict whether or not the economy will be in a recession at a given point in the future. Typically, we calculate and post the probability of recession one year forward.

Of course, it might not be advisable to take these numbers quite so literally, for two reasons. First, this probability is itself subject to error, as is the case with all statistical estimates. Second, other

Yield Spread and Lagged Real GDP Growth



Note: Shaded bars indicate recessions.
Sources: Bureau of Economic Analysis, Federal Reserve Board.

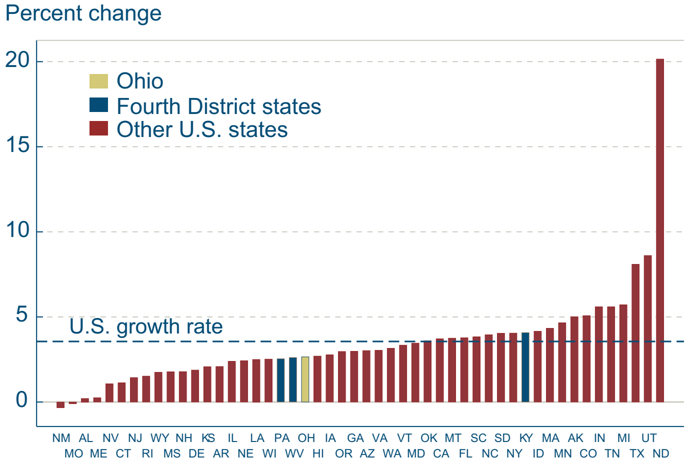
researchers have postulated that the underlying determinants of the yield spread today are materially different from the determinants that generated yield spreads during prior decades. Differences could arise from changes in international capital flows and inflation expectations, for example. The bottom line is that yield curves contain important information for business cycle analysis, but, like other indicators, should be interpreted with caution. For more detail on these and other issues related to using the yield curve to predict recessions, see the Commentary “Does the Yield Curve Signal Recession?” Our friends at the Federal Reserve Bank of New York also maintain a website with much useful information on the topic, including their own estimate of recession probabilities.

For more on the yield curve, read the *Economic Commentary* “Does the Yield Curve Signal Recession?” at http://www.clevelandfed.org/Research/Commentary/2006/0415.pdf.

For more on the Federal Reserve Bank of New York’s estimate fo recession, visit http://www.newyorkfed.org/research/capital_markets/ycfaq.html.

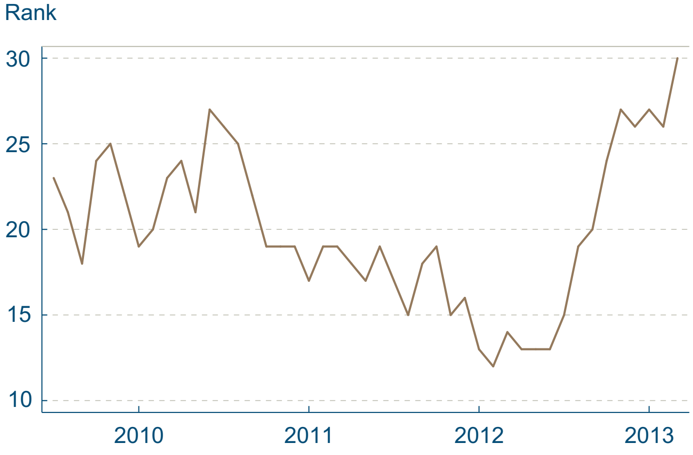
Employment Growth Slows in Ohio

Employment Change by State Since June 2009



Source: Bureau of Labor Statistics.

Ohio's Relative Growth Ranking Since June 2009



Source: Bureau of Labor Statistics.

05.03.13

by Guhan Venkatu

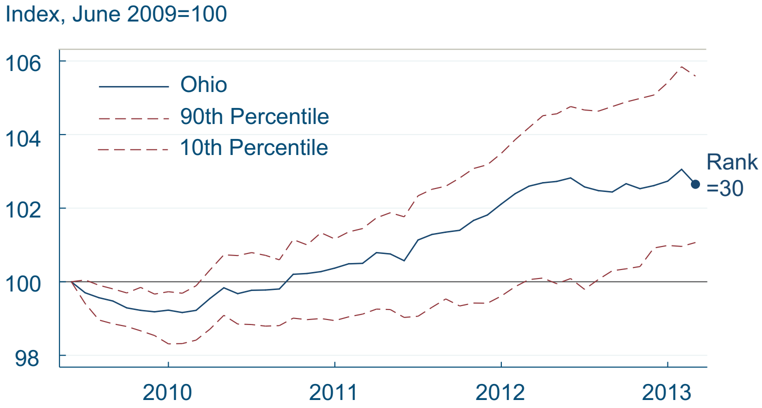
Employment in Ohio has grown 2.7 percent since the start of the recovery (June 2009 to March 2013). Over the same period, national employment grew almost a percentage point more (3.5 percent). Elsewhere in the District, employment in West Virginia and Pennsylvania grew at rates similar to that seen in Ohio, 2.6 percent and 2.5 percent, respectively. By contrast, Kentucky saw growth above the national average at 4.1 percent. Among the other 50 states, North Dakota saw the largest employment gain—driven by a boom in energy production—followed by Utah and Texas, while New Mexico and Missouri experienced employment declines.

Ohio's employment growth to this point in the recovery puts it close to the middle of the distribution (30th). However, its relative ranking has changed over the course of the recovery. In August 2010, Ohio ranked 25th among the 50 states. Over the ensuing year and a half, its ranking improved, drifting up into the top 15 by the beginning of 2012. But since June 2012, Ohio's ranking has moved back toward the middle of the distribution.

In part, this movement reflects the weak employment growth Ohio has experienced in the past year. In the twelve-month period ending in March 2013, Ohio's employment was essentially unchanged, growing a meager 0.1 percent. This represented the third-worst growth rate among the 50 states. (The worst growth rate occurred in another Fourth District state, Pennsylvania.) At the same time, national employment grew 1.4 percent, with the 10th and 90th percentiles of the state-employment change distribution continuing to experience employment gains. This pushed Ohio away from the higher-growth states and toward the lower-growth states.

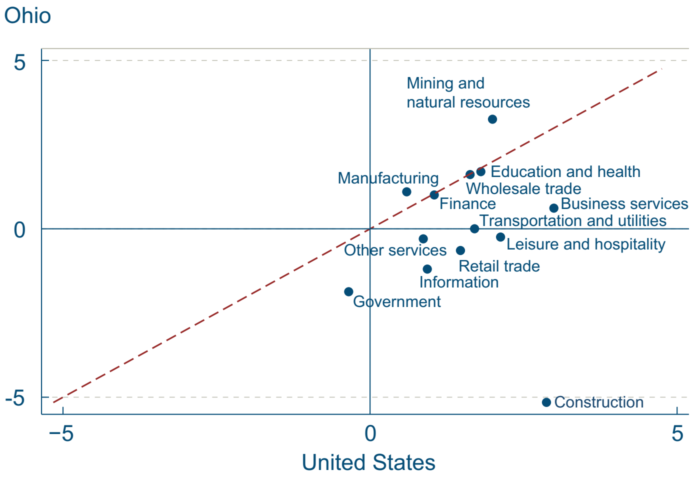
One key difference between Ohio and the U.S. during this period relates to changes in construction employment. Nationally, construction employment grew about 2.9 percent in the twelve months

Employment Change by State Since June 2009



Source: Bureau of Labor Statistics.

Percent Employment Change by Industry in Ohio and US Since March 2012



Note: The dashed line indicates 45 degrees.
Source: Bureau of Labor Statistics.

ending in March 2013. By contrast, construction employment fell about 5.2 percent in Ohio over the same period. It's important to point out, however, that until the third quarter of last year, year-over-year changes in construction employment had been far stronger in Ohio than in the U.S. throughout the recovery. Additionally, since December 2007, when the recession began, the cumulative change in construction employment in the two geographies has been about the same. Nevertheless, construction has clearly contributed negatively to Ohio's overall employment change in the last year.

While construction is an obvious source of underperformance for Ohio—having grown nationally but not statewide—several other sectors show the same pattern, albeit less dramatically. These sectors include retail trade, transportation and utilities, leisure and hospitality, and information. Collectively, these industries account for about one-third of Ohio's employment.

In the cases of government and businesses services, where the direction of growth was the same—negative for the former and positive for the latter—Ohio still saw either larger declines or less growth than the associated national industry. Manufacturing and mining were the two sectors that grew noticeably more in Ohio over this period. These industries collectively account for about 13 percent of Ohio's employment, though mining represents a small fraction of this total—about 2 percent, or 0.25 percent of Ohio's overall employment.

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