



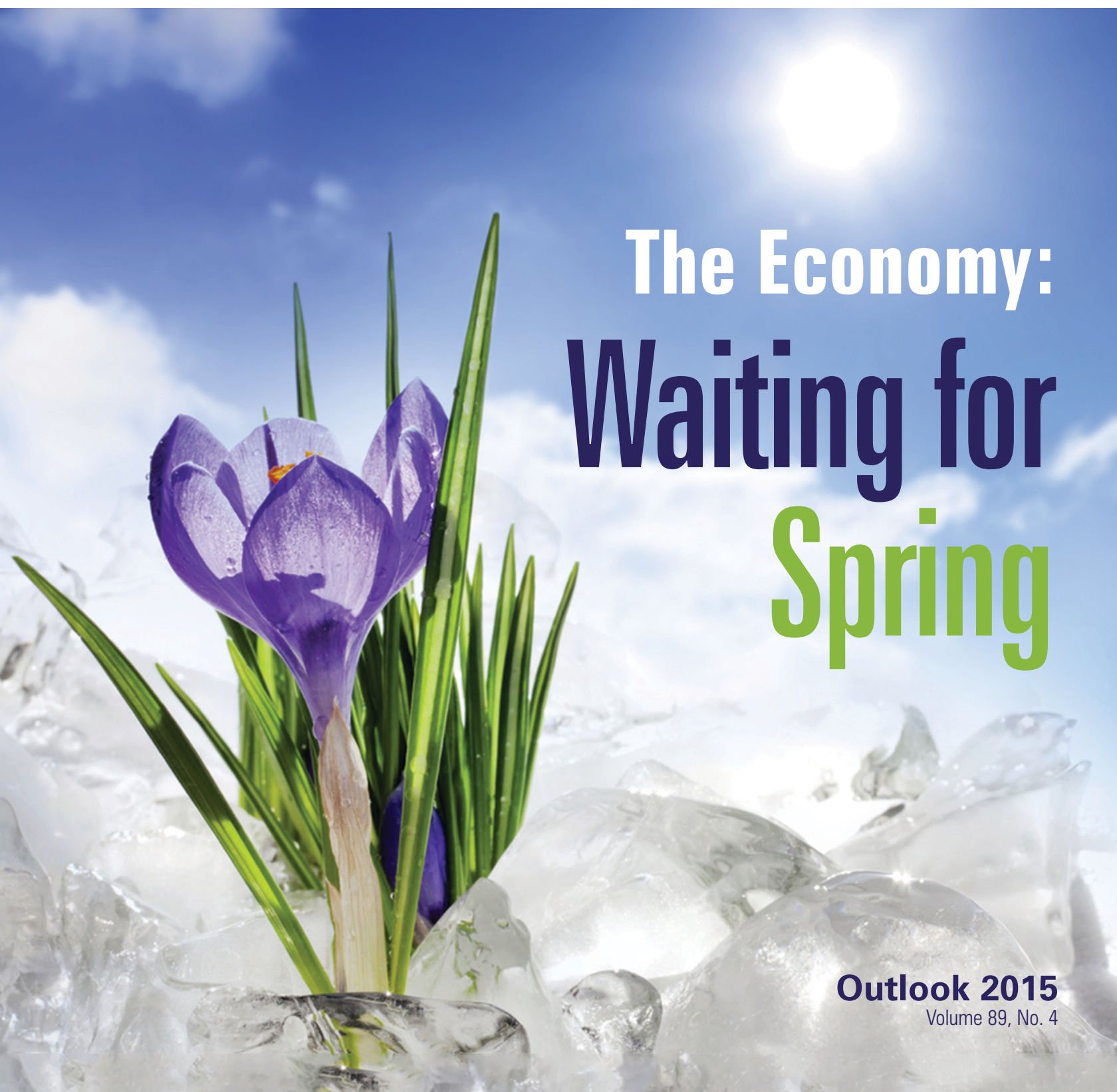
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What should we expect in 2015 for the world, U.S. and Indiana economies?

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The Economy: Waiting for Spring

Outlook 2015

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Indiana Metros

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International Outlook for 2015

Elham Mafi-Kreft, Ph.D.: Clinical Assistant Professor of Business Economics and Public Policy, Kelley School of Business, Indiana University Bloomington

The latest release from the International Monetary Fund (IMF) forecasts that the size of the global economy will have increased by 3.3 percent by the end of 2014. For 2015, our Kelley School of Business panel is anticipating that the world will experience a slight rebound to 3.8 percent growth in global gross domestic product (GDP).

The global economy will show some strengths and weaknesses in 2015. It is reasonable to state that the eurozone is responsible for the disappointing outcome of global growth in 2014. Europe's growth was exceptionally weak at only 0.8 percent. The United States, on the other hand, was the engine of global growth, with very encouraging results in 2014.

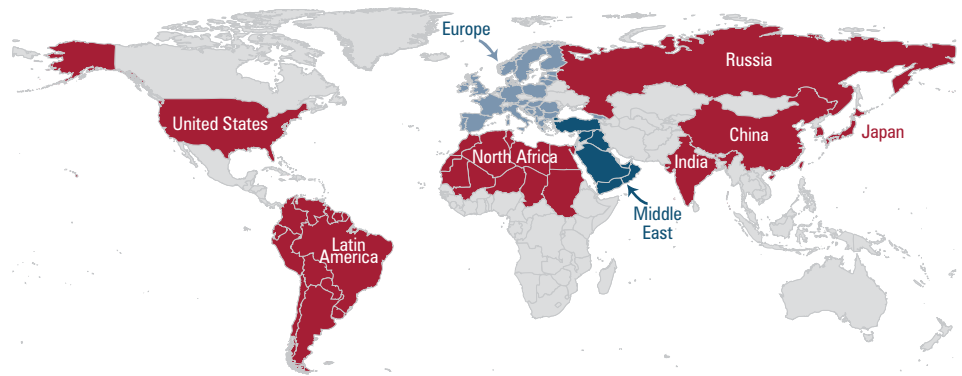
United States

U.S. growth is bouncing back but seems to be stuck below its potential.

After a setback in the first quarter of 2014 (a 2.9 percent drop in GDP), the U.S. economy bounced back. This was primarily due to the strengthening real estate market, greater household consumption and increased business spending. Furthermore, the recent pickup of wages, as the labor market tightens, suggests a more sustainable economic recovery for 2015, which we forecast to be slightly above 3 percent.

One possible threat to the U.S.'s stronger recovery is the end of the Federal Reserve's quantitative easing (QE3) and the financial market's reaction. The reaction of market participants right after the announcement didn't spark volatility in the stock market indexes, but then they had correctly anticipated the end of the Fed's massive purchase of Treasuries and asset-backed securities.

■ FIGURE 1: Regions Discussed in the 2015 International Outlook



Source: Indiana Business Research Center

Additional threats to the U.S. economy in 2015? The aging population and the deceleration of labor productivity. The expansion of information technology that fueled rapid productivity during the 1990s continued in the first part of the millennium. However, more recent restrictions on occupational labor supply, wrongful discharge and anti-discrimination laws, and the preferential tax treatment of employer-provided health insurance have reduced labor market fluidity and, therefore, may be a factor in slowed labor productivity.

Europe

Europe's recovery continues to be sluggish and the region is edging toward recession.

Growth continues to be weak in the eurozone and its GDP is rather optimistically forecasted to grow at 1.3 percent in 2015. The pace of economic recovery varies across countries, however. In particular, Germany, France and Italy have struggled to rebound from the eurozone's slump, while the Spanish and British economies have enjoyed modest but steady growth. Many countries in Europe suffer from productivity and competitiveness loss (the competitiveness of a country is

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”

measured by the prices their goods and services receive in the open markets and the efficiency with which they have been produced). Production and business investment are staying below what they were before the 2010 financial crisis and lending to households and businesses continues to decrease.

Recently, the IMF estimated that there is a 35-40 percent chance that the eurozone will experience a new economic downturn. Likewise, the 2014 German business survey that revealed a slump in confidence and the risk of deflation in the

eurozone suggests that significant threats to growth remain in Europe. Unless Germany is willing to allow an increase in its wages (to boost consumer spending), as well as an increase in its budget deficit (to boost government spending), many economies in Europe will continue to struggle throughout the next year and eurozone growth will be adversely affected. Once again, we are looking to Germany to be the engine of European growth.

Russia

Russia's biggest threat is geopolitical, as the country's territorial expansions are further isolating the country from the rest of the world.

The Russian economy will continue to suffer from the crisis in Ukraine, as well as the collapse in oil prices. The economy is expected to grow by only 0.5 percent in 2015.

The European and U.S. restrictions on trade with Russia's defense, financial and energy sectors have, and will continue to have, significant negative impact on the Russian economy. Furthermore, the financial restrictions have raised the cost of borrowing for Russian firms, and the subsequent capital flight (like foreign direct investment outflow) has caused a decrease in the value of the ruble—pushing inflation close to 8 percent.

Japan

Japan's "Abenomics" (fiscal and monetary stimulus together with structural changes and named after Prime Minister Shinzō Abe) aims to revitalize the country.

The Japanese economy has not been able to extract itself from stagnation (flat GDP growth) and deflation. The persistent decrease in prices continues its damaging effects on the economy, particularly lowering consumer spending and injuring producer confidence.

The recent round of unprecedented quantitative easing by the Bank of

Japan, which jolted the global markets, is an ultimate attempt to increase the inflation rate through a decrease in the value of the Yen. However, some downward price pressures, such as the general price decrease in international commodities, will counteract the Central Bank–induced inflationary pressures. The outlook for 2015 growth will stay low at around 0.8 percent.

China

The growth outlook for China, the world's second-largest economy, is one of the biggest question marks hanging over global growth.

From the early 1980s through 2011, China grew at an average annual rate of 10.2 percent. Since 2011, growth has been in the single digits. In 2014, China's economy grew 7.4 percent, and the country's single-digit growth is expected to continue in 2015—with growth averaging just a little over 7 percent. Our forecast is dependent on the Chinese government's ability to follow through on their commitment to long-term economic reforms. Our worry is that the macroeconomic policies will shift to short-term stimulus rather than the necessary long-term reforms.

We believe policies supporting the reforms will give the economy a stronger long-term foundation by letting market forces play a much larger role. Indeed, the liberalization effort of the financial system includes modernizing the People's Bank of China, which is not an independent central bank like the Federal Reserve. The bank officials have to juggle financial reform with political demands for growth. The liberalization effort also includes the government refraining from instructing China's giant state-owned banks on how to conduct their lending practices, the creation of bank deposit insurance, and implementation of policies that will allow inefficient firms (including state-owned enterprises) to fail.

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India, the second most populous country in the world, continues to be an Asian economic powerhouse with great potential; however, the country has the possibility to stay tangled in challenges.

India

India has great potential and substantial risks.

India, the second most populous country in the world, continues to be an Asian economic powerhouse with great potential; however, the country has the possibility to stay tangled in challenges. As we have seen on regular occasion over the past decade, India's accelerated growth forecast for 2015 has the potential to face domestic constraints like terrible infrastructure and an unpredictable business environment. Domestic constraints have often set in and caused growth to slow, inflation to skyrocket and investment to flee in periods that were forecasted to be high growth.

A recent report from the World Bank ranked India, the third-largest economy in Asia, at 142 among 189 countries based on how favorable the regulatory environment is to set up and operate a business. Its neighbors, such as Pakistan, Sri Lanka, Indonesia and other smaller nations are far

ahead, and India seems to provide only a slightly better business environment than places like the war-torn West Bank/Gaza and Iraq.

Latin America

Latin America will grow, but will be at the mercy of global economic forces.

Latin America will grow but its dependence on commodity exports and U.S. remittances means that its fortunes rise with mineral and commodity prices, but then fall hard with global downturns. Latin America and the Caribbean Islands should show better performances than in 2014 and grow at about 2.2 percent in 2015. The better prospects for 2015 are an effect of the recovery in the U.S. as more remittances will be sent from Latinos working in the U.S. to their families in Central America, the Caribbean Islands and Mexico. However, the decrease in natural resources, particularly from China, and the difficulty that Europe is facing to get out of its crisis will affect the Latin American economies through global trade channels.

The leading economy in the region, Brazil, fell into recession in 2014. Thanks to a big domestic market of 200 million people and a growing middle and consumer class that offer opportunities to businesses, Brazil will continue to attract foreign investments. However, state-centric, interventionist policies, a ballooning debt and the stubbornly high inflation level (6.75 percent) are slowing Brazil's growth potential and its competitiveness. Furthermore, the recent reelection of Dilma Rosseff, from the leftist Workers' Party has shattered the trust of the business community. The trust divide comes from Brazil's red tape and heavy leaning on state-owned institutions to extend credit and subsidies to consumers, which are not sustainable.

Middle East and North Africa *In the Middle East and North Africa, safety concerns will weigh on confidence and economic activity.*

In the Middle East and North Africa in 2015, we are expecting a slight increase in the growth rate relative to 2014. The region is expected to grow at 3.9 percent next year. The recovery is due to large government spending by the oil-exporting economies that will help stimulate their non-oil sectors and make them less vulnerable to the global oil price decline.

However, there are serious threats to the region's forecast. Chief among them are the brewing conflict with Islamic State extremists in Syria and Iraq and the political instability in Libya. Also, many oil-importing economies, such as Egypt, Jordan, Morocco and Tunisia, have some of the highest jobless rates in the region, especially among young people, which will continue to weigh on their economic and political stabilities.

Outlook

Global economic growth is unstable, weak and is not uniform across regions.

Global growth is unstable because of the many geopolitical risks that threaten both our social fabric and our economic channels. In the Middle East, an estimated 11 million displaced persons are putting pressure on budgets, labor markets and social cohesion in the region. The crisis in Ukraine and the subsequent economic embargo on Russia are creating secondary effects in many European countries because of the trade linkages, energy reliance and financial dependences of those economies with Russia.

Global growth is weak because it continues to fail to create enough jobs, and the 200 million unemployed individuals in the world are constantly reminding us of this unresolved weakness in our economies.

Global growth is not uniform across regions as some countries restart faster than others, quickly changing from contraction to expansion. For example, the United States and the United Kingdom are showing some sustainable growth earlier than their peers. ■

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U.S. Outlook for 2015

Willard E. Witte: Professor Emeritus, Department of Economics, Indiana University Bloomington

The United States economy has given clear signs that it is finally breaking out of the rut that it had been stuck in during the first four years of the “recovery.” The improvements in the past year are generally in-line with our predictions made a year ago. Looking ahead, we expect the coming year to produce a continuation of these positive trends. But this favorable outcome is far from a sure bet. The level of uncertainty in the current environment is high. As we took the Business Outlook tour on the road, our catch phrase was “apprehensively optimistic.”

The first four years of the recovery (mid-2009 through mid-2013) were remarkably uniform on average. There was the normal quarter-to-quarter volatility, and also some temporary impact from the stimulus program, but even these were muted. The pattern of this period had output growth that averaged just 2 percent, about a full percent below the pre-recession norm and also below the long-run potential of the economy.

This subpar situation was driven by consumption growth in-line with the overall economy, business investment that was sluggish by historical norms, and a housing sector that was recovering but from a very low base. Growth was held back by decreased government spending as states and local governments adjusted to a significant budget crunch due to both a decrease in revenue and to over-expansion during the pre-recession boom.

In the labor market, employment increases averaged about 175,000 per month and the unemployment rate declined at just short of one tick per month. Unfortunately, a significant part of the fall in unemployment was due to very sluggish growth in the number of individuals participating in the labor market, as the labor force participation rate fell to its lowest level since the 1970s. The

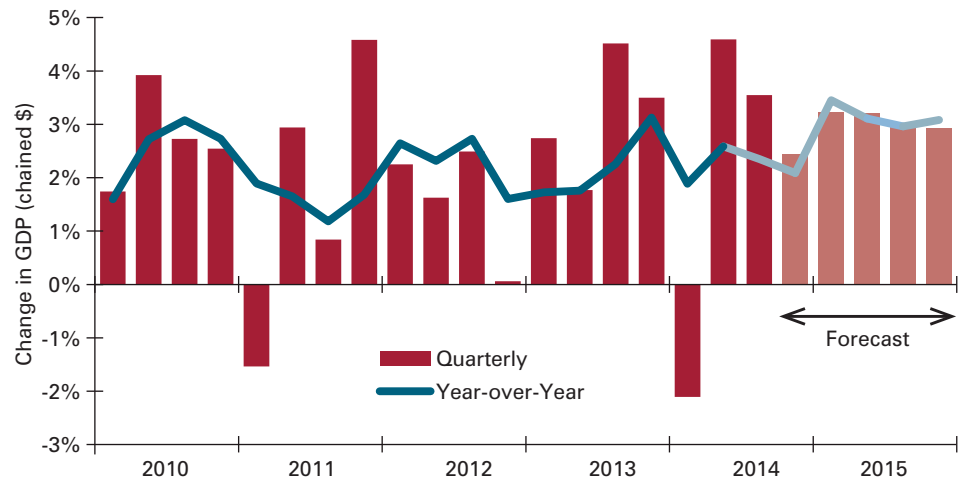
employment gains, which were unimpressive compared to previous recoveries, were also characterized by a large number of part-time positions. Overall, this recovery was indicative of an economy in a rut, which is better than being in the ditch, but still disappointing.

Now, things are looking up. As seen in **Figure 1**, GDP (in chained dollars) over the past five quarters has been growing at an annual rate of 2.8 percent, with four of those quarters well above 3 percent. (Admittedly, the outlier [2014 Q1]

of 228,000 per month. That has increased further, to 258,000 per month, during the past six months. Unemployment has continued its steady decline, falling from above 7 percent at this time a year ago to 5.8 percent this November.

The improved output performance was not unexpected. If the final segment of 2014 matches our expectation, the full year will be quite close to our year ago forecast of about 2.5 percent growth. The labor market, however, has exceeded our expectation. The economy is on

■ **FIGURE 1: U.S. Real Output Rate of Change**



Source: U.S. Bureau of Economic Analysis

was pretty bad at -2.1 percent, but that was partly due to terrible weather.) Components have mostly picked up, as well. Consumption continues to parallel overall growth, with auto sales particularly strong. Business investment has grown at a 6.5 percent rate, and the shrinkage in the government sector moderated and then reversed in 2014’s second quarter. The one disappointment has been housing where the earlier growth has disappeared.

In the labor market, the improvement is even more evident (see **Figure 2**). Over the past year, employment has risen by an average

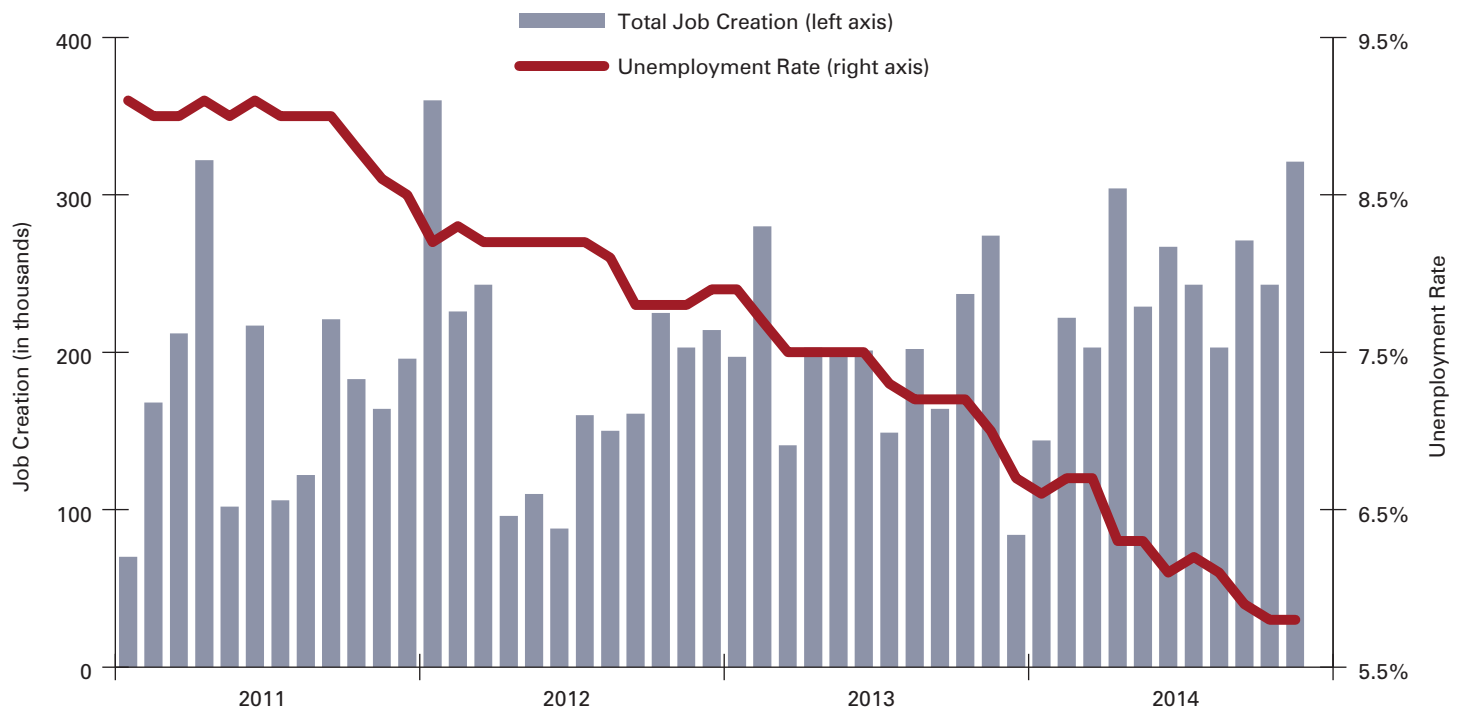
track to add about 2.7 million jobs in 2014, significantly above our forecast. Unemployment has similarly fallen more than we anticipated.

2015 Outlook

Looking to the year ahead, we think the economy will sustain its recent progress. The gains of the past year should be maintained, with further improvement in some areas. To be more specific:

- We expect output growth in 2015 to average close to 3 percent. This will be somewhat better than the past year, with progress coming across the board, but especially

FIGURE 2: U.S. Monthly Job Creation and Unemployment Rate, January 2011 to November 2014



Source: U.S. Bureau of Labor Statistics

from a stronger housing sector and from government shifting from contraction to (weak) expansion.

- The labor market will maintain its recent strength. Employment will show monthly increases consistently above 220,000 during 2015, with the possibility of some months at or above 300,000. That would imply an unemployment rate below 5.5 percent by the end of the year.
- We expect inflation to remain well contained in 2015. Lower energy prices will be a factor here.
- After its recent lull, the housing sector should be stronger in 2015. However, a return to the level reached during the pre-recession boom is not in the cards.
- As we anticipated, the Federal Reserve has phased out its asset purchase program (aka quantitative easing). For almost six years, the Fed has held short-

term interest rates at virtually zero, and it says it will maintain this stance “for a considerable time after the asset purchase program ends.” We think this means that rates will start to edge higher in mid-2015. By the end of the year, we think short-term rates will be approaching 1 percent.

- We think the election outcome raises a possibility of progress on taxes, particularly reform of the corporate income tax. If this materializes it would be very positive for the economic outlook.

There is, unfortunately, a long list of things that could upset our expectations. To begin with, unlike in the United States, the economic situation in most of the rest of the world has deteriorated during the past year. Europe may be sinking into its third recession in the past decade. The security situation in Eastern Europe and in the Middle

East is beyond depressing, and it is negative for economies in the regions and beyond. The Chinese economy is clearly decelerating and this too could have far-reaching impact.

Another wild card: energy prices, which are a good news/bad news story. The decline to date is quite positive for household budgets, implying some potential upside to our estimate for consumption. On the other hand, declines in crude prices much below \$80 per barrel would begin to adversely affect domestic investment in the industry, which has been a bright spot in the recovery.

Finally, if the Fed begins to raise interest rates as we expect, there will be the potential for significant instability in the financial sector.

Nevertheless, we are optimistic about the outlook for 2015. There has been definite progress in the economy over the past year, and we expect that to continue next year. If we are right, 2015 will be the best year of the recovery so far. ■

Financial Markets 2015: Earnings, Government and the World

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Last year, we predicted that the 2014 financial markets would be driven more by earnings than by concerns about whether the politicians could agree with each other. We guaranteed that 2014 would not be as good as 2013.

We were right. From November 20, 2013, to the same date this year, the S&P500 rose 13.7 percent from 1,805 to 2,053. This contrasts with the twelve months ending on November 1, 2013, where the S&P 500 rose a spectacular 25.5 percent. The rise in the S&P 500 was mimicked by similar increases in the Dow and the broad-based Russell 3000. All show that the stock market performed well, just not as well as the previous year. Still, the most recent year is well above the 7.5 percent average return over the past half century. We think average to below-average returns are the most likely scenario for 2015.

What factors are likely to drive the stock market over the next twelve months? We think it will be a combination of earnings and government. With valuation ratios near historic highs, the market appears to have little potential for increasing the valuation of companies other than what they produce by earnings. If anything, interest rates may drive valuations lower, but we forecast interest rates to be flat over 2015. As usual, government is likely to either hurt the market or be neutral.

The Washington dysfunction may prove neutral for investors. With Republicans now controlling both the House and Senate, an increase in taxes or spending is unlikely. With the economy growing, federal taxes are roughly 17.5 percent of GDP. As a result, the budget deficit fell from \$608 billion in fiscal year (FY) 2013

to a projected \$506 billion in FY 2014 (which ended in September). If we combine this fiscal policy with our forecasted 3 percent real GDP growth and 1-2 percent inflation, this is a relatively favorable environment for investors.

While the Obama administration has taken actions that undermine investor confidence in the past, such as tougher climate-change regulations, its attention appears to be focused on foreign policy (e.g., ISIS) and health policy (Ebola). It is unlikely that it will undertake major economic initiatives over the next year.

The Federal Reserve has backed off of quantitative easing (QE), but the policy is likely to be “dovish” in targeting interest rates rather than inflation. Bond buying is now an established part of the Fed’s toolkit, especially with inflation forecasts being in the 1-2 percent range.

It appears that the eurozone will be one of the major risks to U.S. stock market performance. October was a brutal month for hedge funds that made concentrated bets in favor of eurozone growth. With this area accounting for 17 percent of world GDP, it may be a source of negative earnings surprises for U.S. companies during the year. A recent Fed survey of top money managers had them far more worried about weakness in Europe than the threat of Ebola.

With this as a background, we turn to fundamentals.

Economic Fundamentals

Stock prices are a very good indicator of future economic activity: Investors buy stocks anticipating the real economy will pick up in the near future. There are many positive reasons to believe this reasoning:

- **Earnings:** Of the 495 companies that have reported earnings to date for third quarter 2014, 77 percent have reported earnings above the mean estimate and 59 percent have reported revenues above the mean estimate.
- **Earnings Growth:** Analysts are forecasting earnings will increase about 9.4 percent in 2015 for the S&P 500. Consumer discretionary has the highest earnings growth at 18.2 percent, while energy has the lowest at -4.2 percent.
- **Valuation:** Price-earnings (PE) ratios are above their long-run averages, but only by modest amounts. The S&P 500 PE ratio is 18—above its long-term average of 16. The “forward” PE (price today divided by expected earnings) is 15.5, which is above its long-term average of 14.0. All of this suggests that valuation ratios are not about to fall off a cliff.
- **IPOs are strong.** As of October 2014, there were 231 initial public offerings (IPOs) raising \$73.4 billion, which is the highest in 10 years. The largest sectors were technology (\$30.6 billion, led by Alibaba’s \$25 billion), financial (\$15.2 billion), and energy (\$10.3 billion).
- **Companies are starting to reduce their large cash positions.** Some of this reduction is being used for share buy backs, which will be immediately helpful, and some is for expanding investment.
- **Revenue** growth for publicly traded firms for 2015 is projected at 3.1 percent, which is close to 2014 levels.
- **The Federal Reserve** is continuing to phase out the bond-purchasing program, but we believe that

even if the Fed refocuses their attention on tying the rate outlook more closely to inflation (rather than employment), the pace and timing of interest rate hikes should be pushed further into 2015 as inflation remains very low. This is a different scenario than just a few months ago when some Federal Open Market Committee members were talking about increasing short-term rates given improvement in the labor market.

- We think **inflation will remain subdued**. Our forecast of 1.1 percent is in-line with most forecasts (the Fed's inflation forecast is 1.5 percent, the Office of Management and Budget's is 2.2 percent, and the Organization for Economic Cooperation and Development's is 1.9 percent).

Threats

However, there are negative factors that could make the market recovery short-lived:

- **The cyclically adjusted PE ratio for U.S. stocks** is at 25.7, which is the highest since January 2008 (but lower than May 2007, which was 27.5). This suggests that stocks have more room to fall than rise from factors driving basic valuation but not earnings.
- **The eurozone is more a source of risk than return:**
 - **Banks have not passed stress tests:** The European Central Bank concluded that 25 banks (nine Italian) need to add €13 billion in capital. The need to increase capital will limit their ability to make loans to businesses.
 - **Supply side barriers** such as labor market constraints may have created a "secular stagnation" that will impede an economic recovery.
- **China's growth** is clearly slowing.
- **Profit margins are unlikely to expand:** Firms must increase

earnings by revenue growth, which is problematic given the weakness in Europe and China.

- **Strong U.S. Dollar:** The dollar has appreciated about 8 percent against the euro and 10 percent against the yen over the past year, despite continuing QE. This will make U.S. exports more expensive in global markets, while imports into the U.S. will become cheaper.
- **U.S. Debt:** The expansion of the national debt since the end of 2008 is unprecedented since World War II. The debt to GDP ratio will have increased from 40 percent to almost 74 percent by next year. The massive government deficits may lead to inflation and much slower growth. This may have an adverse effect on business investment even though we forecast business investment to increase.
- **Budget Deficits:** The projected budget deficit for 2014 is about 3 percent of GDP. This is not expected to change in 2015—or in the next five years. If interest rates return to their historical average levels, the budgetary impact will be dramatic. The average interest rate on debt held by the public is 1.8 percent and interest payments are forecast to be \$251 billion for 2015. Increasing the average rate by 1 percent will trigger an additional \$140 billion in federal spending. This will require reduced spending, increased taxes or both.
- In spite of the recent upturn, **industrial output is still only at 79 percent of capacity**, which is below the long-run average (including previous recessions) of 81 percent.
- **The U.S. still faces a huge funding deficit** in Social Security and Medicare payments. The present value shortfall is about \$62 trillion. This is equivalent to

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The combination of low inflation, a Fed that is on hold and good prospects for earnings growth suggests a favorable year for stocks.
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\$206,000 per person or \$825,000 per U.S. household. These problems are not insurmountable, but they do require common sense and bipartisan leadership—something that appears to be in short supply in Washington, D.C.

Forecast

Looking forward to 2015, the positives outweigh the negatives for the economy—but just barely. We expect the recovery to continue, GDP growth in the 2-3 percent range, and inflation in the 1-2 percent range. The combination of low inflation, a Fed that is on hold and good prospects for earnings growth suggests a favorable year for stocks. The primary risks are growth reductions in the eurozone and China.

In this environment, we expect that the return to equities will be positive, but below the long-run average return of 9 percent—perhaps at the half-century rate of 7.5 percent. With Treasury bonds already at extremely low yields, there is little potential for gains with these investments. In addition, we think there are material long-term inflation risks that could make long-term bonds unattractive. In contrast, the low Treasury rates make mortgage rates still attractive, with 30-year fixed rates forecasted at 4.4 percent. ■

Housing: Risk Tolerance and Job Growth Are Key to 2015

Douglas M. McCoy: Director of the Benecki Center for Real Estate Studies, Kelley School of Business, Indiana University

Multifamily housing continues a very good run, but the single-family housing sector has continued to struggle. Job growth, consumer confidence, and access to attractive credit terms are the primary drivers that bring potential homebuyers to the market. Considering these factors, most experts believe the housing market will move in a more positive direction in 2015.

For example, the National Association of Realtors projects that existing home sales will increase 7.7 percent from 2014 levels and new single-family home sales will rise 33.5 percent nationally (see **Table 1**). Median home prices are also expected to increase slightly.

However, the housing market's risk tolerance is low (as seen in the disappointing results of 2014), and uncertainties abound. These uncertainties include unemployment, wage growth, access to credit, investor activity and tumultuous world affairs.

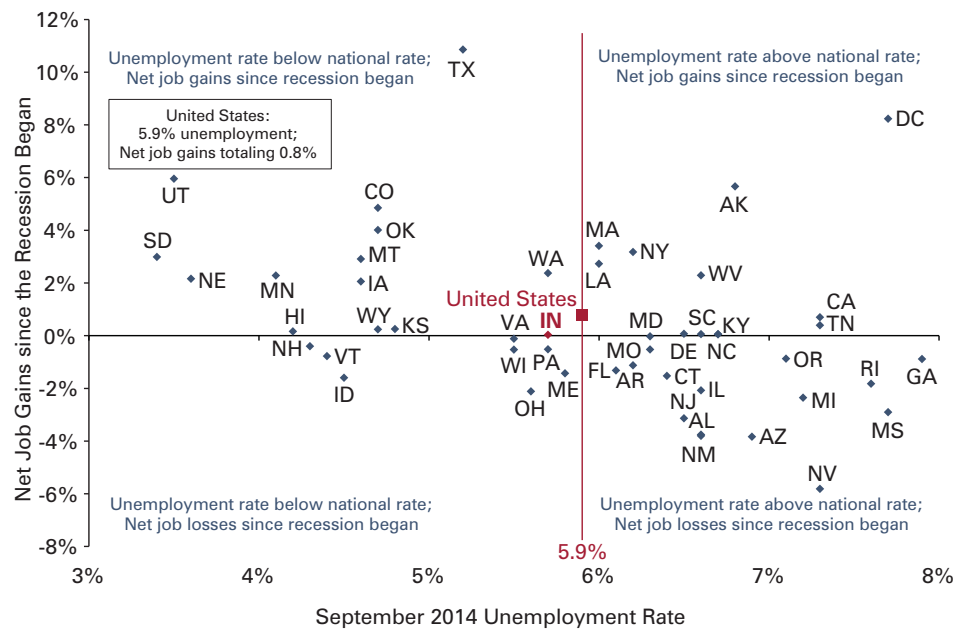
- Hiring is gaining momentum, but unemployment remains high—especially when including people who have given up searching for work.
- Wage growth has been moderate-to-negative for many Americans.
- Access to attractive credit is questionable, as market participants struggle to find the proper underwriting balance and the Federal Reserve ends its bond-buying program.
- Single-family investor activity has slowed, and the threat of investors selling their inventories into the market remains.
- Middle East unrest, Ebola and Europe's economic climate could negatively impact consumer confidence.

TABLE 1: National Housing Outlook

	History		Forecast	
	2012	2013	2014	2015
Home Sales (thousands)				
Existing Home Sales	4,660	5,090	4,938	5,316
New Single-Family Sales	368	429	459	613
Home Sales (% Change - Year Ago)				
Existing Home Sales	9.4	9.2	-3.0	7.7
New Single-Family Sales	20.3	16.6	7.0	33.5
Median Home Prices (\$ thousands)				
Existing Home Sales	\$176.8	\$197.1	\$207.3	\$215.9
New Single-Family Sales	\$245.2	\$268.9	\$277.0	\$283.3
Median Home Prices (% Change - Year Ago)				
Existing Home Sales	6.4	11.5	5.2	4.1
New Single-Family Sales	7.9	9.7	3.0	2.3
Housing Affordability Index*	196	176	165	134

* The housing affordability index measures the ability of a family earning the median income to purchase a median-priced home. Higher index values indicate increased affordability.
Source: National Association of Realtors, "U.S. Economic Outlook: October 2014"

FIGURE 1: Net Job Gains or Losses since the Start of the Recession and Unemployment Rate by State



Note: North Dakota is excluded as an outlier, with an unemployment rate of 2.8 percent and net job gains totaling 29.9 percent since the start of the recession.
Source: Joint Economic Committee of the United States Congress (prepared by the Vice Chair's staff)

So, while most industry sources support the notion of a more positive 2015, it could mirror the less-than-satisfactory 2014 should these uncertainties take a negative turn.

The probability for a better 2015 in the single-family housing market in our nation's cities and towns largely depends on job growth and how wages compare to that locale's median housing price.

One key factor in mortgage qualification is a household's monthly gross take-home pay relative to its payments for housing costs—the total of the mortgage payment, real estate taxes and home insurance. Holding all other things equal, communities with positive job growth and a favorable margin between wages and housing costs are more likely to experience a stronger single-family real estate market.

Likewise, the greater the margin between wages and housing costs, the higher the risk tolerance of potential buyers in that market. For example, if mortgage rates increase, communities with a wider margin (i.e., higher risk tolerance) would be less impacted and more likely to have stable home-buying markets relative to communities with smaller margins. Thus, risk tolerance and job growth are important indicators to consider when projecting 2015's housing market.

How Does the Indiana Housing Market Fare with This Reasoning?

In terms of job growth, Indiana is one of 14 states with net job gains since the recession began and an unemployment rate that fell below the national average in 2014 (see **Figure 1**).

In terms of existing home sales and residential building permits, Indiana has outpaced the nation by 0.6 percentage points and 8.5 percentage points, respectively (see **Table 2**).

However, according to the Indiana Association of Realtors, Indiana's year-to-date 2014 closed sales number

TABLE 2: Mid-Year Comparison of Indiana and U.S. Housing Markets

	U.S.	Indiana
Existing Home Sales, July 2013 to June 2014, Year-over-Year Change	1.4%	2.0%
House Price Appreciation, 2013:2 to 2014:2	6.2%	3.7%
Residential Building Permits, July 2013 to June 2014, Year-over-Year Change	8.1%	16.6%
Share of Mortgages That Are Seriously Delinquent, 2014:2	4.8%	5.2%
Share of Mortgages with Negative Equity, 2014:2	10.7%	5.1%
Housing Affordability Index, March 2014*	172	248

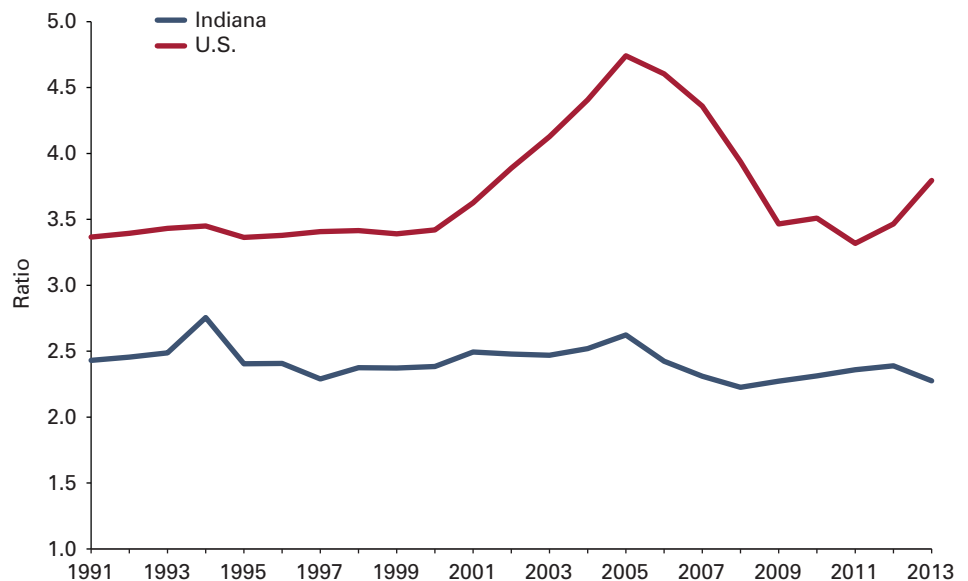
* The housing affordability index measures the ability of a family earning the median income to purchase a median-priced home. Higher index values indicate increased affordability. Source: IBRC, using data from the Indiana Association of Realtors, National Association of Realtors, Federal Housing Finance Agency, U.S. Census Bureau, Mortgage Bankers Association, CoreLogic and Moody's Economy.com

TABLE 3: Indiana Housing Overview

	September 2013	September 2014	Percent Change	Year-to-Date 2013	Year-to-Date 2014	Percent Change
Closed Sales	6,375	6,958	9.1%	58,868	56,752	-3.6%
Median Sales Price	123,500	128,000	3.6%	122,900	126,500	2.9%

Source: Indiana Association of Realtors

FIGURE 2: Ratio of Median Sales Price to Median Household Income



Source: IBRC, using U.S. Census Bureau and Moody's Economy.com data, "Indiana's Housing Market in 2014: Moving toward Stability"

is trending lower than 2013, while its median sale price has increased 2.9 percent year-to-date (see **Table 3**).

When looking at housing costs, Indiana typically has stable housing values. That is, Indiana homeowners usually experience small swings in

value as economic conditions and world events take hold year to year.

While Indiana has lagged the country in home price appreciation over the past year, as seen in **Table 2**, its share of negative mortgage equity is 5.6 percentage points lower.

Indiana's Outlook for 2015

Timothy F. Slaper, Ph.D.: Director of Economic Analysis, Indiana Business Research Center, Kelley School of Business, Indiana University

Perhaps most importantly Indiana's housing affordability remains attractive, with an affordability index value of 248, as interest rates remain low.

Likewise, the ratio between sales price and income has remained stable (see **Figure 2**). So it follows that, year to year, Indiana generally provides a stable job base and a good wage relative to housing costs.

If Indiana's economy improves in 2015 with more jobs and better wages, it should mean positive results for the housing market. On the other hand, if some of the negatives of the potential uncertainties mentioned earlier come to fruition, Indiana will weather the storm better than less stable parts of the country.

Summary

Overall, 2015 is looking more positive for Indiana and the country. Job growth is experiencing a positive trend and many other economic fundamentals have improved. Thus, consumer confidence should be high. 2015 should see housing market improvement both in Indiana and the nation as a whole—so long as mortgage rates remain generally favorable and there is no catastrophic event. ■

In the fall of 2013, when we were trying to forecast the year ahead, the country was swirling in uncertainty. There was a partial government shutdown, debt ceiling talks had turned acrimonious, the Federal Reserve was about to get a new chairperson, the Affordable Care Act roll-out was botched, and to make matters worse, it was getting *really cold* outside.

We expected real economic growth in Indiana to be about 2.3 percent for 2014, about the same as the growth rate of 2013. Now, at the close of the year, we expect 2014 growth in the state to close out slightly better—closer to 3 percent—and that even accounts for the big economic freeze in the first quarter of 2014 when output stalled.

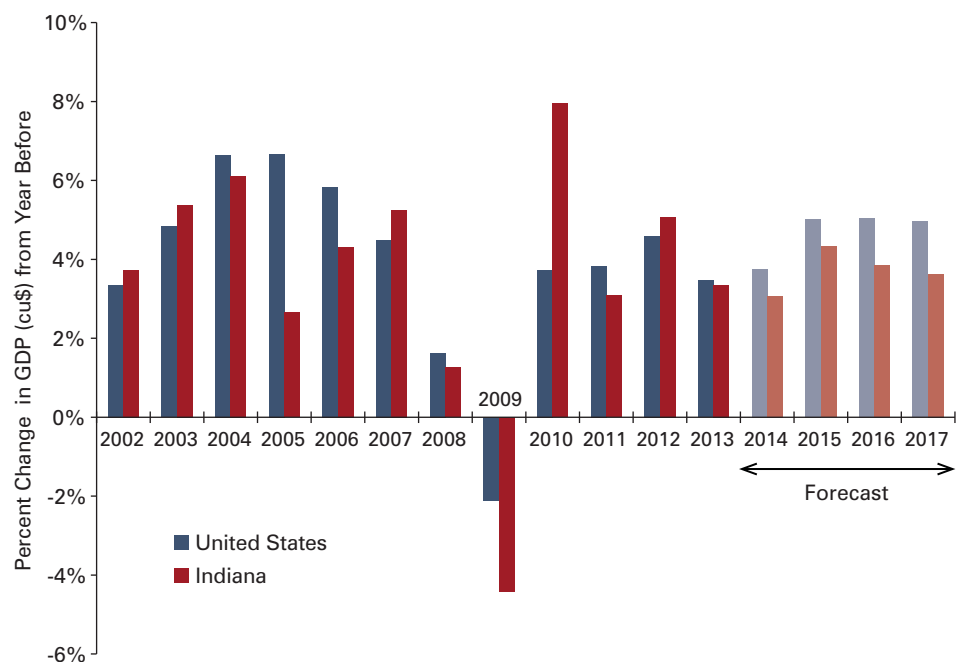
GDP Growth and Employment

Indiana's gross domestic product (GDP) growth in current dollars (cu\$)

is expected to follow the nation in terms of direction, but at a slightly lower rate. Indiana's GDP grew about twice as fast as the U.S. in 2010. In the three following years, Indiana's economic output growth was similar to the U.S. with some slight variation. As **Figure 1** shows, the 2013 growth rate was a tad behind the U.S. and 2014 is expected to close the year at just a fraction off the national rate. This trend—being just a step behind the national average growth rate—is forecasted to continue through 2017.

Forecasts are predicated on assumptions. Among other forces at play, two important drivers can make the state forecast either less or more rosy. Prospects of lower exports in 2014 and 2015—discussed in greater detail below—would reduce Indiana's economic and employment growth performance, while the persistence of robust auto

FIGURE 1: Annual Change in Indiana and U.S. Gross Domestic Product



Note: 2014 through 2017 data are projections.
Source: U.S. Bureau of Economic Analysis, Indiana University Center for Econometric Model Research and Indiana University Indiana Business Research Center

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On the employment front, the good news is that in 2015, the state is set to return to the same level of peak employment from last decade.

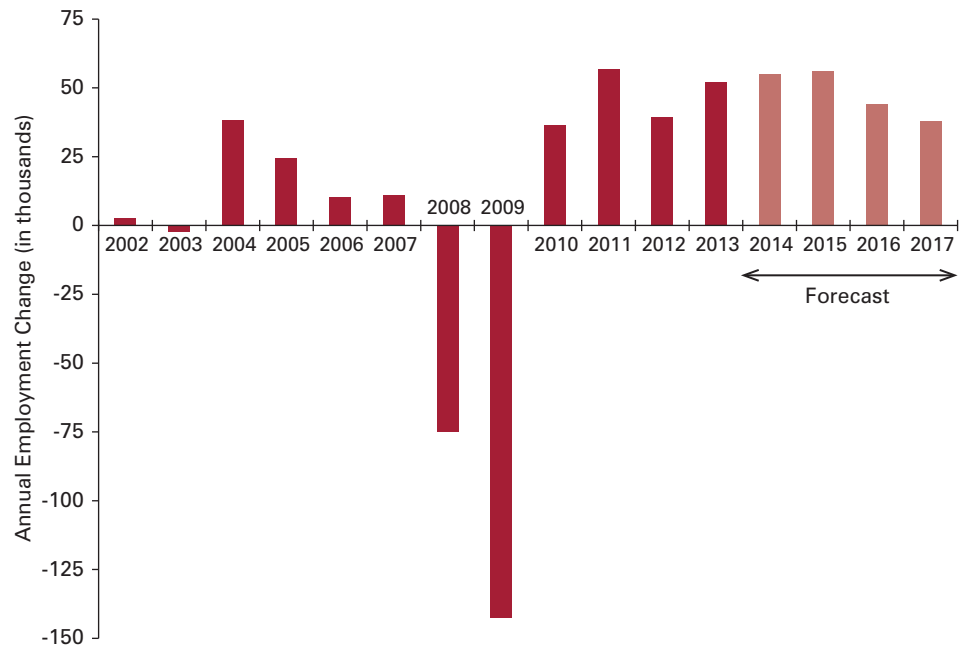
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sales would help to buoy the state’s economic growth.

2014 turned out to be a great year for auto sales. At the time of this writing, the year is on track to hit over 16 million units. In August of 2014, monthly sales at the seasonally adjusted annual rate were over 17 million units, heights not attained since the middle of 2006. The prospects for 2015 look good as well. According to CNW Research, floor traffic for new cars in October was up 18.6 percent over October 2013. This indicates a likely jump in 2015 because shoppers typically don’t enter a dealership until two or three months before making a purchase. CNW Research also points to a fall in their “Jitters Index” (which is like the flipside of a consumer confidence measure) and notes that subprime approval rates are also on the rise, juicing sales.

Having digested the good news on the auto manufacturing front, one should keep in mind that the state’s fortunes don’t rise and fall with the auto sector. The state bounced back relatively strongly in 2010—twice the national rebound—even as auto sales hovered around a mere 11.5 million units.

FIGURE 2: Indiana Employment Growth



Source: U.S. Bureau of Labor Statistics, Indiana University Center for Econometric Model Research and Indiana University Indiana Business Research Center

On the employment front, the good news is that, in 2015, the state is set to return to the same level of peak employment from last decade. Regaining lost ground took longer than it should have. Initial employment gains weren’t brilliant. Last year, we expected to add 52,000 new jobs in 2014—a middling performance—but the state hit that mark by September and Indiana employment is set to exceed our forecast for 2014, with employment in the construction of buildings and transportation equipment manufacturing increasing by double digits.

Our forecast for 2015 is that the state will add 55,000 workers. The unemployment rate is expected to remain near 5.7 percent by 2014’s end. By the end of 2015, it should register 5.3 percent.

Exports

From 2012 to 2013, Indiana’s exports decreased 0.7 percent; meanwhile, exports grew by 2.2 percent nationally and 1.2 percent in the Midwest. Given that, relatively

speaking, exports are more important to Indiana than other states, this drop is of some concern. Indiana’s economic output (GDP) ranks 16th in the country but its dependency on exports ranks 12th.

Transportation equipment and the life science industries (pharmaceuticals and medical instruments) are the leading export industries in Indiana. Most of Indiana’s export industries have had strong average annual growth over the last decade, notably aircraft, spacecraft and related parts; pharmaceuticals; iron, steel and related products; optical and medical instruments; and agricultural products.

If the weak economic growth that is expected in most of the eurozone continues—forecasted to be a mere 1.2 percent—it will reduce their demand for our exports. The exports to the eurozone and the United Kingdom are skewed toward pharmaceuticals, medical devices, industrial machinery and aircraft/space craft components. On the other hand, exports to Canada and Mexico

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*Export growth in 2015
 will not likely be the
 economic stimulus for
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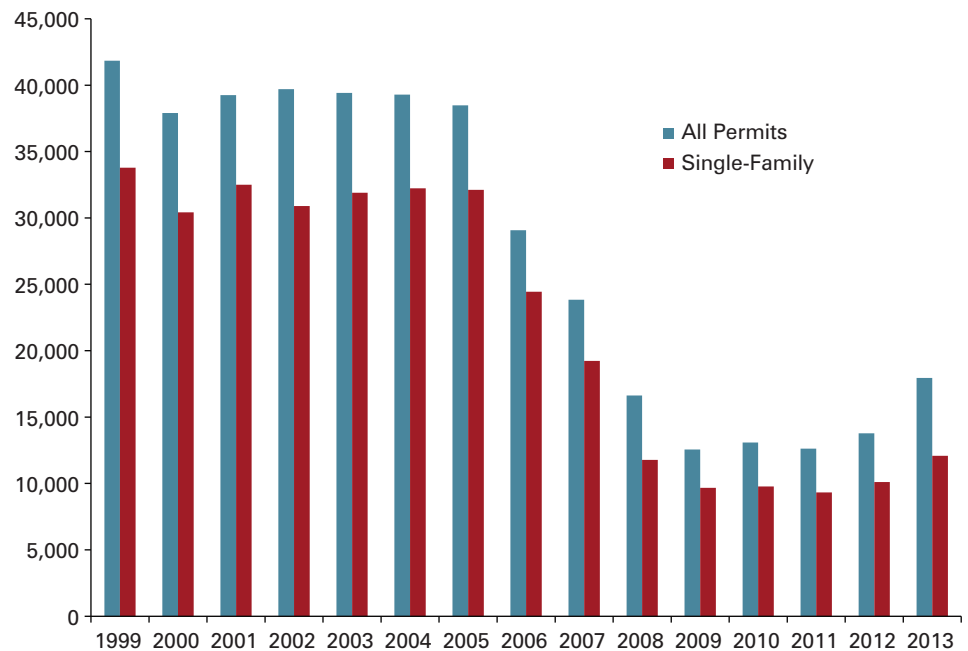
are predominately auto vehicles and parts. As a result, Indiana’s auto sector exports position would not be as exposed to the risks associated with the European economic morass.

Up until recently, many looked to the emerging economies of the world as the force behind global economic growth and the concomitant increase in global appetite for U.S. goods. However, it appears that there is less potential for expanded export opportunities to the emerging markets in the near future. For example, the BRICS countries (Brazil, Russia, India, China and South Africa) are, as a group, not turning in the rates of growth experienced a couple of years ago. Moreover, trade between the U.S. and Russia may go from small to almost nil as a result of rising political tensions and the ripple effects of trade sanctions. All that to say: export growth in 2015 will not likely be the economic stimulus for Indiana that it was from 2010 to 2012.

Housing

Indiana housing market improvement has been choppy. Last year, sales were up 17.4 percent and average prices up 4.3 percent through September compared to the previous year. However, year-to-date (September 2013 vs. September 2014), sales were off 3.6 percent. This may reflect the fact that the market has been over-balanced by investors purchasing properties and is now

■ FIGURE 3: Indiana Building Permits



Source: U.S. Census Bureau

transitioning to homebuyers, perhaps even first-time homebuyers.

Home construction continues to improve, albeit slowly. Building permits show slow but steady progress. Home builders are more optimistic than they have been since before the recession. They are seeing increasing traffic from prospective buyers wanting to get into a house before long-term mortgage rates close them out of the market. This brings us to a growth threat alert: the Federal Reserve has stated that they are changing course and will slow the flow of money into the markets, thereby increasing interest rates. Thirty-year mortgage rates track with 10-year Treasury securities. If rates rise too quickly, the fragile housing recovery will come to a halt.

Leading Index for Indiana

The Indiana Business Research Center’s Leading Index for Indiana (LII) is an index similar to the Conference Board’s Leading Economic Index for the nation, except the LII is designed based on the structure of Indiana’s economy.

The LII for October read 102.2, up a mere tenth of a point from a revised September reading of 102.1. The components of the October LII were in a tug of war. The Purchasing Managers Index (a measure of manufacturing sentiment) tugged the index down, while the transportation and auto sector components exerted slight upward pressure.

These measures of economic conditions have been shown, historically, to predict economic performance in the state about four to six months in the future. But the index does not account for supply shocks—either positive or negative. The drop in gasoline prices—a positive supply shock—can be likened to a small windfall for those watching every penny. To the degree that those pennies find their way to increased consumer spending, the Hoosier economy will get a boost. ■

The Long View: Does Research and Development Drive the State's Economy?

Tamara van der Does: Economic Research Associate, Indiana Business Research Center, Kelley School of Business, Indiana University

Timothy F. Slaper, Ph.D.: Director of Economic Analysis, Indiana Business Research Center, Kelley School of Business, Indiana University

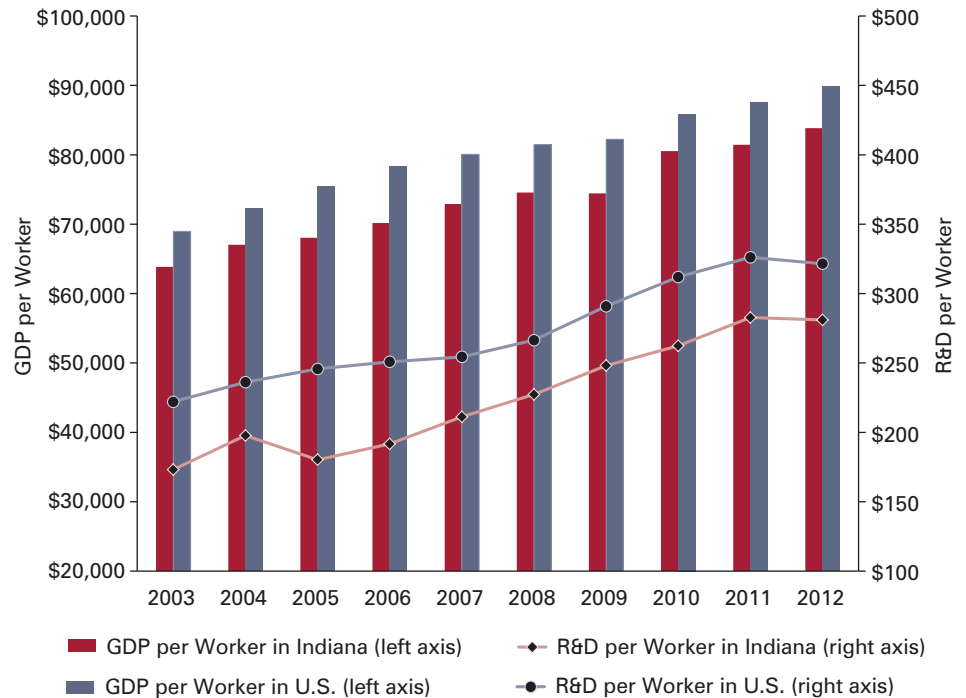
Not infrequently, one gets asked by a reporter, or even an aspiring reporter: What is holding Indiana back economically? The question may be motivated by Indiana's relatively poor per capita personal income or by an honest investigation about whether economic policies, past or present, will bear fruit.

The topic of innovation is often broached in tandem with research and development (R&D). Is the state losing ground in the race to develop, market and produce new products and services? Innovation today will lead to economic growth tomorrow, so the theory goes. Will innovation initiatives today have an effect on the state's longer-term economic outlook?

We consider this question here by exploring one facet of the innovation landscape: the state's activity and strength in research and development. Often, the efficacy of research and development expenditures is measured in terms of patent production. The correlation between the two is almost self-evident. But note, a patent and its intellectual content can be developed in one place and applied in another. Massachusetts can be a patent or R&D *making* location, but another location (e.g., a manufacturing state) can be a patent or R&D *using* location. This distinction may be helpful in interpreting the degree to which a state's R&D intensity drives broader economic growth.

First, a quick description of the data and the method we use to gain insights. For research and development intensity, we use National Science Foundation data on R&D expenditures on science and engineering. To make the

FIGURE 1: GDP and R&D Spending per Worker in Indiana and the U.S.



Source: National Science Foundation Survey of Research and Development Expenditures at Universities and Colleges/Higher Education Research and Development Survey and the U.S. Bureau of Economic Analysis

comparisons fair (we do not want states with large populations to get an unfair advantage), these data are scaled by number of workers. Current-dollar (cu\$) GDP is likewise scaled at the aggregated state level. GDP, recall, is all the value-added associated with production. The vast majority of GDP is in the form of salaries, wages and benefits—although it also includes dividends, profits, rents and royalties. We also compare GDP annual growth rates in two critical sectors: manufacturing and professional, scientific and technical services.

Not to spoil the movie, but the innovation outlook related to R&D for Indiana is mixed. From 2003 to

2012, Indiana was below the national averages for both R&D spending per worker in science and engineering and GDP per worker. That said, Indiana is not falling further behind. As **Figure 1** shows, Indiana follows nationwide growth rate trends for both measures, with the exception of a decrease in R&D spending in 2005 that most other states did not experience.

Aggregated totals may not tell the whole story. While Indiana's current-dollar GDP average annual growth rate since 2003 is a smidge lower than the United States, it has a higher growth rate in the manufacturing sector (see **Figure 2**). In professional, scientific and technical services,

however, the rate of growth is not up to the national rate. The share of this industry is below the national average and is growing more slowly

than the nation as a whole. This difference in growth in these two sectors brings up a relevant point on how it appears Indiana is performing.

The state is doing just fine in terms of R&D *using* (i.e., manufacturing). R&D *making* is not the state's strong suit compared to the nation.

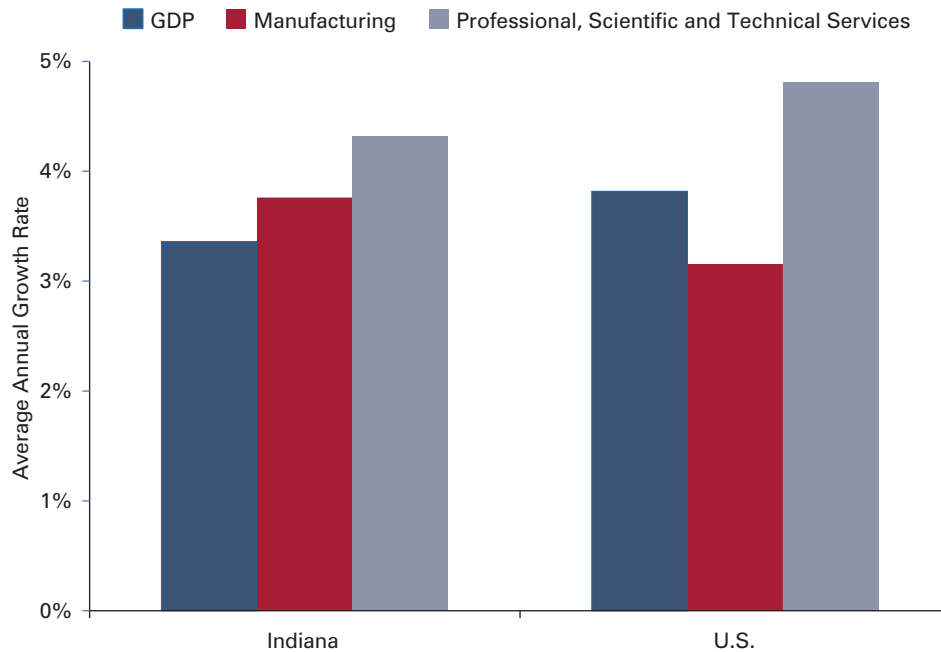
Using data at the national level, we find a positive correlation between R&D per worker and GDP per worker. That is, these two data series move together: where there is greater R&D, there tends to be greater GDP. (One needs to be mindful that correlation does not imply causality.) While there is a positive statistical relationship between higher *levels* of R&D and *levels* of GDP, there is no such relationship (correlation) over time between changes in the ratio between R&D expenditures per worker and GDP per worker. Stated differently, an increase in R&D per worker does not immediately translate into greater GDP per worker, at least over this (relatively short) time period.

We did not investigate whether there is a time lag in terms of accelerating R&D and accelerating GDP as this would require an analysis of a much longer time period. (One would expect that it would take several years before R&D would be embodied in new or improved products. This is especially the case for pharmaceuticals that undergo many years of safety and effectiveness testing.)

Comparing Indiana to neighboring states in the Great Lakes region, we see that Indiana is second behind Illinois in terms of GDP per worker, but has the lowest average R&D per worker in 2012 (see **Figure 3**). This was the case in previous years as well. Wisconsin has the greatest R&D expenditures per worker among this group. In the Great Lakes region, in contrast to the nation as a whole, there does not appear to be a clear relationship between GDP per worker and R&D expenditure levels.

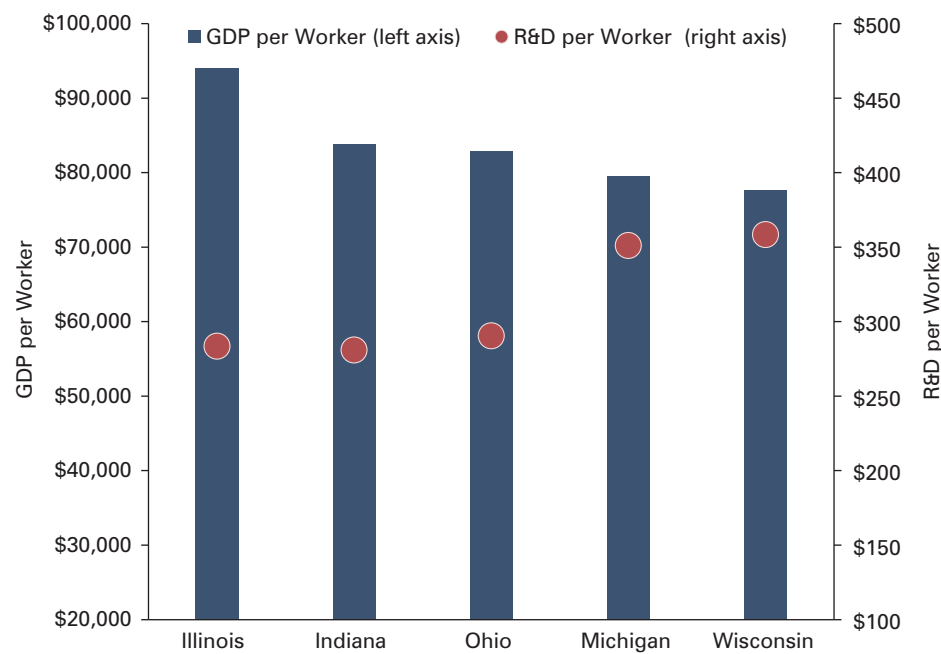
Finally, how does Indiana compare to a select set of high-performing states? It is not a simple story, as there are clearly differences that are

FIGURE 2: GDP and Selected Sector Average Annual Growth Rates, 2003 to 2012



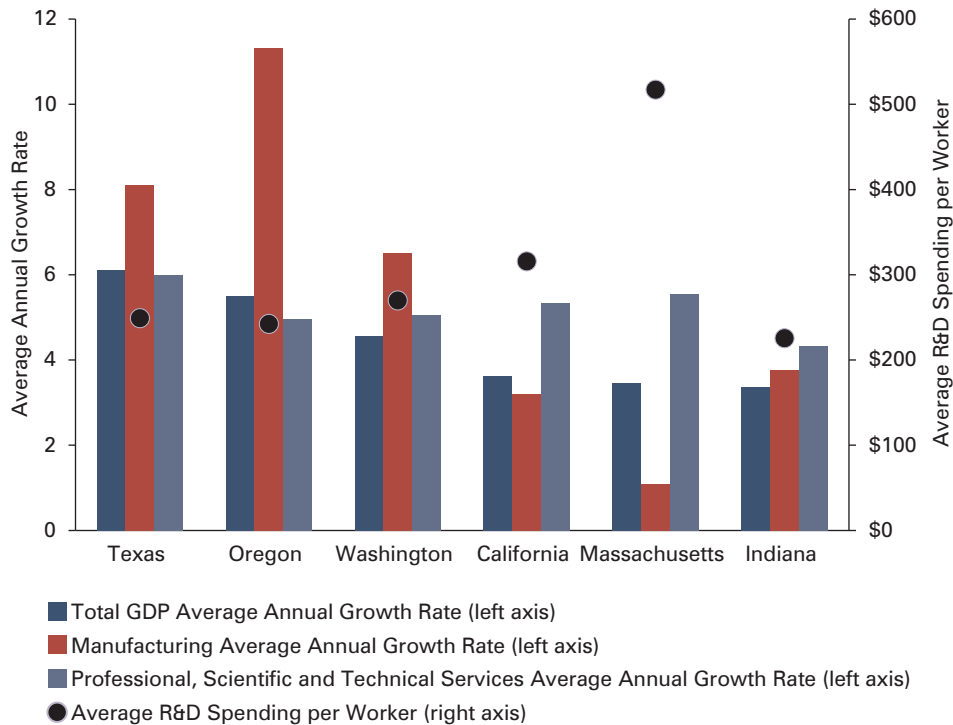
Source: U.S. Bureau of Economic Analysis

FIGURE 3: R&D and GDP in the Great Lakes Region, 2012



Source: National Science Foundation Survey of Research and Development Expenditures at Universities and Colleges/Higher Education Research and Development Survey and the U.S. Bureau of Economic Analysis

FIGURE 4: Average GDP Annual Growth Rate and R&D Spending for Indiana and Selected States, 2003 to 2012



Source: National Science Foundation Survey of Research and Development Expenditures at Universities and Colleges/Higher Education Research and Development Survey and the U.S. Bureau of Economic Analysis

contingent upon a state’s dominant industries. (For example, many states enjoyed a boom in resource extraction.) Of the selected states in **Figure 4**, Indiana has the lowest average R&D spending across the 10-year span. A couple of the selected states had a particularly strong manufacturing run over the last decade that translated into a better-than-average rate of economic growth overall.

The economic growth in California and Massachusetts, however, was driven by something other than robust growth in manufacturing output per worker. Perhaps it was the result of a much greater concentration in the professional, scientific and technical services industry. Massachusetts’ economic output concentration is almost twice the national average in this industry. California is above the national average. Indiana had the lowest professional, scientific and

technical services growth rate of the selected states.

Here again, in a state-to-state comparison, we may see a clear differentiation between R&D *making* and R&D *using* states. Indiana’s R&D concentration lags national averages and lags higher-performing states. The upshot of being an R&D *using* state is that average wages and salaries in manufacturing are typically lower than in higher-tech, R&D *making* industries like professional, scientific and technical services.

It would not be wise to make definitive statements on the longer-term economic outlook based on this broad (and brief) overview of R&D expenditures and related industries in the state, but one can express some concern about Indiana’s relative status in terms of innovation capacity. Being an R&D *using* manufacturing powerhouse, has served the state well in the past. But wouldn’t Indiana

“Comparing Indiana to neighboring states in the Great Lakes region, we see that Indiana is second behind Illinois in terms of GDP per worker, but has the lowest average R&D per worker.”

have an even brighter future if the state was a powerhouse in both R&D *using* and R&D *making*? ■

Indiana's Agricultural Outlook for 2015

Corinne Alexander, Ph.D.: Associate Professor, Department of Agricultural Economics, Purdue University, West Lafayette

The outlook for Indiana agriculture in 2015 is for the crop sector to face losses, while the livestock sector will enjoy a period of profitability.

As of October 2014, with the favorable weather this summer resulting in record yields for corn and soybeans, crop prices have fallen significantly. For example, corn prices have fallen 30 percent, soybean prices have fallen 23 percent, and wheat prices have fallen 32 percent since May. With normal weather in 2015 and normal crop yields, prices for corn, soybeans, wheat and hay could decline further as U.S. inventories of these commodities would continue to build. On a brighter note, these lower feed costs mean record profits for livestock producers, which would provide a much-needed incentive to expand their livestock herds; in time, these larger livestock herds will demand more feed and provide support to grain prices.



Pork

The pork industry has returned to profitability with producers earning over \$60 per head in 2014 and anticipated returns of over \$40 per head in the first half of 2015. There are two primary drivers of profitability in the hog industry: 1) lower feed prices and 2) supply problems as a result of the PED virus. Hog producers are currently expanding their herds, which will result in increased supplies of pork by summer of 2015. As pork supplies increase next summer, hog prices will moderate and profit margins will narrow in late 2015.



Dairy

The dairy industry is facing headwinds as milk prices are under pressure by the strong U.S. dollar that has weakened export demand and higher U.S. milk production. Because of lower feed costs, dairy

producers are still profitable at these lower milk prices, and we expect the dairy sector to increase production in 2015. Therefore, milk prices are forecasted to be lower in 2015, but this will depend on how much U.S. milk production will increase and the level of dairy exports.



Beef

Over the last seven years, the beef sector has adjusted to prolonged drought conditions and higher feed costs by reducing the breeding herd. The beef cow herd numbers are at the lowest levels since 1951. As a result, per capita domestic beef availability in 2015 is projected to be 3 percent lower than in 2014 and 20 percent lower relative to 2007. Even though feed costs have moderated, the beef herd expansion will continue to be slow in 2015 due to ongoing drought conditions in the Southern Plains, Southwest and Western regions. Indiana beef producers with access to good forage conditions are well positioned to be profitable in 2015 and beyond.



Row Crops

The row crop sector faces losses in 2014, with Indiana net farm income for crop farms estimated at \$1.7 billion. Even though Indiana crop producers are on track for record production, incomes will be lower than recent years because of the significantly lower crop prices. Looking forward to 2015, with normal weather and normal yields, inventories of grain would continue to build, resulting in even lower grain prices. Given the current outlook for crop prices and input costs, row crop producers will experience even more losses in 2015 before input costs adjust downward to be in-line with the lower crop prices. The silver lining in the coming period of lower crop prices is that they will encourage demand growth in both the export markets and

the livestock sector. Another piece of good news for Indiana agribusinesses is that the large crop will bust bins and keep processors and grain handlers busy in 2015.



Farm Value

As of June 2014, the value of average quality Indiana farmland increased 7.1 percent over the previous 12 months according to the Purdue Land Value Survey. However, most of this increase happened in the last half of 2013 with a small decline reported for the first half of 2014. By comparison, the Federal Reserve Bank of Chicago survey found that the value of "good" farmland in their district was only 3 percent higher by mid-year.

Looking to 2015

Farmland buyers are expected to be much less aggressive bidders and farmland values are expected to decline slowly in 2015. In addition to farm incomes, farmland values depend on factors including long-term interest rates, government support, real estate taxes and alternative investment opportunities. Long-term interest rates are currently extremely low and are expected to increase in the next five years, which would put downward pressure on land values. The biggest factor supporting a decline in farmland value increases is the profit margin squeeze that crop producers are experiencing.


For more information about Indiana farmland values, see the Purdue Land Value Survey at www.agecon.purdue.edu/extension/pubs/paer/pdf/PAER8_2014.pdf. ■

What to Expect in Indiana's Metro Economies

Economists from around the state share their forecasts for metros around the state in the online edition of the *Indiana Business Review*.

Metro Unemployment Rates at a Glance

Here are some highlights of how our experts predict employment will change in 2015. The graphs show the September unemployment rates for each year from 2004 to 2014. The shaded region shows rates from 3 percent to 6 percent.

ANDERSON	<p>Dr. Terry Truitt, Anderson University</p> <p>The unemployment rate looks to drop another 0.5-1.0 percent in 2015 as the economy continues to improve. The rate decline could be a little stronger (in the 1.5-2.0 percent range); however, the improving economy will likely draw a number of previously frustrated unemployed back into the labor force.</p> 	BLOOMINGTON	<p>Dr. Jerry Conover, Indiana University</p> <p>Modest growth is predicted for the Bloomington area in 2015, driven by continued population growth, generally improving economic conditions nationally and statewide, and the nature of the local economy. We forecast local payroll employment to add about 1,000 to 1,500 jobs during the year.</p> 
ELKHART	<p>Dr. Hong Zhuang, Indiana University South Bend</p> <p>Given a growing demand for durable goods and more business investment, the Elkhart-Goshen MSA should observe a continued increase in gross production, labor force and employment. The unemployment rate may continue to fall in 2015.</p> 	EVANSVILLE	<p>Dr. Mohammed Khayum, University of Southern Indiana</p> <p>The strength of the recovery in the Evansville area is linked to the strength of the broader U.S. economy. In 2015, Evansville metro area jobs are projected to increase by 1,900, and the unemployment rate is projected to be 4.9 percent.</p> 
GARY	<p>Dr. Micah Pollak, Indiana University Northwest</p> <p>The Northwest Indiana economy is forecasted to grow 2.2 percent in 2015 and regional employment is forecasted to increase by 0.7 percent or generate 2,000 new jobs.</p> 	INDIANAPOLIS	<p>Dr. Kyle Anderson, Indiana University</p> <p>Expect the unemployment rate to continue to decline to around 4 percent and wages to increase. Construction projects downtown and in the surrounding area will continue to be an important source of economic growth for the metropolitan area.</p> 
LOUISVILLE	<p>Dr. Uric Dufrene, Indiana University Southeast</p> <p>The entire metro region will see improvement in 2015. The continuing national recovery will trigger additional gains in manufacturing, which will support overall growth for Southern Indiana and the Louisville region.</p> 	MUNCIE	<p>Dr. Dagny Faulk and Kurt Waldier, Ball State University</p> <p>The coming year is likely to show employment growth in retail and leisure and hospitality, and the increasing labor force indicates that discouraged workers are beginning to look for jobs. In 2015, Muncie is expected to see an additional 1.5 percent gain in employment.</p> 
SOUTH BEND	<p>Dr. Hong Zhuang, Indiana University South Bend</p> <p>The outlook for the South Bend-Mishawaka MSA in 2015 is for modest economic and employment growth, though the unemployment rate is expected to continue falling. Employment gains would come from the health sector due to an aging population in the area.</p> 	TERRE HAUTE	<p>Dr. Robert Guell, Indiana State University, and Kevin Christ, Rose-Hulman Institute of Technology</p> <p>The forecast for the Terre Haute economy is for slowly declining rates of unemployment, despite a slowly declining number of total jobs, and a rising level of average incomes as the healthy sectors of the Terre Haute economy continue to do quite well.</p> 

Note: Data for the graphs come from STATS Indiana and the U.S. Bureau of Labor Statistics and uses the Indiana portion of the metros only. September 2014 data are preliminary.

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