

## The Why of Weak Wages

Some reasons behind and  
the impacts of stubbornly low wages



### **INSIDE:**

Gentrification:  
What's in a Name?

Cybersecurity

State of Banking, 2015





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# Presidential Pulls



## Progress toward Dual Mandate

"Although wage growth has been subdued, it typically lags improvement in labor market conditions, and as employment continues to grow, I anticipate that wages will begin to accelerate and provide support for stronger consumer spending."

— From a speech in Washington DC, March 9, 2015

## Improving Communications

"I would like to see the forward guidance evolve over time to give more information about the conditions we systematically assess in calibrating the stance of policy to the economy's actual progress and anticipated progress toward our dual-mandate goals."

— From a speech in Paris, France, March 23, 2015

## Forward Policy Guidance

"Because monetary policy affects the economy with a lag, policy needs to be forward looking and rates will need to begin to move up before we have fully reached our goals.... The economy is now on firmer footing and our monetary policy stance should reflect that."

— From a speech in Washington DC, March 9, 2015

## Monetary Policy Challenges

"Most times in life, moving from extraordinary to ordinary is considered a bad thing. In the case of monetary policy, such a move should be viewed as a good thing—because it means conditions are in place for a sustainable economic expansion with maximum employment and price stability."

— From a speech in Paris, France, March 23, 2015

## Beginning Normalization

"I would like our policy actions to be consistent with our communications, and in my view, given the economic outlook, starting the normalization process relatively soon will help ensure that we can, indeed, take a gradual approach. A delay that's too long might risk having to move rates up more steeply in order to promote attainment of our goals over time."

— From a speech in New York, NY, April 16, 2015

## FOMC's Policy Reaction Function

"As our economy returns to more normal territory and the Fed begins the process of normalizing policy, clear communications that enhance the public's understanding of the rationale behind the FOMC's policy decisions will have an important role to play."

— From a speech in New York, NY, April 16, 2015

## Too Big to Fail

"If too big to fail remains a problem, it seems reasonable to ask whether breaking up the institutions would solve it. My answer is no. To evaluate such a potential solution, it is important to know why banks have gotten so large. A body of research suggests that some institutions have grown in size, not to game the system, but for reasons of efficiency."

— From a speech in Reykjavik, Iceland, May 25, 2015

## Eyes on Affordable Housing

*As wages lag amid market recovery, urban reinvestment grows and so does community leaders' concern about what upward pressure on property values means for low- and moderate-income households.*

Access to quality, affordable housing joined the availability of jobs and the high volume of vacant properties as top concerns impacting communities in the region served by the Federal Reserve Bank of Cleveland (Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky), according to the Bank's annual community issues survey.

Three factors seem to have moved affordable housing toward the top of the list this year: people's migration back to the urban core, continued worries about a low-wage recovery, and a shortage of housing in communities affected by the shale boom. In cities across the Fourth Federal Reserve District, respondents grapple with the good and bad elements of revitalization occurring in their urban centers and what revitalization means for access to affordable housing.

"The good thing is that people are taking risks in order to buy and improve properties in low-income communities because they want to live close in," explains a community leader in Pittsburgh. "On the other hand, we don't want upward pressure on property values to force people out of their current homes and into neighborhoods with fewer services and social networks."



Of course, worse than forcing people into other neighborhoods is leaving them with nowhere to go, a situation becoming more common, notes one respondent in Columbus.

"Supply is decreasing as neighborhoods gentrify and public housing is closed," she said. "We are seeing more homeless families with children on the streets and families living in extremely substandard housing."

Despite tension between neighborhood change and access to affordable housing, most respondents, including city planners, economic development officials, and bank officers, are cautiously optimistic that new investment in cities will drive positive change as young people move back to the core. In more-distressed markets such as Cleveland and Toledo, new investment is especially welcome, say

respondents. The key is leveraging this investment the right way, for example, by giving economic developers access to resources to retain existing residents and foster community-building activities. With primary funding streams such as Community Development Block Grants (CDBG) at historic lows, investing in affordable housing will not be easy.

However, respondents are hopeful that the long-awaited activation in December 2014 of the National Housing Trust Fund will serve as a needed shot in the arm. The Trust, established as part of the Housing and Economic Recovery Act of 2008, must target at least 75 percent of its funds to extremely low-income households (i.e., those with less than 30 percent of area median income). And importantly, funds are not subject to the annual appropriations process, but are based on a mandatory assessment of the volume of annual business by Fannie Mae and Freddie Mac. Pennsylvania and Ohio are likely to receive the 6th- and 7th-largest allocations to the 50 states when funds are first disbursed as early as summer 2016.

While money started flowing into the Trust for the first time in December and regulations governing the program were published in February, a House spending bill approved at the end of April essentially attempts to eliminate the Trust before it gets off the ground. Instead of a shot in the arm—as community leaders responding to the Cleveland Fed's survey attest it would be—this would be a shot in the gut for access to quality affordable housing in the Fourth District and beyond. ■

—Brett Barkley

# Vested Interest

*After 7 years of extraordinarily accommodative monetary policy, many are watching to see what the Federal Open Market Committee will do regarding the federal funds rate.*

Every meeting of the Federal Open Market Committee (FOMC) this year has been anticipated with the same question: Will this be the meeting that the Fed signals an imminent increase in the federal funds rate?

To be clear, no change has yet transpired. Following its July 28 and 29 meeting, the FOMC stated, “the Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.”

The FOMC sets monetary policy for the United States. Among other tasks, it controls the federal funds rate, a very short-term interest rate banks charge each other to borrow funds.

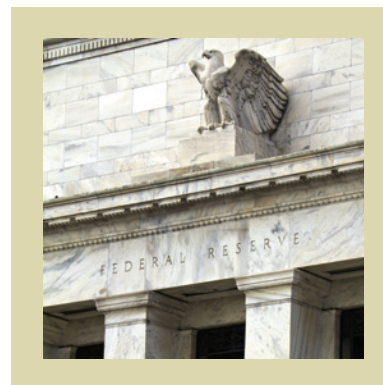
Change to the federal funds rate affects all interest rates, explains Charles T. Carlstrom, a senior economic advisor with the Federal Reserve Bank of Cleveland. “All short-term rates move in tandem, so the federal funds rate influences all of us,” he says.

It influences “both economic activity and inflation, so there’s a lot of scrutiny,” Carlstrom observes. “If you buy and sell stocks, you care about what you think the Fed’s going to do. If you’re setting wages for your employees, you care about what inflation’s going to be.”

As the United States entered into the Great Recession, the Federal Reserve lowered rates to support economic activity. But rates can’t go negative, Carlstrom notes, limiting what the country’s central bank can do. “It’s been 7 years that we’ve had interest rates at basically zero,” he says. “That’s unprecedented.”

The FOMC’s statements are informed by various views, including that of Cleveland Fed president and chief executive officer Loretta Mester, who noted in an April speech that there are more important considerations than the timing of the first rate increase.

“[M]ore important for macro-economic performance is the expected path of policy beyond liftoff,” or the point at which the FOMC starts increasing rates and returning to a more normal policy regime, “because expectations about the future path of policy can affect today’s economic decisions,” she said.



The difference between lifting off in September, October, or December is not ultimately significant for the economy over the long run. But rates that are 1 or 2 percentage points higher or lower at the end of 2016 than projected would represent significantly different policy than most FOMC participants envision currently.

How fast such liftoff impacts the broader economy is hard to determine.

“The amount I would get if I decided to invest in government securities, I would feel immediately,” Carlstrom explains. “The impact on economic activity and inflation—how long does it take to reach those things? Unfortunately, that is hard to answer. That’s one of the reasons we have to look ahead. We can’t just look at right now or look in the rearview mirror because changes do not necessarily impact the economy until the future, and that future time is both long and variable.” ■

—Michelle Park Lazette

## On the calendar



The FOMC meets again September 16 and 17. To keep up with its public statements, bookmark [www.federalreserve.gov/monetarypolicy/fomccalendars.htm](http://www.federalreserve.gov/monetarypolicy/fomccalendars.htm)

# The Why of Weak Wages



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*Technological advances. Lower productivity. Fewer full-time workers. Depending on whom one asks, the reasons vary for why we've experienced more than a decade of low wage growth. Observers agree, though: Stubbornly low wages impact society and the US economy.*



**Michelle Park Lazette**  
Staff Writer

Both of the economists, independent of each other, call the trend puzzling.

Why, if the unemployment rate has fallen from 9.5 percent at the recession's end a half decade ago to 5.5 percent as of May this year, does wage growth remain low and slow?

"It's a bit puzzling how wage growth has been so depressed," Federal Reserve Bank of Cleveland Senior Research Economist Filippo Occhino says. "We are in the later stages of the recovery, and typically in past recoveries, wage growth had picked up much, much earlier.

"At the beginning of any recovery, wage growth is low," Occhino adds. "With so many unemployed people, businesses don't need to raise wages. Then, as a recovery progresses and the labor market tightens, you should expect more competition and a bit of higher wage growth. But, we don't see that. We see low wage growth."



Occhino



Elvery

Wage growth had been marginal even before this most recent recession, notes Cleveland Fed economist Joel Elvery.

“There was remarkably little wage growth between the 2001 recession and the beginning of the 2007 recession,” he says. “There was some income growth at the very high end of the income distribution, but there was actually very little at the middle or at the low end. So, overall wage growth was quite flat before the [2007] recession, as well.”

Data from the Bureau of Labor Statistics tell the long, slow-wage-growth story, too: For 12 of the 22 major occupation groups tracked by the BLS, average annual wages adjusted for inflation shrank from 2004 to 2014. Two more of them registered no wage change during the decade, and only 2 experienced an increase of more than 5 percent in average annual wages.

### Tempered by technology

Both Occhino and Elvery recently published research about the lack of American wage growth.

In a piece titled “Behind the Slow Pace of Wage Growth,” Occhino and Cleveland Fed research analyst Timothy Stehulak identify 2 factors keeping wage growth low: low productivity growth and labor’s declining share of income.

Average productivity growth—that is, growth of the output of employees, or the goods and services produced relative to the labor hours spent—was 3.5 percent between 1997 and 2004. After 2004, however, it has averaged 1.5 percent.

“When the productivity of workers rises, through competition, employers pay more for their workers,” Occhino says. “So one reason why wage growth has been low is productivity growth is low.”

Productivity is influenced by various factors, mainly a worker’s skillset and education. Also driving productivity is the capital, such as equipment, afforded to each worker.

“One possibility is that the high productivity growth at the end of the century was sort of temporary or that the current productivity growth is depressed by something,” Occhino says. “It could be that it is suppressed by the consequences of the Great Recession.”

**Productivity is influenced by various factors, mainly a worker’s skillset and education. Also driving productivity is the capital, such as equipment, afforded to each worker.**

Occhino’s recent research also shows this: Labor income has declined as a share of total income earned in the United States. In other words, labor income, which includes wages, salaries, and other work-related compensation, has declined relative to capital income, which includes rent, interest, dividends, and capital gains.

Though both labor income and capital income have increased over time, capital income has increased at a faster rate.

Occhino cites a few reasons why labor’s share of total income has declined.

“One could be simply technological change that has favored [investment in] capital to labor,” he says.

Technological shifts have put strong headwinds on wage growth, Elvery notes.

Another reason could be globalization, which allows firms to import goods from other countries rather than producing them (and paying labor to produce them) in the United States, and there’s also the loss of bargaining power by labor. Unionization, Occhino notes, has declined.



Holzer

Harry J. Holzer also cites the substitution of technology for workers and the use of imports and offshoring as reasons why employers seemingly haven’t had to work as hard to attract and retain workers since 2000. Wages, he points out, haven’t kept up with inflation even with inflation’s being quite moderate.

Holzer, a professor of public policy at Georgetown University and a visiting fellow at The Brookings Institution, has focused his research during most of his career on the low-wage labor market.

“Our standards of living require higher wage growth, so it’s very discouraging to workers,” he says of the trend. “Especially if you think of college graduates, who were told, ‘Go to school. There is a strong reward for schooling.’”

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**“When wages are flat, it limits the amount of expansion in personal consumption, so it stifles the growth of the economy.”**

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“The general finding is that the only place you see wage growth since 2000 is for people with graduate degrees,” Holzer adds. “Even college graduates with bachelor’s degrees have had flat or even slightly declining earnings, adjusted for inflation.”

**‘Noticeable declines . . . everywhere’**

Typically, average wages go up during a recession and fall during a recovery. This is largely because occupation mix changes during recessions, explains Elvery of the Cleveland Fed.

Because it is easier to find low-skilled workers, firms are more likely to fire low-skilled than high-skilled workers during a recession. This changes the occupation mix and pushes the average wage up. In addition, some industries—for example, manufacturing and construction—are more susceptible to cyclical conditions, so occupations prevalent in those industries also decline during recessions.

These cyclical changes in occupation mix usually reverse themselves during the recovery. However, recessions can change the mix of occupations in more permanent ways, too. Firms that cut staff during a downturn may alter what they do, and who they employ doing what, when the recovery occurs.

Elvery wanted to know how much of the recent change in average wages (or lack thereof) is due to changes in the occupation mix rather than wage change within occupations.

Using the Bureau of Labor Statistics’ Occupational Employment Statistics, Elvery and Cleveland Fed research analyst Christopher Vecchio sought to determine whether wages are flat or falling by examining a fixed sample of occupations over time.

Elvery identifies 2 major takeaways. One, when he examined wages adjusted for inflation during much of the recovery from 2010 through 2013, “there were noticeable declines pretty much everywhere we looked.”

“To me, it’s a sign of how weak the labor market was in 2010 to 2013,” Elvery says.

Controlling for occupation mix in Ohio, a state within the Cleveland Fed’s region, average inflation-adjusted wages fell 3.5 percent between 2007 and 2013, Elvery found.

“That means that people who didn’t change occupations experienced substantive real wage loss since the recession started,” he says.

Ohio’s numbers were worse than those of the nation, Pennsylvania, West Virginia, and Kentucky. US average wages—keeping occupation mix constant—fell 0.6 percent in the same timeframe, as did Kentucky’s, while Pennsylvania’s wages climbed 1.2 percent, and West Virginia’s increased 0.8 percent. (Like the state of Ohio, parts of Pennsylvania, West Virginia, and Kentucky are served by the Cleveland Fed.)

The second major takeaway? The 2 Cleveland Fed researchers observed little change in real average hourly wages in Cleveland and Cincinnati between 2007 and 2010 and also between 2010 and 2013, the time periods referenced in the study.

“Where you see very little change in average wage either during the recession or during the recovery, that’s surprising,” Elvery says. “You would think that we would have had a large shift in average wage. It’s puzzling that we had such little change.”

But the way Elvery and Vecchio decomposed the change allowed them to see that declines in wages within occupations were essentially completely offset by shifts to higher wage occupations.

**A problem for the economy**

From Teresa Carroll’s vantage point, the reason for slow wage growth in certain occupations is simple supply and demand.

Where there is high supply and low demand (think light-industrial and logistics-related occupations), slow wage growth persists, says Carroll, senior vice president and general manager of KellyOCG, a group of the workforce solutions company, Kelly Services, which does business in all of the Cleveland Fed’s region and globally.





There's another reason for slow wage growth, according to Carroll: 35 to 50 percent of companies' talent is not full time.



**Carroll** says. "There was the promise of loyalty both by the man and the company, and a lot of wage inflation happened as a result of that loyalty.

"Nowadays, up to 50 percent of the talent of a company is non-full-time," she continues. "It's giving companies an option to get the work done without increasing wages to their full-time workforces. If you have a project that you need completed in an IT department, rather than increasing wages of talent to do so, you could utilize independent contractors, you could work with an outsource provider, you could bring in a contractor."

Sources say it matters well beyond individual households when wages don't grow.

For one, wage growth affects inflation. The greater the wage growth, the greater the inflation.

Plus, wage growth may be related to inequality, the Cleveland Fed's Occhino says. People who receive a greater share of their income through labor, rather than through earnings such as interest and capital gains, tend to be poorer, Occhino says.

"Given that, obviously if the labor share of income declines, you're going to have a little bit more inequality," he says.

Young workers have been hit especially hard by the lack of wage growth, Holzer says, and a lot of workers have pulled out of the labor market. That move carries consequences.

"That's a problem for the United States economy," Holzer says. "If fewer people are willing to work, you're losing productive capacity."



## Where the growth is

Of the 20 occupations projected by the Bureau of Labor Statistics to grow the most jobs between 2012 and 2022, 14 have a 2012 median annual pay of less than \$35,000. The occupation expected to grow the most jobs—580,800—is personal care aide, whose 2012 median pay was \$19,910 per year.

Occupation	Number of projected new jobs, 2012–2022	2012 median pay (annual)
Personal care aides	580,800	\$19,910
Registered nurses	526,800	\$65,470
Retail salespersons	434,700	\$21,110
Home health aides	424,200	\$20,820
Combined food preparation and serving workers, including fast food	421,900	\$18,260
Nursing assistants	312,200	\$24,420
Secretaries and administrative assistants, except legal, medical, and executive	307,800	\$32,410
Customer service representatives	298,700	\$30,580
Janitors and cleaners, except maids and housekeeping cleaners	280,000	\$22,320
Construction laborers	259,800	\$29,990
General and operations managers	244,100	\$95,440
Laborers and freight, stock, and material movers, hand	241,900	\$23,890
Carpenters	218,200	\$39,940
Bookkeeping, accounting, and auditing clerks	204,600	\$35,170
Heavy and tractor-trailer truck drivers	192,600	\$38,200
Medical secretaries	189,200	\$31,350
Office clerks, general	184,100	\$27,470
Childcare workers	184,100	\$19,510
Maids and housekeeping cleaners	183,400	\$19,570
Licensed practical and licensed vocational nurses	182,900	\$41,540

Source: Occupational Outlook Handbook, Bureau of Labor Statistics.

# FOR MANY, IT'S A DECADE OF DECLINE

Wages earned by many Americans haven't grown in recent years, even as unemployment has declined. Here, we break down the many decreases and the modest increases in wages by occupation.

For 12 of the 22 major occupation groups tracked by the Bureau of Labor Statistics' Occupational Employment Statistics program, average annual pay\* in 2014 was less than it was in 2004.

Wondering which "major" group includes your occupation?

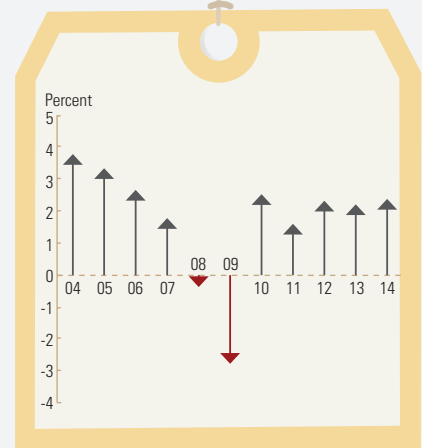
Visit [www.bls.gov/oes/current/oes\\_stru.htm](http://www.bls.gov/oes/current/oes_stru.htm).

## Average annual wage\* for all occupations and major occupation groups, 2004–14<sup>1</sup>

Occupation group	Real average annual wage		% Change 2004–14
	2004	2014	
Personal care   Service	\$ 27,323	\$ 24,980	-8.6
Sales and related ❖	\$ 40,370	\$ 38,660	-4.2
Production ❖	\$ 36,698	\$ 35,490	-3.3
Installation   Maintenance   Repair	\$ 46,650	\$ 45,220	-3.1
Office   Administrative support ❖	\$ 36,372	\$ 35,530	-2.3
Building   Grounds cleaning   Maintenance	\$ 26,934	\$ 26,370	-2.1
Transportation   Material moving ❖	\$ 34,943	\$ 34,460	-1.4
Farming   Fishing   Forestry	\$ 25,455	\$ 25,160	-1.2
Education   Training   Library ❖	\$ 52,741	\$ 52,210	-1.0
Healthcare support	\$ 29,103	\$ 28,820	-1.0
Construction   Extraction	\$ 47,026	\$ 46,600	-0.9
Community   Social service	\$ 45,672	\$ 45,310	-0.8
Food preparation   Serving related ❖	\$ 21,971	\$ 21,980	0.0
Life   Physical   Social science	\$ 70,087	\$ 70,070	0.0
Protective service	\$ 43,667	\$ 43,980	0.7
Legal	\$ 100,155	\$ 101,110	1.0
Arts   Design   Entertainment   Sports   Media	\$ 54,784	\$ 55,790	1.8
Computer   Mathematical	\$ 82,107	\$ 83,970	2.3
Business   Financial operations	\$ 70,664	\$ 72,410	2.5
Management	\$ 107,199	\$ 112,490	4.9
Architecture   Engineering	\$ 77,394	\$ 81,520	5.3
Healthcare practitioners   Technical	\$ 71,829	\$ 76,010	5.8
<b>All occupations</b>	<b>\$ 46,399</b>	<b>\$ 47,230</b>	<b>1.8</b>

❖ Occupation employed more than 8 million people in 2014

## Year-over-year change in GDP,\* 2004–14<sup>2</sup>



When asked why wage growth—or the lack thereof—matters, Cleveland Fed economist

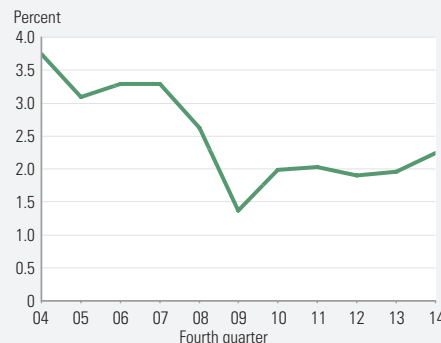
**Joel Elvery** notes that personal consumption accounts for roughly

70 percent of the country's gross domestic product (GDP).

"When wages are flat, it limits the amount of expansion in personal consumption, so it stifles the growth of the economy," he says.

Indeed, GDP and wages have had slow growth in common in recent years.

## Growth in compensation costs for US businesses, 2004–14<sup>1</sup>



There's reason for optimism, however. Consider the Employment Cost Index,<sup>1</sup> which is one measure of what employers are spending on labor, including wages and benefits.

In the fourth quarter of 2014, the year-over-year change in compensation grew at a rate (2.25 percent) not seen since the fourth quarter of 2008. In other words: Wage growth has picked up a bit.

\*Adjusted for inflation. All wages are in 2014 dollars.

Sources: <sup>1</sup>Bureau of Labor Statistics, US Department of Labor; <sup>2</sup>Bureau of Economic Analysis.

And of course, slow wage growth affects how much people will spend.

“People’s personal consumption accounts for about 70 percent of the economy,” Elvery says. “When wages are flat, it limits the amount of expansion in personal consumption, so it stifles the growth of the economy.”

There’s also a familial shock, Holzer asserts. For one, parents who owe child support but are earning less or are not working are less able to meet their commitments. He also notes that college graduates often delay marriage and childbearing until their careers have taken off, and takeoff is taking longer.

### In search of skill

It’s hard to say when depressed wage growth will lift.

And another Cleveland Fed researcher said as much in a May piece: Using three models for forecasting wage growth, Cleveland Fed vice president Edward S. Knotek II finds evidence suggesting that movements in compensation growth have been essentially unpredictable since the mid-1990s.

But one trend Kelly Services started seeing in the fourth quarter of 2014 bodes well for wage growth and, in fact, was driving wage increases in the first quarter of this year, Carroll says. The average work week is growing for the temporary employee, and if that growth continues, the first tool employers will tap is paying overtime, which drives wage growth.

“Then people get worn out, and then employers will need to hire,” Carroll says.

Plus, Kelly Services is seeing an increase in its client employers hiring their temps for full time, a situation which tends to be another driver of wage growth.

For his part, the Cleveland Fed’s Occhino expects wage growth to pick up as the unemployment rate, which was 5.5 percent in May 2015, continues to decline and the labor market tightens.

“Recent data on wage growth have been more encouraging,” he says, citing the Employment Cost Index, which tracks what employers are spending on labor. Total compensation

costs for all civilian workers increased 2.6 percent for the 12-month period ending March 2015 compared to the 1.8-percent increase for the 12-month period ending March 2014.

Modest and gradual wage growth, which Georgetown University’s Holzer also expects, doesn’t address the long-term and structural problems, though, Holzer notes.

“There’s a higher demand for skill, and a lot of workers don’t have those skills,” he explains. “It’s not just more education. In America we love to do that: We send a lot of kids to college and they get there and a lot of them drop out and don’t finish, or they don’t necessarily get a degree in a high-demand area. It’s not more education. It’s better education — education and skills that better match the growing sectors of the economy.”

The Cleveland Fed’s Elvery doesn’t see government changing the slow wage growth story, though theoretically it could respond by expanding the social safety net.

A major expansion in education could increase the supply of high-skilled workers and help reduce the number of people competing for low-skill jobs, but “right now what we’re seeing is very little change in educational attainment and high change in technology,” Elvery says.

“It just leads to this question: What education change would help in this situation?” he poses. “And that is an open question that we should all think about.”

KellyOCG’s Carroll agrees that the acquisition of new skills will be important to changing the wage trend.

“The supply has to acquire the skills to meet the demand,” she says. “We need to get talent out there developing their skills toward what companies need. From a demographic standpoint, many, many tradespeople are retiring. How do we get people to learn the trades to replace the workforce that’s leaving?” ■



#### On the reel

Forefront asks Clevelanders, is wage growth slow for people you know, and what should be done about it? Hear them speak:  
<http://tinyurl.com/novvkuz>

# Gentrification: What's in a Name?

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*Interest in gentrification is at an all-time high, but determining what differentiates 'gentrification' from reinvestment and revitalization isn't always easy. A senior policy analyst in the Community Development Department at the Federal Reserve Bank of Cleveland notes that retaining affordable housing can help alleviate the negative effects associated with gentrification.*



**“Ah, gentrification. What’s not to hate? Except for sit-down restaurants, dog parks, charming pubs, bike lanes ... and there goes the neighborhood.”**

—Megan McArdle, *Bloomberg View*



**Kyle Fee**  
Senior Policy Analyst

A series on Netflix and a satirical skit on *Saturday Night Live* usually signal one’s arrival into popular consciousness. And just like some pop stars, gentrification can be complex, polarizing, even divisive and confusing.

In short, gentrification is a complex process with complex consequences.

### **Why is it such a popular topic now?**

General interest in gentrification has increased because of a confluence of regional housing dynamics and particular urban policy efforts. A simple model for housing includes a primary tradeoff of access to the central business district (CBD) or cheaper, more abundant land on the periphery. In this simplified model, one chooses where to live based on transportation costs to the CBD and how much green-space is desired around one’s home. Now complicate that model by adding a series of trends that, at least anecdotally, seem to shift that tradeoff in favor of access to the CBD. Those trends tipping the balance in favor of central-city living include empty-nesting baby boomers with disposable income, young adults’ choosing to marry and have kids later in life, increased transportation costs, and lack of other buildable or livable space elsewhere within a metro area.

As for particular urban policy efforts, policies designed to target revitalization efforts in central-city neighborhoods combined with policies designed to alleviate the concentration of poverty in urban neighborhoods can provide the impetus for a group’s entry into an area.

Together, regional housing dynamics and urban policy efforts can set the stage for gentrification to take place.

### **But what is gentrification?**

In everyday parlance, the term “gentrification” is often used interchangeably with “reinvestment” and “revitalization” without any distinctions among the three.

The Brookings Institution in 2001 defined gentrification as “the process by which higher income households displace lower income residents of a neighborhood, changing the essential character and flavor of that neighborhood.” By this definition, gentrification of a neighborhood happens only when three essential components come together: 1) original residents are displaced, 2) the physical condition (housing stock, greenspace, and street-scaping) of the neighborhood is improved, and 3) a large enough number of new residents enter such that the character of the neighborhood changes.

Now consider Brookings’ definitions of reinvestment and revitalization. Reinvestment is “the flow of capital into a neighborhood, primarily to upgrade the physical components of the neighborhood,” while revitalization is “the process of enhancing the physical, commercial (business and services) and social components of neighborhoods and the future prospects of its residents through private and/or public sector efforts.” By these definitions, reinvestment and revitalization are necessary conditions for gentrification to take place.

But gentrification is not always the outcome of reinvestment and revitalization.

Displacement and changing character are necessary conditions for identifying whether or not a neighborhood has gentrified. However, accurately capturing data on these two conditions is challenging, a fact which, in turn, makes identifying gentrification problematic.

First, accurate gathering of information on displacement requires knowledge of the following:

- The reason for former-resident movement: The movement of higher-income entrants into a neighborhood is but one of many reasons—including job loss, health concerns, and lifecycle stage—for a former resident's leaving a neighborhood. Thus, displacement is not always the obvious or accurate cause for such movement.
- The scale and pace of new entrants into a neighborhood: If either of these is larger or faster than what is typically experienced when reinvestment and revitalization occur, displacement may result. An uptick in scale and pace of new entrants should be expected when a neighborhood improves, but too many new entrants over a short period of time may lead to displacement.
- The role of vacant, buildable land: The more vacant, buildable land there is within a neighborhood, the less displacement should occur.

Second, the changing character of a neighborhood is, to some degree, a relatively subjective and expected result of reinvestment and revitalization. For example, how many is too many when it comes to sit-down restaurants, boutique stores, bike lanes, and beer gardens? The number of these amenities is largely a personal preference and often a function of the scale and pace of new entrants into a neighborhood.

Augmenting the difficulty in identifying gentrification using displacement and changing character metrics is that, according to the Brookings' definition, gentrification can be known only after a neighborhood has already gentrified.

Displacement and changing character metrics are most useful to researchers investigating after-the-fact questions, while an ability to identify areas that have the potential to gentrify is most useful to policymakers and business owners.



The outcomes of gentrification can be difficult to interpret. Moreover, the local narrative around gentrification and reinvestment and revitalization is dependent upon the degree to which local residents are positively or negatively impacted.

There are several straightforwardly positive outcomes related to gentrification, while other outcomes are less clear in terms of positive or negative quality. Increased tax revenue and deconcentration of poverty are clearly positive outcomes, whereas displacement, changing leadership and community power structure, and increases in land value are less clear. For example, displacement of existing residents and businesses is generally thought of as a negative outcome by the community, but there are positive possibilities, as well, for instance, when the person or business being displaced is viewed by the community as a negative presence. Displacement of a bar or nightclub with a troubled history or a drug-dealing neighbor may be positive outcomes. Complicating the matter is that the perceived benefit of the outcome may be influenced by what type of business does the displacing. A full-service grocery store is likely to benefit a community more than a niche handbag boutique. Similarly, increasing land values can also be perceived with mixed emotions: An increase in land values is a clear positive for property owners, but renters tend to view such increases negatively when they result in higher rent payments.

## Gentrification, equitable development, and affordable housing

Given the difficulties discussed above in identifying whether or not a neighborhood has gentrified, it is useful to think of gentrification in terms of equitable development.

Equitable development, according to the Brookings Institution, is “the creation and maintenance of economically and socially diverse communities that are stable over the long term, through means that generate a minimum of transition costs that fall unfairly on lower income residents.” The equitable development context also provides a framework to clarify the costs and benefits of gentrification by asking whether or not the process of gentrification produces equitable development in terms of economic and social diversity and long-term stability. More simply, are the costs of new neighborhood development disproportionately placed on low-income or other groups of residents?

In theory, equitable development has merit. However, the idea of equitable development has little bite in practical application unless supported and enforced through legislation.

More often than not, the view—positive or negative—of gentrification usually boils down to issues around affordable housing. One way to think about gentrification is as neighborhood revitalization without the preservation of affordable housing. Little can be done in certain markets in terms of retaining affordable housing because of what Megan McArdle, writing for *Bloomberg View*, terms the “irresistible force of the market”; but for other markets, affordable housing can be retained.

### Policy implications

*Is it possible to identify in real time neighborhoods that may gentrify in the next 5 to 10 years?*

Despite the problems with identifying gentrified neighborhoods using after-the-fact indicators, yes, it is possible to make real-time identifications.

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**Increased tax revenue and deconcentration of poverty are clearly positive outcomes, whereas displacement, changing leadership and community power structure, and increases in land value are less clear.**

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Long periods of time with boots-on-the-ground observation approaches to identification are likely to be most accurate, but these are also the most costly and difficult to adapt to other metro areas. Other plausible ways to identify potentially gentrifying neighborhoods rely on local knowledge, as well, but are less costly, can be combined to improve accuracy, and are portable to other metro areas. One could identify neighborhoods based upon current neighborhood quality conditions, for instance. One would also expect gentrification to happen in areas contiguous to current high-quality neighborhoods. Another identification method would be to use as a clue recent public investments made in a neighborhood, especially if the private market has not already invested in the area. Anchor institutions such as colleges and universities, museums, and theaters might also be used to identify potentially gentrifying neighborhoods as the existence of anchor institutions in an area attracts investment and provides key stakeholders in the neighborhood.

*Is it possible to time market interventions in order to preserve affordable housing?*

It is possible to time market interventions, especially if one can use the methods described above to identify neighborhoods that may gentrify. However, a more productive focus may be on what might be done to ensure that affordable housing is in the best position to be preserved.

Measures can be enacted proactively to ensure that affordable housing is preserved. At the most basic level, affordable housing can be used to set a standard for quality in a neighborhood. Consider that the investment of affordable housing units is often part of the initial phase in urban-development projects. If the quality of those units is set at one similar to market-rate apartments, then that should attract other private investment more quickly while giving little incentive to tear down such units once

the neighborhood has improved. This high standard for quality of affordable housing can also be utilized when breaking up previous concentrations of affordable housing units so that they are dispersed throughout the neighborhood. Relatedly, the willingness to undertake efforts to upgrade existing or older affordable housing units is a major step in the preservation of affordable housing in gentrifying neighborhoods. Finally, one might try to leverage affordable housing projects strategically with other public investments. For example, the addition of a regional train system stop is an opportunity that neighborhood organizations should not overlook.

These measures do require initial upfront costs and may end up being quite challenging to put into practice. The low-income housing tax credit, for example, is one tool that can be used to finance construction or rehabilitation of affordable housing units. However, in order to use this tool, time-consuming initial ground work must be done. Moreover, significant coordination among numerous stakeholders is also necessary for these types of deals to bear fruit.

Ultimately, success is less about timing market interventions and more about ensuring that affordable housing is in the best position for preservation within a neighborhood.

## Keeping an Eye on the Long Term

Affordable housing. Crime reduction. Diversity.

Neighborhood reinvestment and revitalization are on the minds of business and community development leaders in the Fourth District. Sustainable development plays a big part in their discussions.

"Balancing the rising markets with retaining affordable housing for long-term residents is a matter of stability of neighborhoods and social equity," notes Larry Swanson, executive director of Pittsburgh's ACTION-Housing, Inc. Fostering long-standing relationships among people in a neighborhood, he says, is healthy for both the individuals and the community on the whole. Essential to maintaining stability and avoiding resident displacement? Swanson says it's allowing for a more gradual, longer-term change in housing markets.

In Pittsburgh, a city within the Cleveland Fed's Fourth Federal Reserve District, which comprises Ohio, western Pennsylvania, eastern Kentucky, and the northern panhandle of West Virginia, most neighborhoods have long-term residents across an economic spectrum. This diversity has been important in terms of neighborhood and city-wide stability and, Swanson observes, "helps preserve Pittsburgh as an economically diverse community."

Allowing residents of modest incomes access to affordable housing and nearby employment is key in other cities served by the Cleveland Fed, as well. Cincinnati's mixed-use redevelopment project in Over-the-Rhine is another such example, one reflecting the needs of current residents and businesses while working to attract new residents and businesses to the neighborhood.

Anastasia Mileham, vice president of marketing and communications at Cincinnati Center City Development Corporation (3CDC), notes that working with local and regional financing agencies as well as existing residents and businesses can be a key to success.

Immediately pre-development (2003), Over-the-Rhine was plagued by a poverty rate of 58 percent and an unemployment rate of just more than 25 percent, both rates far exceeding average rates of 12.5 percent poverty and 6.3 percent unemployment nationally for the same year. Reported crimes committed in this 40-square-block area exceeded 1,770 in a single year alone.



## The Federal Reserve System, Community Development, and gentrification

Community Development departments throughout the Federal Reserve Bank System are tasked with promoting economic growth and financial stability, especially in low- and moderate-income neighborhoods. In practice, we inform policy and practices around “people, place, and small business” by convening stakeholders, conducting and sharing research, and identifying emerging issues aimed at improving the neighborhoods in which we live and work. If there is one emerging issue to convene stakeholders and around which to conduct research, gentrification is that issue. In fact, the topic of affordable housing recently entered into the top concerns of our constituents in a recent *Issues and Insights* poll (see page 2).

The Federal Reserve System is aware of the increasing interest in gentrification and aims to provide some much needed information and clarification around the issue. ■



### On the reel

By bus and by foot, dozens participating in a recent Federal Reserve Policy Summit see what reinvestment has done for a Pittsburgh neighborhood: <http://tinyurl.com/ntebroy>



### Read more

Kennedy, M., and P. Leonard (2001). *Dealing with Neighborhood Change: A Primer on Gentrification and Policy Choices*. Washington DC: Brookings Institution. <http://tinyurl.com/a25fcwr>

Mileham remarks that one of the most significant changes to Over-the-Rhine since the 3CDC reinvestment and revitalization project began “has been a 50 percent reduction in crime once vacant buildings were purchased, cleaned, boarded up, and secured.”

Today, more than 55 percent of the employees 3CDC has hired to work in the district live within a 3-mile radius, potentially doubling such employees’ stakes in neighborhood success.

But successful and sustainable reinvestment and revitalization include more than affordable housing options and employment opportunities. Anchor institutions, arts, and culture also play their parts in neighborhood environments.

“Each neighborhood has a unique set of assets,” maintains Tom Schorgl, president and chief executive officer of the Community Partnership for Arts & Culture (CPAC) in Cleveland. That’s one reason for the diversity in terms of how Fourth District neighborhoods are carrying out redevelopment efforts, “particularly as local conditions or organizations serve as cultural anchors,” he says.



CPAC’s cross-sector work, in particular, demonstrates the intersections among arts and culture and local priorities—health, tourism, education, and inclusion of diverse community voices—that lead to strong neighborhoods. For Schorgl, one thing is certain across all areas served by the Cleveland Fed: “Arts and culture is a significant contributor to economic, education, and quality of life indicators.”

From affordable housing—“All cities should provide a bell-curve of housing options, from shelters to transitional housing to low-income and workforce housing to market-rate rental and for-sale product,” notes Mileham—to cultural cornerstones—“Arts and culture can be a catalyst for helping people see places in a new light or to look more deeply at community issues,” says Schorgl—successful reinvestment and revitalization projects put long-term, inclusive plans into practice.

—Tasia Hane-Devore

## Cybersecurity



Tasia Hane-Devore  
Staff Writer

Cybersecurity is on the nation's radar, and for good reason: The Center for Strategic and International Studies estimates the cost of cybercrime to the global economy at \$445 billion in a typical year, and Bloomberg projects security spending for cyber threats will top \$40 billion annually by 2017.

As in other sectors, financial institutions are moving with the times to upgrade their technology, but technological advancement comes at a price, as each new technology introduces complexity and system vulnerability. According to the Financial Services

*As attempts to steal consumers' personal and financial information rise, so does the number of bills introduced to put safeguards in place.*

Sector Coordinating Council (FSSCC), most financial firms experience near-daily cyber-attacks. When cyber-attacks are successful, losses can be profound, costing financial institutions millions of dollars per successful breach—and often harming their reputations in the process.

Regardless of against what type of institution or company these cyber-attacks occur, note FSSCC Chairman Russell Fitzgibbons and Vice Chairman Doug Johnson, they are often intended to compromise consumers' financial information.

## Cybersecurity in the financial sector

Title V of the Gramm-Leach-Bliley Act (GLBA) of 1999 requires that financial institutions develop safeguards to ensure the security of consumer records and to protect against anticipated threats to consumers' information. Following GLBA, federal financial regulators including the Board of Governors of the Federal Reserve System issued supervisory guidance delineating expectations and requirements for information security and risk issues in areas such as authentication, continuity planning, payments collection, and vendor management. Federal banking agencies also require that banks, bank holding companies, and their subsidiaries implement a risk-based response program to address breaches to customer information systems.

For at least the past 14 years, then, the financial services sector has what Fitzgibbons and Johnson note is "a robust data protection and examination and enforcement system" in place, one that requires thorough assessments of risks to consumers' information. But it's no longer enough.

Financial institutions have placed cybersecurity among their highest priorities and are working diligently to protect themselves and consumers from cyber-attacks. Addressing concerns presented by Sen. Elizabeth Warren (D-MA) and Rep. Elijah Cummings (D-Baltimore) in their November 2014 letters to 16 large financial institutions, the FSSCC outlines several initiatives to increase cybersecurity and curb the number of financial-sector breaches. These initiatives include security platforms from a number of third-party vendors working on solutions to assimilate and analyze threat information in order to assist financial services companies in combating cyber-attacks.

Also in process today is collaboration between members of the FSSCC and merchant/retailer associations to address cybersecurity threats affecting merchant and financial services industries. The Merchant and Financial Cybersecurity Partnership brings together financial services, retail, government, and other stakeholders to collaborate on public policy in order to increase information sharing among sectors, improve card-security technology, and build and maintain consumer trust.

## Cybersecurity legislation: 2015

As in the private sector, facilitating cybersecurity through enhanced information coordination is a key focus of the White House and the 114th Congress. Barack Obama issued a February 2015 Executive Order—Promoting Private Sector Cybersecurity Information Sharing—to address cyber threats to the economic and national security of the United States.

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**Financial institutions have placed cybersecurity among their highest priorities and are working diligently to protect themselves and consumers from cyber-attacks.**

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While not concerned solely with the financial sector, several cybersecurity-related bills impacting banks and banking have been introduced in the 114th Congress.

Some bills are enjoying bipartisan support in their earliest stages. The Cybersecurity Information Sharing Act of 2015 has had the most success to date and, if passed into law, would encourage voluntary sharing of cyber-threat information while protecting individuals' civil liberties.

A sister-bill in the House, the Protecting Cyber Networks Act introduced in late March has since been referred to the full House for consideration. While the two bills offer liability protection to entities who share cybersecurity information voluntarily, two significant differences lie between them. The House bill would prohibit the use of collected data for surveillance purposes. The Senate bill, in contrast, requires information shared by private entities to first go through the Department of Homeland Security.

A related cybersecurity bill originating in the House is the Cyber Privacy Fortification Act of 2015, which seeks to amend the federal criminal code to provide for criminal and civil penalties if a private entity intentionally neglects to notify an individual of a security breach there is reason to believe has resulted in improper access to "sensitive personally identifiable information." The bill would also require the entity to provide prompt notice of the breach to the US Secret Service or the FBI.

These bills mean to incentivize financial-sector cooperation, which some in Congress argue has been lacking. There are numerous reasons a company or financial institution might hesitate to share cyber-attack information, however. Perceived legal risks to sharing such information act as a deterrent, as does providing information of benefit to competitors or of detriment to one's own sales or stock prices. Finally, if there is no mechanism in place to incentivize information sharing—and currently there is not—one's competitors might take advantage of the information provided but not contribute in turn.

These and other bills seek to remove such roadblocks.

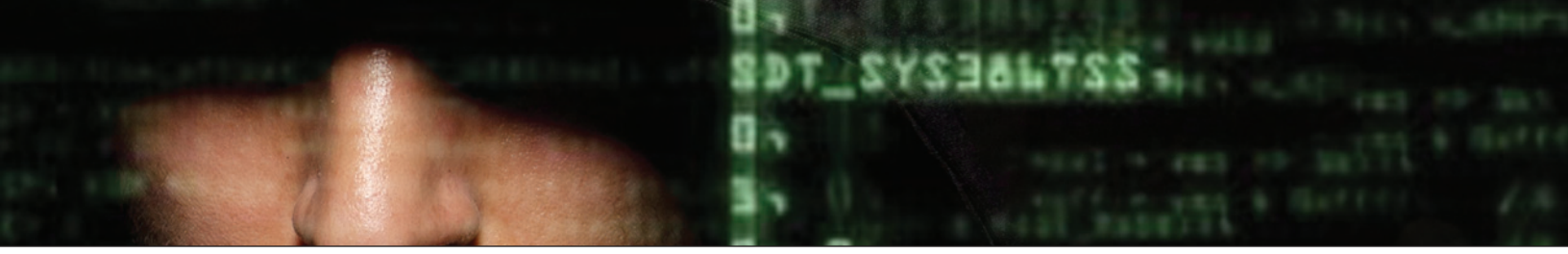
### Cybersecurity and the Federal Reserve

It is, perhaps, out of practicality that the Federal Reserve advocates pursuing non-regulatory and non-legislative approaches in support of cybersecurity strategies whenever possible.

According to the January 2015 report *Strategies for Improving the US Payment System*, there remain important challenges to financial- and retail-sector cybersecurity, "including the time to develop security standards,

## Cybersecurity Legislation Primer

Short title	Cyber Intelligence Sharing and Protection Act (CISPA)	Cyber Privacy Fortification Act of 2015	Cybersecurity Information Sharing Act (CISA) of 2015	Cyber Threat Sharing Act of 2015
Bill Number	H.R. 234	H.R. 104	S. 754	S. 456
Description	An amendment to the National Security Act of 1947 and supported by several trade groups, CISPA would promote information sharing among the government and manufacturing and technology companies.	Reprising a 2013 bill that stalled in committee, H.R. 104 provides for criminal and civil penalties if a private entity neglects to notify consumers of a breach resulting in a loss of "sensitive personally identifiable information."	CISA offers liability protection to companies who share cyber-threat information; a sister-bill, H.R. 1560, is making its way through the House. The Senate version of this bill requires information shared by private companies to first go through the Department of Homeland Security (DHS).	An amendment to the Homeland Security Sharing Act of 2002, this bill would prompt private entities to disclose cyber-threat information to private information-sharing organizations or a federal entity. It would restrict private entities' use and retention of cyber-threat indicators to purposes relating to information security or crime reporting.
Goal	To assist the US government in ensuring network security and investigating cyber threats	To incentivize financial-sector cooperation	To encourage sharing of cyber-threat information while protecting individuals' privacy and civil liberties	To codify mechanisms for enabling cyber-threat information sharing among private entities and between private and government entities
Status (as of press time)	Referred to the House Judiciary and Intelligence Committees	Referred to the House Judiciary Committee	Select Committee on Intelligence; placed on Senate Legislative Calendar No. 28 under General Orders for full Senate consideration	Referred to the Senate Committee on Homeland Security and Governmental Affairs
Follow all bills on <a href="http://www.congress.gov">www.congress.gov</a>	<a href="http://tinyurl.com/lr2z7ob">http://tinyurl.com/lr2z7ob</a>	<a href="http://tinyurl.com/pyqec4s">http://tinyurl.com/pyqec4s</a>	<a href="http://tinyurl.com/q44mcfr">http://tinyurl.com/q44mcfr</a>	<a href="http://tinyurl.com/obwwoh2">http://tinyurl.com/obwwoh2</a>



inconsistent adoption of security improvements, and barriers to sharing fraud and threat information among stakeholders.” Jason Tarnowski, an assistant vice president at the Federal Reserve Bank of Cleveland, observes that technological advances have been embraced by financial institutions, driving innovation in payment and other systems and deepening interconnectedness among financial, retail, utility, and other sectors. “The flip side,” he notes, “is that criminals are exploiting this interconnectedness, presenting significant cybersecurity risks to these firms. Consumers are also at risk, as their bank accounts and personal information are often targeted in these cyber-attacks.”

The Fed’s focus on advancing US payment safety, security, and resiliency reflects an understanding of this interconnectedness—and how vital it is to financial stability. The Strategies report outlines the Fed’s intentions to expand its pool of anti-fraud and risk management services. In the near future, the Fed will explore improvements to its publicly available payment-fraud data, conduct research in payment security, and share results with stakeholders. As a federal banking regulator, the Federal Reserve is strengthening its overall supervisory approach to cybersecurity.

To obtain the current status of bills in the 114th Congress, visit [www.congress.gov](http://www.congress.gov). ■

Data Security Act of 2015	Data Security and Breach Notification Act of 2015	National Cybersecurity Protection Advancement (NCPA) Act of 2015	Personal Data Notification and Protection Act of 2015	Protecting Cyber Networks Act
S. 961	S. 177	H.R. 1731	H.R. 1704	H.R. 1560
Modeled on the data-security and breach-response regime established by the Gramm–Leach–Bliley Act (GLBA) and subsequent guidance issued by financial regulators, including the Federal Reserve Board of Governors, this bill builds on existing law to more effectively ensure information-security procedures are applied consistently. The bill intends to replace the current patchwork of state laws and establish a single set of national standards.	This bill prompts the FTC to broadcast regulations requiring entities that own or process personal information to implement security policies and procedures, including methods for information disposal. It allows an exemption if an institution concludes there is “no reasonable risk of identity theft, fraud, or other unlawful conduct.” Covered entities include those subject to GLBA.	Related to bills H.R. 1560 and S. 754, the NCPA Act would amend the Homeland Security Act of 2002 to enhance civil-liberties protections and multi-directional sharing of cybersecurity information.	Focusing on individual notification rights and responsibilities, this bill requires businesses to notify consumers of breaches to sensitive personally identifiable information. However, if such notification might “cause damage to national security,” notification is not required. Entities excluded from the proposed bill are those that act as vendors of or third-party service providers for vendors of personal health records.	This bill offers liability protection to companies who share cyber-threat information; a sister-bill, S. 754, is making its way through the Senate. Unlike the Senate version, this bill does not require information to first go through DHS. An 11th-hour amendment opposed by many in the financial sector would sunset the standards after 7 years.
To establish a clear set of national standards to prevent and respond to data breaches	To protect consumers’ personal information and to provide for nationwide notice in the event of a security breach	To enhance sharing of information and to strengthen privacy protections	To establish a national data-breach-notification standard	To encourage sharing of cyber-threat information while protecting individuals’ privacy and civil liberties
Referred to the Senate Committee on Commerce, Science, and Transportation	Referred to the House Judiciary and Intelligence Committees	Passed the House 355–63; advanced to the Senate for consideration	Referred to the House Committee on Energy and Commerce and to the Committee on the Judiciary	Passed the House 307–116; advanced to the Senate for consideration
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# BANK

## State of Banking, 2015

*Commercial lending is growing, bad debts are down. But banks face their share of challenges, still.*



**Michelle Park Lazette**  
Staff Writer

Though the bad debts that have wounded bank balance sheets in recent years continued to abate in 2014, the operating environment for US banks remains challenging.

Low interest rates have squeezed banks' net interest margins. The aggregate net interest margin of US banks stood at 3.04 percent as of year-end 2014, the lowest it's been since at least 1992.

Loan demand remains constrained, and competition for what loan demand exists is high.

Complying with new regulations comes at a price, as does defending against ongoing threats to cybersecurity.

These are the conditions Federal Reserve Bank of Cleveland bank examiners have gleaned from bankers in the course of their supervisory work, and aggregate data available via recent bank financial filings corroborate what they've heard.

These data also reveal that for the first time since 2010, the aggregate profit of US banks fell (2.3 percent between December 31, 2013, and December 31, 2014). The same is true for the profits of those banks supervised by the Cleveland Fed in Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky. Their aggregate net income fell 4.7 percent over the same period.

Why, if margins have been compressed for some time, did banks' net income grow for years and then drop over the course of 2014?

For one, securities gains, or money that institutions make by selling investment securities, boosted profits in other recent years. Plus, bank profits were bolstered as institutions released money from their loan-loss reserves as the volume of bad debts declined. That kind of profit is not sustainable, Cleveland Fed supervisors explain.

Low loan growth (compared to what was seen pre-recession) is motivating banks in the region to pursue growth in other ways, including mergers and acquisitions (M&A). It's a trend that's reflected in changing bank signage across the country—and a story aggregate data also tell.

M&A involving US banks rose to 328 last year from 209 in 2010, an increase of 57 percent. Meanwhile, deals involving banks supervised by the Cleveland Fed increased to 25 from 3 in 2010, a staggering 733 percent increase.

“The number [of bank mergers and acquisitions industry-wide] that we saw in 2014 was higher than we've seen in several years,” said Stephen H. Jenkins, the Cleveland Fed's senior vice president of banking supervision.

But why might the increase have been so much sharper in this region?

Fred Cummings has a theory.

“There's just more supply” compared to other parts of the country, says Cummings, president of Elizabeth Park Capital Management, an Ohio-based hedge fund that invests in banks from coast to coast. “I think it's due to the relatively high number of independent banks, particularly in Pennsylvania. Even Ohio still has a lot of small banks.”

### **‘Everyone's trying to get growth’**

Though it's under pressure, the banking industry is financially stable and gradually improving, Cleveland Fed supervisors say. Historically speaking, though, its return on equity is lower, and revenue growth is down.

Loan growth may not be as robust as bankers would like (for one, because many businesses have the liquidity they require to self-fund their needs), but one category of lending is up.

“Commercial and industrial (C&I) lending was where we saw relatively strong growth,” says Jenni Frazer, an assistant vice president with the Cleveland Fed.

During recent earnings calls, bankers reported they feel “reasonably optimistic” about loan growth in 2015, too, Cummings says.

“C&I lending is really the key driver of the loan growth,” he continues. “Mortgage is still tough, given down payment requirements. Home equity isn't growing.”

Cleveland Fed banking supervisors agree: Where there is consumer lending growth, it tends to be auto loans. Most of the loan demand that exists appears to be commercial, and traditional banks and nonbank organizations are competing for it. Hedge funds and insurance companies are among banks' nonbank competitors, Frazer says.

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### **There's integration risk as firms combine: Are the appropriate processes and controls in place? Has due diligence been done?**

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“All banks are talking about the pricing environment,” Cummings adds. “Pricing is more competitive now than it was last year because everyone's trying to get growth.”

The reach for yield by financial institutions, through the assumption of risks as a means to generate earnings, is a concern for banking regulators, notes Nadine M. Wallman, a Cleveland Fed vice president.

“The banks themselves are telling us they are beginning to loosen underwriting standards,” she says, citing the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices.

When asked whether he sees emerging risks, Elizabeth Park Capital's Cummings cautions that C&I lending is riskier because in many cases it's unsecured, or without pledged collateral.

“Some banks are going to make mistakes in commercial and industrial lending because they don't have much experience” in that area, Cummings says. “They don't have the option of doing more consumer-based lending. The demand side for that is just weaker right now.”

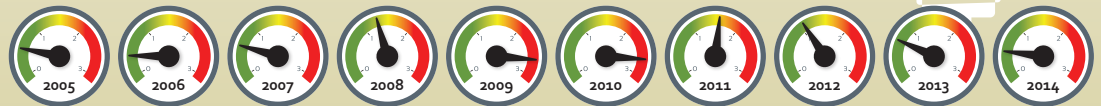
Indeed, in their annual reports, a number of Fourth Federal Reserve District banks noted that their mortgage banking incomes dropped in 2014. They cite the slower housing market, a slowdown which some attributed to the recently introduced Qualified Mortgage and Ability to Repay standards. However, anecdotal information suggests that mortgage activity picked up in the first quarter of 2015.

# Margins and Mergers

US banks<sup>1</sup> may not be as burdened by delinquent loans as they have been in recent years, but the industry faces other challenges.

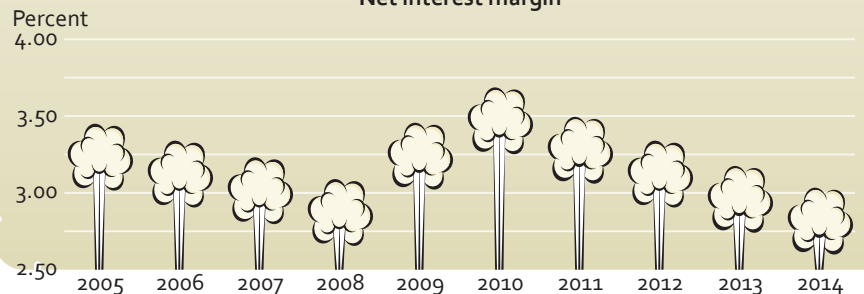
First, some good news. When a bank writes off a loan that a borrower is not paying, it's called a charge-off. Net charge-offs, as a percentage of US banks' total loans and leases, ballooned to 2.69 percent at year-end 2009, but since then have declined. As of year-end 2014, net charge-offs had returned to pre-recession levels.

Net charge-offs  
(as a percent of total loans and leases)



Banks remain under pressure, however. Competition for loans (from both banks and nonbanks such as hedge funds and insurance companies) is tight, and banks' net interest margin—the spread between how much interest banks pay for money they take in and how much interest they make lending it—is squeezed. In fact, banks' net interest margin hasn't been lower than it was at the end of 2014 since at least 1992.

Net interest margin



Bank profits



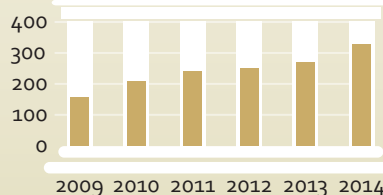
Although net interest margins are squeezed, the banking industry's profits have been on the upswing, growing every year since 2010—until 2014. Many institutions' profitability was due, in no small part, to money they were able to release from loan-loss reserves as the need to cushion against bad debts abated. Between the end of 2013 and the end of 2014, though, US banks' net income dropped 2.3 percent.

## Bank mergers and acquisitions

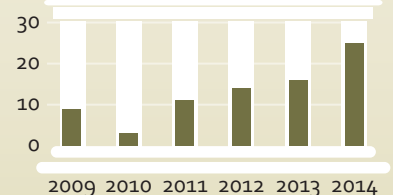
Bank mergers and acquisitions have picked up since 2010, increasing 57 percent nationally and a whopping 733 percent in the region the Cleveland Fed serves.<sup>2</sup> Often, bankers doing these deals cite squeezed margins and increased costs of compliance as reasons for the transactions.



Nation



Fourth District



1. The term "US banks" refers to US institutions that have commercial bank charters.  
2. The Federal Reserve Bank of Cleveland serves the Fourth Federal Reserve District, which comprises Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky.

Sources: Bank Call Reports, Bank FR Y-10 Reports



Increased regulation and continued margin compression are 2 things bankers cite as reasons for doing M&A, Wallman says.

Federal Reserve supervisors aren't for or against increased bank consolidation.

"We are indifferent on the number of mergers and acquisitions," Jenkins says. "It is individual banks' boards of directors and ultimately the market that determine the amount of consolidation."

But the Fed does monitor the risks created by increased deals. There's integration risk as firms combine: Are the appropriate processes and controls in place? Has due diligence been done?

The execution risk is especially high for some of the smaller banks engaging in deals, Cummings says.

"Some of these small banks have not been that active in deals, and they're starting to do deals," he says. "They may not execute that effectively, in terms of capturing cost savings in a timely manner."

### **Burdens, yet optimism**

While bankers tell Nick DiFrancesco, president and chief executive officer of the Pennsylvania Association of Community Bankers, that net interest margins are a concern, they identify a bigger threat.

"It's a very burdensome regulatory environment," DiFrancesco says. "You talk to most banks, [and] if they're hiring people, they're hiring people for compliance, not customer-facing positions."

Many banks are also struggling with the cost of introducing technology — from web-based to mobile — to the way they do banking, but it's imperative they do, DiFrancesco asserts.

"Those banks that have not been able to get where they need to be to compete with technology and products will continue to see a rather challenging economic position," he says. "There are still banks that have not reached into that area at all. As the older population starts to leave the banking market, the millennials are expecting something completely different in terms of services. We can't continue to do what we've always done. The manner in which financial services are transacted is changing dramatically."

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**When it comes to their troubled debts, banks as a whole reported that their nonperforming assets, or delinquent, nonaccruing loans and repossessed assets, and their charge-offs, or written-off debts, have declined.**

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Though there are pressures, there's reason for optimism: When it comes to their troubled debts, banks as a whole reported that their nonperforming assets, or delinquent, nonaccruing loans and repossessed assets, and their charge-offs, or written-off debts, have declined.

The volume of nonperforming assets has been dropping for nearly a half decade, and the improvement reveals something about banks' customers, the Cleveland Fed's Frazer says.

"Improving trends in asset quality are continuing," she says. "It means that the banks will be stronger; they will be able to retain capital as opposed to losing capital from taking losses on loans. It signals that our businesses in the community are faring better financially because they're able to pay their debts, and, along the same lines, consumers are faring better because they're able to pay their mortgages, their credit cards, their car loans."

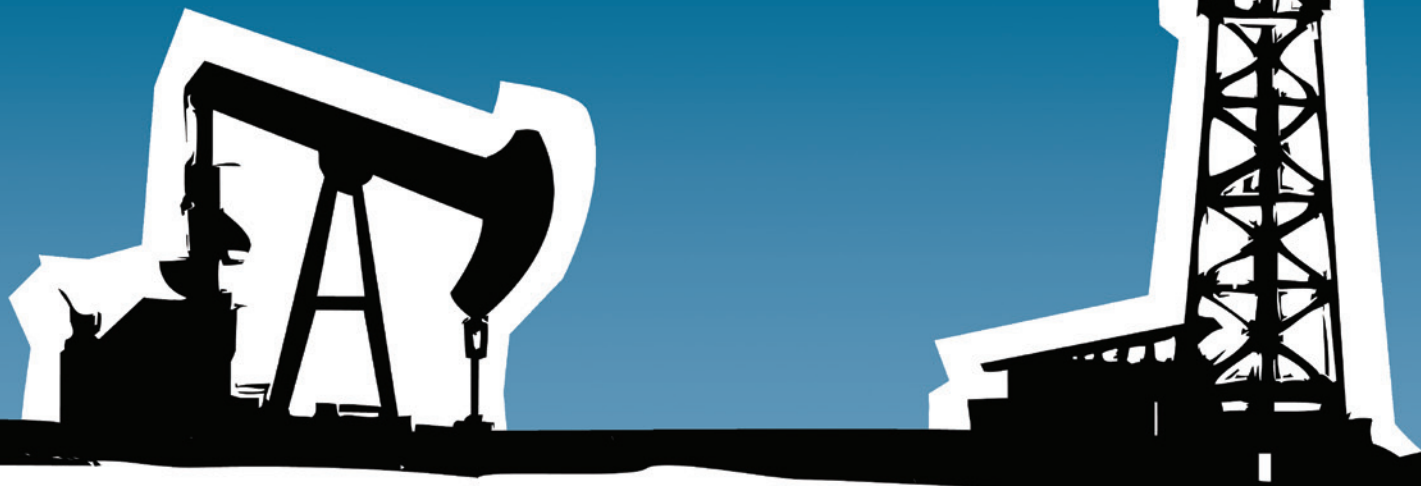
One asset class that worries some, Cummings says, is multi-family lending, which has grown very fast and, in some markets, perhaps to an extent where supply may exceed demand, Cummings says.

Still, he expects the banking industry's credit quality to remain strong and the industry to enjoy stable to improving profitability this year. Cummings also foresees more banks returning capital to shareholders in the form of dividend increases and stock buybacks. Additionally, he expects increasing mergers and acquisitions to be a key trend in 2015 and 2016.

DiFrancesco uses stronger wording: He expects 2015 to be "rampant" with M&A, but he's not seen so far this year the level of activity he would have expected.

Bankers, for their part, seem optimistic that credit quality will continue to move in a positive direction. They're also building, Frazer says, into their second-half forecasts something they'd very much welcome: higher interest rates. ■

## Monitoring Energy Exposures



*Bankers and bank supervisors are focused on what persistently low oil prices might mean for loans made to the sector. But, they're not sounding the alarm.*



**Michelle Park Lazette**  
Staff Writer

Reports of a slowdown in shale activity started rolling in months ago, and now the banking industry has revealed that it expects to feel some impact of low oil prices, too.

In April, the Federal Reserve Board's Senior Loan Officer Opinion Survey revealed that bankers expect the quality of loans made to the oil and natural gas drilling or extraction sector to deteriorate somewhat this year.

In other words, bankers expect some loans they've made to the sector not to be paid as was set forth in their terms, and they expect to write off some loans as losses (charge-offs).

That said, bankers indicated that their exposures are small and that they are undertaking a number of actions to mitigate the risk of loan losses, including restructuring outstanding loans, reducing the size of existing credit lines, and requiring additional collateral, the survey reported.

Of the banks that made loans to oil and gas firms, more than 80 percent indicated that such lending accounted for less than 10 percent of their commercial and industrial (C&I) loans outstanding.

That's a relatively small portion of a bank's portfolio, explains Jenni Frazer, a Cleveland Fed assistant vice president and deputy regional officer of the Federal Reserve Bank of Cleveland's Cincinnati Branch.

Banks in the Fourth Federal Reserve District, which comprises Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky, are among those with increased exposures to the oil and gas industry, Frazer says. In the years following the recent economic downturn, such lending was one way banks could achieve growth.

Precise data on how much money bankers in this region have lent to the industry and information regarding how the volume of loans outstanding compares to that of other Federal Reserve regions are not publicly available.

But, Frazer notes, "You can't be in Ohio and western Pennsylvania and not do some energy-related lending." The Marcellus and Utica Shales activity spans land in both states.



“We do not have an outsized risk here in the Fourth District,” she notes. “It’s fair to say that the information that came out of the Senior Loan Officer Opinion Survey is a good representation of what the Fourth District companies are experiencing, as well.

“Some banks in the Fourth District have been growing those portfolios over the past 4 or 5 years,” Frazer says. “Over the past year, with oil prices being low for a longer period of time than people anticipated, that gave us [banking supervisors] cause for concern for the viability of borrowers in that group. Bankers share that concern and have been closely monitoring their borrowers’ vulnerabilities.”

### Downside risk

So bankers have increased their oversight and monitoring of impacted borrowers, namely in terms of borrowers’ financial performance, Frazer says.

The Federal Reserve’s *Beige Book*, which reports economic business conditions throughout the country 8 times a year, began revealing signs in December of some contraction of oil and gas activity in the Cleveland Fed’s region.

“There is some financial belt-tightening by exploration and production companies,” the December 3 report noted.

In January 2015 came this reflection: “A sustained decline in oil and gas prices may pose some downside risk to drilling and production.”

In March, the *Beige Book* revealed that the number of drilling rigs in the region served by the Cleveland Fed shrank by 19 percent since mid-December.

And on April 15, the report noted, “Spending for new drilling in the Marcellus and Utica Shales has been significantly curtailed.”

In fact, April was the second month this year whose *Beige Book* report gave word of layoffs by oil and gas companies and their supplier industries.

Fourth District bankers are not overly concerned, though, they tell Cleveland Fed banking supervisors.

“There’s no sense of alarm with their oil and gas portfolios,” Frazer says. “Yes, they’re monitoring more carefully. They’re having more frequent discussions with their borrowers, but the oil and gas industry is somewhat prepared for these lower oil prices and has hedges in place to protect its financial performance. The risk that we are hearing from the bankers that is coming from the borrowers is that should oil prices stay low for a much longer period of time, then

there’s more reason to worry. In the short term, the oil and gas industry can withstand these lower prices.”

Recent public filings by a couple of institutions in the Cleveland Fed’s region reflect confidence in oil and gas assets.

One example: In its first-quarter filing this year, Cleveland-based KeyCorp noted, “Credit quality on our oil and gas loan portfolio, which represents 2 percent of total loans at March 31, 2015, remains solid, with net loan charge-offs lower than those on our overall portfolio.”

### Not unusual matters

The sharpened focus on loans made to the oil and gas industry is not unlike what sometimes happens when any industry is experiencing hardship, Frazer explains, further citing as an example the way automotive industry borrowers came under stress—and scrutiny—during the financial crisis.

“This is part of the normal credit cycle,” she says. “At any given time, there are pockets of bankers’ portfolios that are under heightened risk. It’s not unusual for loan portfolios, as they become seasoned, to experience some kind of loss. What would be worrisome is if loans made 90 days ago were being charged off. But through the credit cycle, we expect bankers to incur some loan losses.”

Regulators have 2 roles when a particular risk escalates, Frazer explains.

“It’s our job to make sure that the bankers have the right risk management processes in place to know their exposures and where the risks lie,” she says. “If we don’t see that, we could exercise our authority and direct bankers to establish the right infrastructures and controls.

“We also have a responsibility to take broader information like what we’re getting from the Senior Loan Officer Opinion Survey to understand the risks nationally or even globally for the industry to make sure there isn’t a systemic risk that would impact financial stability,” Frazer adds.

The most recent Senior Loan Officer Opinion Survey revealed more than bankers’ reflections on oil and gas loans. The report also reveals that demand has strengthened and standards have eased for commercial real estate (CRE) loans. ■



#### Read more

Find the Senior Loan Officer Opinion Survey at [www.federalreserve.gov/boarddocs/snloansurvey/201505/default.htm](http://www.federalreserve.gov/boarddocs/snloansurvey/201505/default.htm)

# Eyes on the Road, Expanded Coverage, & EMV

In interviews with 3 Cleveland Fed board and council members, *Forefront* gleans more about new trucking technologies, healthcare's increasing focus on the consumer, and ways the payments industry is defending against 'crooks.'

We started with asking how business conditions have changed recently in the region we serve: Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky.

Charles L. Hammel III turned immediately to oil and gas. Mike Keresman talked rapid e-commerce growth. Deborah Feldman focused on wages.

*Forefront's* motive for talking with this trio of business leaders isn't dissimilar to why the Federal Reserve Bank of Cleveland convenes and listens to various boards of directors and business advisory councils. The aim is examining business conditions through different lenses, augmenting the story that data alone can tell.

In this, the second installment of Q&As with members of the Bank's boards and councils—who regularly share with the Cleveland Fed what they're experiencing—*Forefront* asked about what these businesspeople have learned about the Fed, their favorite places within the region the Cleveland Fed serves (Dayton makes the list), and the key to doing business for 100 years.

First, we reveal the trends they see emerging in their respective industries—trucking, secure transactions, and healthcare.

**“There’s a lot of incentive to bring the cost of healthcare down while providing good care.”**

**Forefront:** *What impact have you seen since the Affordable Care Act rolled out?*

**Feldman:** The aspect of the Affordable Care Act that has resulted in the increased coverage through the exchanges and the expansion of Medicaid in Ohio has certainly meant a significant infusion of dollars for hospitals. Children’s hospitals were not affected directly because children already were covered by CHIP (Children’s Health Insurance Program), but for the adult hospital system, the expansion of coverage and particularly Medicaid has been a significant positive. Prior to the expansion, if you were a childless adult in Ohio at a certain income threshold, you probably had no coverage at all, and if you went to a hospital and were uninsured, the ability of the hospital to collect payment was very small. With the expansion of Medicaid, there is coverage for these individuals.

The second area the Affordable Care Act has impacted is the pace of change in the health care delivery system. The entire continuum, from payments to delivery of care, is really up for grabs right now in terms of which side will lead. Who’s going to drive the actual delivery? For example, is it the insurance companies that are going to have narrow networks that will direct their customers to only certain healthcare facilities? Is it the hospitals that are going to some extent become insurance companies and contract with employers so they are driving the care to their own networks? Is it the consumer who, because of price transparency, can make his/her own decision about where he/she is going to seek care?

**Forefront:** *What trends have you observed lately in the business of healthcare?*

**Feldman:** There’s a lot of incentive to bring the cost of healthcare down while providing good care. This increased focus on price is driven by another trend: the movement toward high-deductible health insurance plans.

We’re seeing a lot more consumer-driven behavior in healthcare. The industry is becoming much more retail in its organization. Traditionally, it has been focused around providers, and I think you’re seeing it being organized more and more around consumers. You’re seeing comparison of costs online, you’re seeing retail clinics everywhere from Walmart to Walgreens, and you’re not just seeing those clinics wanting to take care of ear infections and stubbed toes. They want to manage chronic conditions that in the past have been the purview of physicians and hospitals. The consumer wants convenience and access.



**Deborah Feldman**

Deborah Feldman is president and chief executive officer of Dayton Children’s Hospital, which administers care to 290,000 infants, children, and teens each year. Feldman has been a member of the Cincinnati Board of Directors for the Federal Reserve Bank of Cleveland since January 2013. The Cleveland Fed has three boards, including one in Cleveland and another in Pittsburgh.





### Charles L. Hammel III

Charles L. Hammel III is president of PITT OHIO, a Pittsburgh-based transportation solutions provider. The company delivers both asset-based transportation (using trucks it owns) and nonasset-based transportation (where providers arrange for transportation, but don't own the trucks). Hammel joined the Pittsburgh Board of Directors in January 2012.



**Forefront: What trends are emerging in the business of trucking and supply chain service?**

Hammel: One is acquisitions. It seems that the bigger players are getting bigger by buying out other companies, so the number of transportation companies is shrinking. Private equity firms have a lot of cash, and they are coming in and initiating a lot of the acquisitions. A newer trend that's emerging in trucking is the safety equipment that's becoming available on new trucks, including collision avoidance and video. Video capture monitors the front of the truck and the road ahead and turns on if there's a hard-steering event or heavy braking. So we're able every day to see all the close calls or all the issues the driver has faced. It's helped us considerably when we do have an accident.

**Forefront: Your family-owned company is nearly 100 years old. What advice might you offer to other business owners who want to achieve the longevity your company has?**

Hammel: There's no silver bullet. There's no one thing that you do. There's a series of things. First and foremost, every company needs to view its company as an employee-run organization. Everything we do is going to benefit the employee, from working conditions to how they're treated to being able to give them higher and further education and a more-than-competitive salary and benefits. Really concentrate on keeping your employees happy and motivated. Customers change, your objective changes when your environment changes, you've got to use different methods and technology. What can never change is your value system. You'll always want to treat your employees better than they've ever been treated before.

**Forefront: You're in the business of secure transactions, among others. Several security breaches involving large corporations have made the news recently. What's your take on these?**

Keresman: The first question to ask is, why are these breaches happening now? They didn't happen before because if you stole somebody's credit card number, what would you do with it? The reason there are breaches today is there's a place to use the credit card information—online. Mobile and Internet commerce has given crooks a chance to use stolen information as currency and buy things. There is quite a bit of money to be made via fraud. That has to stop, and EMV [cards, which contain embedded microprocessors that provide security features not possible with traditional magnetic stripe cards] are one way to help stop that. What they do is they make it very hard to counterfeit credit cards. However, chip cards do not address Internet fraud.

**Forefront: EMV cards are beginning to proliferate in the United States just as they have in other parts of the world. What other methods do you expect to see retailers, customers, and bankers use to protect valuable data?**

Keresman: Retailers are doing things like tokenizing data. So, instead of storing credit card information as it is, they're going to camouflage it, so if somebody does steal it, it's gobbledygook. If the numbers on the card are rearranged, for example, and somebody steals it, it doesn't mean anything. Merchants also are turning to companies like ours to protect their business online. When a consumer hits the "buy" button, we're connecting that user to the issuing bank so the issuing bank has the opportunity to validate the cardholder. The issuer can challenge the consumer, if the transaction looks suspicious, and ask a security question. It happens in less than half a second, and it gives the bank an opportunity to validate or authenticate the cardholder.



## Mike Keresman

Mike Keresman is chief executive officer of CardinalCommerce, a company based in Mentor, Ohio, specializing in mobile commerce and payment solutions to meet clients' card-not-present needs. Keresman has been a member of the Cleveland Business Advisory Council since early 2011. Business advisory councils advise the Cleveland Fed's president and senior officers on current business conditions.



## Following our industry-specific questions, Feldman, Hammel, and Keresman shared their views on our region and the Fed.

**Forefront:** *What change in business conditions have you noticed in our region (Ohio, western Pennsylvania, the northern panhandle of West Virginia, and eastern Kentucky) so far this year compared to 2014, and what impact is it having?*



**DF:** In Ohio and more so the Dayton region, I would say things seem more positive. People in general have a more positive outlook about the economy. We are gaining jobs, but our wages are still stagnant. The jobs that are replacing those that were lost are not replacing the incomes that were lost, and I think that issue continues to be an important part of the economic picture. So we see folks who are doing well continuing to do well and even better, but folks who were impacted significantly by the recession are not replacing their jobs with the same wages.



**CH:** Throughout the different industries we do business with, everything is pretty much the same with the exception of the oil and gas industry. The oil and gas industry seems to have fallen on temporary hard times with the price of oil being as low as it is. That has created a fair amount of layoffs in that industry and also has affected suppliers negatively. Those who supply the oil and gas industry, their business is down. But the one positive side is the slowdown has made more drivers available for trucking companies. The trucking industry has been in a severe driver shortage, and as the oil and gas activity grew, the shortage worsened.

So, there's a little temporary relief with drivers because of that, but the downside far outweighs the upside.



**MK:** Our business is far more global and national than it is regional. We had a record year last year, and it's driven by e-commerce. We know that retailers across the country are shrinking their physical footprints. More and different kinds of business are going online. The Internet is growing quickly relative to the brick-and-mortar world. It doesn't take much to take a retailer out of a physical location. They see a 10-percent to 20-percent drop in sales at a store, and they start questioning whether that store should stay or whether to consolidate more online.

**Forefront:** *What's something you realized about the Federal Reserve that you didn't know before you joined the board/council?*

**DF:** Probably the amount of independent research that's done. Each of the boards is doing a tremendous amount of research. Also, I've learned that inflation is an area on which the Cleveland Fed is focused.

**CH:** That the Federal Reserve operates around 2 data points—unemployment and inflation—and that all of its decisions are made around the numbers that represent those 2. I had also imagined that it wasn't as independent as it is, and I always thought the Fed's boards were mostly financial people. It's really made up of some bankers, plus people from lots of other industries: the chemical industry, the transportation industry, the paint industry. The members are all different to really provide a feel for business conditions.

**“The variety of council members that represents a cross section of the region ideally can help confirm or offer thoughts that might buck trends.”**

**MK:** Several things. First, the amount of information it has and the depth and quality of it, and how the Fed is able to take raw data from different segments of the economy and create meaningful information to assess the economic health and well-being of the country and what might make the economy better. I also didn't realize the variety of sources the Fed officials use and how the advisory council helps add a different perspective.

**Forefront: *What's the greatest impact you see the contributions of the board/council make?***

**DF:** It's really a reality check. The Fed is to be commended for trying to keep its ear to the ground. When you have so many very smart and well-educated economists, I think it is easy to become part of a bubble where you're only interacting with people who look at things a certain way. These boards do provide the Fed with direct information, and it's a great way for the Fed to keep grounded in what's really happening in the economy.

**CH:** We're able to provide real-time information on economic conditions from a variety of industries. In my work, I get to see what happens around transportation and some suppliers, but being able to be around others and their industries and listening to what they face from labor shortages to technology changes, it helps me to put things in a better perspective. I don't have a single lens that I'm looking through. It just keeps me more well-rounded.

**MK:** I think the council gives the bank a perspective that doesn't necessarily show up elsewhere. You might see, for example, that retail sales are flat or slightly down overall, but it might be hard to see that sales are shifting to different distribution channels such as mobile or Internet commerce.

**“There aren't hidden agendas. They're looking to help the economy and make sure there's a stable banking system.”**

The various participants offer the Fed insights, some of them subtle, beneath-the-headlines aspects of the economy. The variety of council members that represents a cross section of the region ideally can help confirm or offer thoughts that might buck trends. It gives the Fed some anecdotal evidence of what companies see that doesn't yet show up in a statistic.

**Forefront: *What's something you wish more people understood about the Federal Reserve?***

**DF:** I don't believe most people understand what the Federal Reserve does. In reality, its people have a very simple but complex mission: the dual mandate of low unemployment and low inflation. I would guess that most people think of it as an inflation-fighting organization, and they don't recognize that it has this employment goal as well.

**CH:** I wish they knew that the decisions that the Federal Reserve is making are not emotional decisions. They're fact-based, they're wide-ranging. Fed officials understand at a granular level what's going on, and all of that goes into their decisions on whether to move the interest rates.

**MK:** It is about as unbiased, straightforward, and honest a part of regulation as we have. I think Fed officials really do a pretty good job of measuring how our economy and banking systems are performing, and that is valuable to policymakers. The presentation of information has almost no political bias. I like the idea that it's straight. There aren't hidden agendas. They're looking to help the economy and make sure there's a stable banking system. They're the unsung heroes in our economic system.

**Forefront: *What's a favorite spot of yours in your part of our Fourth Federal Reserve District, and why?***

**DF:** My town, Dayton, Ohio. It is just a wonderful example of how Ohio communities have everything you can offer to have a wonderful quality of life. We have a park system here and bike trails along our rivers that are difficult to surpass. They allow a great recreation experience. We have wonderful communities with very, very affordable housing that makes living here easy and affordable for families. We're resilient, too: We've been through tough times, and we've overcome a lot. I'm very proud of what our community has been able to manage through and how we have rebuilt our economy.

**CH:** There's one spot that I feel really takes on a different feel to it when you're there, and that is the riverfront trails in Pittsburgh. You can drive by these trails, but when you get down and ride your bike and jog and walk them, it just gives the city and the rivers a whole new feel. Where 30 years ago, the rivers were polluted and didn't have much life in them at all, today they just teem with aquatic life. It's been rundown for so many years, and today it feels like a different place.

**MK:** Northeast Ohio is blessed with a lot of nature, and, in particular from mid-spring to mid- to late-fall, it's one of the best places in the world to be as far as climate and nature, with the lake, the hills, the trees, the grasses. You can boat, golf, walk in the park, and have picnics. One could go anywhere in the world, but for those 5 or 6 months, this is as good as anywhere. ■



# In Case You Missed It

## Drilling for Answers: Cleveland Fed Hosts Shale Symposium



Anne O'Shaughnessy  
Contributing Writer



### SHALE SYMPOSIUM WHAT COMMUNITIES NEED TO KNOW

The pros and cons of natural resource extraction in the United States are well documented. While mining activity brings jobs — and often great economic hopes — to an area, it also brings downsides to communities. Short-term negative impacts include strains on municipal resources such as schools, roads, and emergency services, as well as increases in rental-housing prices. Perhaps less well-documented are lessons gleaned from prior experiences that might be used to help guide communities dealing with the decidedly mixed blessing of resource extraction. With this in mind, the Cleveland Fed organized a forum in March in partnership with the Multi-State Shale Research Collaborative. The one-day event, Shale Symposium: What Communities Need to Know, convened experts from around the country to examine how communities can make the most of extraction's "boom" while mitigating the effects of the inevitable "bust."

This event was held in Wheeling, West Virginia, part of the Federal Reserve Bank of Cleveland's footprint and a locus of extraction activity occurring in the nation's Appalachian region. (The Cleveland Fed covers the Fourth Federal Reserve District, comprising Ohio, western Pennsylvania, eastern Kentucky, and the northern panhandle of West Virginia.) The symposium focused on three stages of extraction: the early stages of shale development, the growth-to-boom period, and the declining development-to-bust period.

"This is a complex and highly relevant set of issues in our District," noted Cleveland Fed vice president and community development officer Paul Kaboth.

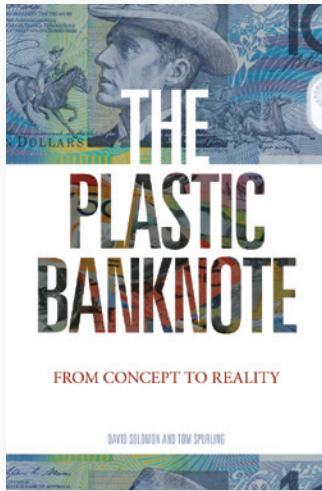
"Communities across the country, including those in more rural parts of Ohio, Pennsylvania, and West Virginia, are increasingly facing a broad set of economic and development challenges as the industry finds new ways to extract previously unrecoverable deposits of oil and natural gas from shale rock."

Event organizer Matt Klesta, a research analyst with the Community Development team at the Cleveland Fed, identified researchers, municipal leaders, energy policy-makers, and legal experts to speak on topics related to these three stages of shale extraction. Presentations covered issues ranging from the volatility of energy markets and the employment impacts of shale drilling to identifying which global factors even the smallest communities must consider when devising strategies to ensure positive longer-term effects of extraction in their areas. Collectively, their regional and national perspectives provided useful insights to some 80 attendees present at Wheeling Jesuit University and another several dozen virtual participants who tuned in via Ustream. A number of attendees tweeted at #whattheshale to chronicle highlights and some of the speakers' key points.

Speakers from all three panels used terms such as "volatile" and "wildly unpredictable" to describe shale drilling. The recent plunge in energy prices is one example of the industry's volatility; changing global demands for new forms of energy is another. Mineral rights, too, wherein a landowner can be paid by oil and gas companies for the right to drill from wells erected on the landowner's property and/or receive royalties from the volume extracted, can vary greatly from state to state and even within a community.

Keynote speaker Mark Partridge, professor of urban-rural policy at The Ohio State University, discussed the impact of volatile energy prices on the local energy industry and on local governments. The volatility of the mining industry is not conducive to a steady economy, he stated, and while "energy development can be a short-term buffer," establishing arrangements like Pennsylvania's highly successful Road Use Agreements can help a community weather the longer-term impacts once extraction activity slows and, eventually, rolls out of town. ■

## Book Review



# The Plastic Banknote: From Concept to Reality

by David Solomon and Tom Spurling  
CSIRO Publishing, 2014



Reviewed by  
**Dan Littman**  
Economist

The word “plastic” has long had a pejorative meaning in the United States, often used as an epithet to denote someone or something fake or to belittle materials such as in “cheap plastic toys.” And plastic has been a term of derision in popular culture, perhaps most notably in the iconic 1967 film *The Graduate*.

I like to think that inventors, engineers, and scientists are immune to the whims of popular culture and that their lines of research are not influenced by the stains attached to the materials with which they work. With plastic, science seems to have escaped the negative association, even while popular culture has not. John Wesley Hyatt, a US scientist, developed the first commercial application for plastic. In 1869 he discovered that cellulose could be made into stable, hard objects. He commercialized his discovery by making plastic-coated substitute balls for the then-popular game of billiards (traditional billiard balls of the period were invariably made of ivory).

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*The Plastic Banknote offers a 30-year history of Australia's transition from 'paper' to 'plastic' banknotes, some of the world's most highly engineered everyday objects.*

Leo Baekeland, another US inventor, is probably the most notable innovator in the early history of plastics. In 1907, he developed Bakelite, a plastic made into objects found in virtually every American home by the 1940s. By the 1960s, many scientists were working to make plastic the advanced material we find today in our cars, computers, phones, and spacecraft. One of those innovators is David Solomon, an Australian scientist. In 1968, while working at Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO), Solomon proposed to the Reserve Bank of Australia a plastic substrate for banknotes.

*The Plastic Banknote* tells a fascinating story spanning 30 years, from Solomon's initial 1968 proposal to the release of an A\$10 commemorative note in 1988 to the complete switch in 1996 from Australia's “paper” (actually a cotton-linen substrate) to polymer notes.

In 1966, Australia decimalized its currency system, moving from notes and coins denominated in pence, shillings, and pounds to one using pennies and dollars. The new banknotes contained state-of-the-art authentication features, including a watermark, a metalized plastic thread, and intaglio printing. Within a few months, counterfeiters set about replicating the new A\$10 note. One group of counterfeiters was successfully simulating the look of the note, watermark, and thread, but was caught quickly. Law enforcement and central bank officials were surprised to find that the counterfeiters' tools were readily available printing equipment and basic printing techniques. Much hand-wringing followed, and an effort to find a better banknote, and better anti-counterfeiting features, followed.

CSIRO, the University of Melbourne, and the Reserve Bank of Australia collaborated over the following decades to develop the polymer-substrate notes that circulate in Australia today. The successor company that produces polymer substrate for central banks around the world, Innovia Films, reports that there are now 78 banknotes in 24 countries using polymer instead of paper. Countries such as Australia, New Zealand, and, soon, Canada and the United Kingdom use or will use polymer substrate for all of their notes. And some, Vietnam and Nigeria, for example, have only one or two denominations on plastic, with the rest on traditional cotton or on cotton-linen blend substrates.

Banknotes are symbols of their country of origin and of the note issuer, the central bank; and they are critical to the trust consumers and businesses have in a country's monetary system. They are at once pieces of artwork and instruments for making payments. Banknotes have to survive the rigors of circulation, resisting folds, holes, tears, and trips through the washing machine. A banknote's printed features, whether applied by offset or intaglio printing, have to stay attached to the substrate through all of this abuse. And a banknote's various anti-counterfeiting features—man-on-the-street features (e.g., intaglio printing, watermark, thread), covert machine-readable features (sometimes magnetic-based), and forensic features—have to survive, too.

Banknotes were first commonly issued in Europe in the late 17th century, appearing in Sweden in the 1660s and in England in the 1690s. Over the next few centuries, banknote printers perfected substrates, inks, printing processes, and other features that met these requirements.



These notes all had (and most still have) specially engineered paper substrates: since the late-19th century, the paper involved has typically been made of cotton or a cotton and linen mix. This is a “fabric” much more durable than paper made from wood pulp. For the Australians, going to polymer required a revolution in substrate fabrication.

The book interweaves 3 themes in its 240 pages. First, it relates a 30-year corporate history detailing the many individuals and institutions engaged in those 3 decades of work. Second, it offers a history of practical, commercial innovation in an everyday object many of us pay little attention to, at least in terms of its physical properties: foldable money. Third, it provides an invaluable discussion of the requirements of banknote design, production, and circulation.

*Plastic Banknote's* discussion of corporate history is likely of most interest to the parties who were involved in the work and the people who knew them. The community of banknote designers, engineers, scientists, and distributors is a small one, but every country in the world has such a community.

The book is part of a sub-genre of business-history books that focuses on the processes and consequences of innovation. It is a useful addition to that literature which, up to now, has lacked an accessible case study of innovation for the world's most ubiquitous product, the banknote. The book will also be of interest to those of us in the “money business” such as banknote printers, central banks, commercial banks, armored carriers, and equipment vendors, who should find comfort in the fact that the book illustrates the difficulties inherent in changing such an entrenched product. But they should also be encouraged by the Australians' success. ■



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## Next in Forefront, online and in print:

### **Man on the Street**

The conversation about the benefits and consequences of neighborhood revitalization continues in our next Man on the Street video, due out in August. Watch for it: <https://www.youtube.com/user/ClevelandFed/videos>

### **Interpreting Statistics**

Charles Manski of Northwestern University spoke at the 2015 Policy Summit in a plenary called “How Does Measurement Contribute to Uncertainty in Public Policy, and What Can Be Done about It?” *Forefront* later sat for an exclusive Q&A with him.

### **Save the Date**

Financial Stability Conference:  
Policy Analysis and Data Needs  
December 3 and 4, 2015  
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