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International outlook for 2017

Cathy Bonser-Neal, Ph.D.

Associate Professor of Finance, Kelley School of Business, Indiana University

Elham Mafi-Kreft, Ph.D.

Clinical Assistant Professor of Business Economics and Public Policy, Kelley School of Business, Indiana University
Bloomington

Prospects for a strong rebound in the global economy have dimmed, as growth outcomes in the advanced economies continue to disappoint and China continues to slow. The International Monetary Fund's (IMF) latest forecast predicts that overall global growth will remain stuck in low gear and below its long-run average, with global output expected to rise by 3.4 percent in 2017—only marginally higher than the 3.1 percent rise seen in the previous year (see **Figure 1**). This global forecast balances modest growth rate increases in the U.S., Japan and some emerging markets against falling growth rates in the eurozone, the U.K. and China.

Figure 1: Global growth forecasts

graph



Source: International Monetary Fund ("World Economic Outlook," October 2016)

United States

In 2016, solid consumption and residential investment spending has been tempered by weak nonresidential investment spending, limitations on government spending and the dollar's continued appreciation on the export sector. Employment gains continued, with the civilian unemployment rate falling below 5 percent and labor force participation rising slightly.

Inflation is expected to rise closer to the Federal Reserve's 2 percent target as the effects of credit easing, commodity price increases and some wage pressures begin to be reflected in the overall price level. In 2017, we expect the Federal Reserve to maintain its cautious pace of interest rate increases, and for growth to remain sluggish at just over 2 percent. Given recent trends of decreased productivity growth, this rate of economic growth is unlikely to result in significantly higher wage or labor force participation growth. In addition, with U.S. imports comprising over 15 percent of gross domestic product (GDP), sluggish growth in the U.S. will weigh on the growth prospects of its major trading partners.

Europe

In recent years, the European Union (EU)—the world’s single-largest market and a major economic and political ally of the United States—has been in the midst of a storm ... a perfect storm that has included soaring national debt, weak economic growth, a large volume of refugees and the reemergence of a belligerent Russia. If that was not enough, in June 2016, the citizens of the U.K. voted to leave the EU. This latest event triggered a new wave of economic, political and institutional uncertainties in the advanced European economies. In 2017, we expect the U.K. to remove all European laws from the British statute, so the uncertainties associated with Brexit will persist at least for the first part of the year. We believe that the U.K. is heading for a “hard” Brexit, which means no tariff-free access to the European market, as well as added restrictions on labor movement.

The concerns of a severe separation from the EU diminish our outlook on U.K. growth potential in 2017, which is expected to grow by only 1.1 percent. The pound sterling has fallen to historical lows against the currencies of major trading partners, and we expect the lower exchange rate to continue over the first part of 2017 as capital continues to flow out of London. This sudden depreciation of the sterling could be regarded as a benefit for England’s external accounts in the short-run. However, it is likely that British consumers and producers will experience the negative consequences of the devaluation as import prices will increase. Since British exporters are integrated within the global supply chain, the depreciation of the currency and the corresponding increase in import prices will have large effects on export prices and will render them less competitive. Over time, the depreciation of the sterling will drive down living standards for everyone receiving sterling-denominated wages.

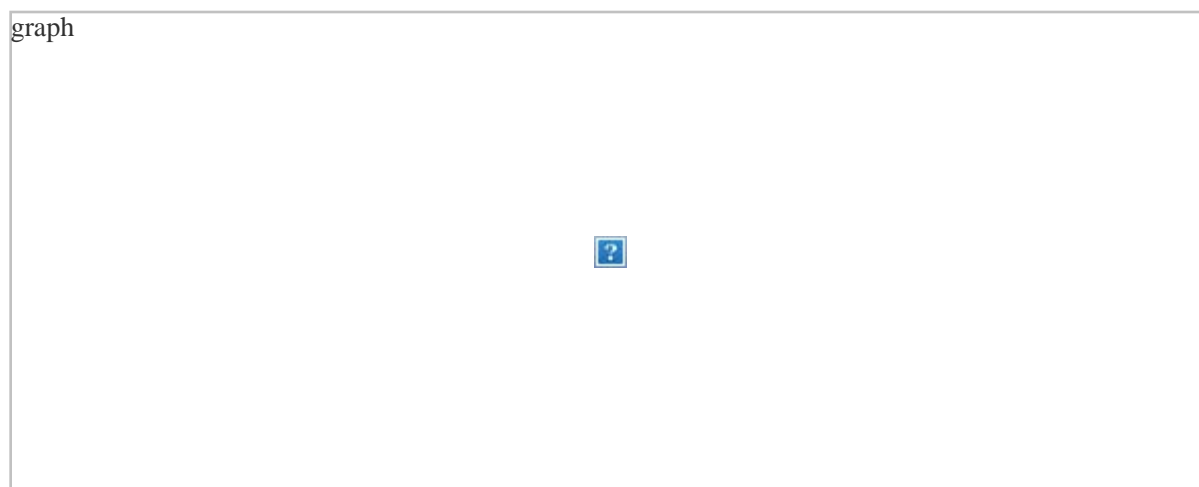
The advanced economies of the EU, such as Germany—the U.K.’s top import

origin—will be affected by the slower growth in the U.K. Therefore, we forecast that in 2017 the advanced U.K. trading partners will experience the negative consequences of Brexit mostly because the depreciation of the sterling will slow down their exports to the U.K. However, in the longer term, it is possible that a significant number of European startups, notably in the tech industry (where free movement of labor between countries is vital), will relocate to continental Europe, providing some boost to their new hosts' national economies.

Canada and Mexico

Our North American Free Trade Agreement (NAFTA) partners, Canada and Mexico—both oil-exporting economies—have experienced severe downturns caused by two years of global oil prices plummeting (see **Figure 2**).

Figure 2: NAFTA real GDP growth



Source: International Monetary Fund ("World Economic Outlook," October 2016)

In Canada, the economy as a whole is forecasted to post a gain of 1.9 percent in 2017, as oil prices have reached their lowest limit and are trending up. This price recovery will finally put an end to the decline in business investment in energy-dependent provinces, such as Alberta. A pickup in the U.S. economy will help Canadian exports. However, the tepid increase in U.S. business investment and the slow activity in the U.S. manufacturing sector—an important market for

Canadian exports of intermediate goods—will continue to contribute to the weakness of the commodity exports of Canada. The manufacturing sector, the auto sector in particular, is facing the same challenges as in the U.S., where new investment that would drive stronger GDP growth is expected to flow to lower-cost Mexico.

In 2017, the risks of recession in Mexico are low, and we expect the economy to grow by 2.3 percent. As long as the U.S. grows, it will support Mexican exports, as well as provide tourism revenues, remittances and capital investment. Our geographic proximity and trade agreement with Mexico will continue to stimulate private investment, in particular in the automobile industry.

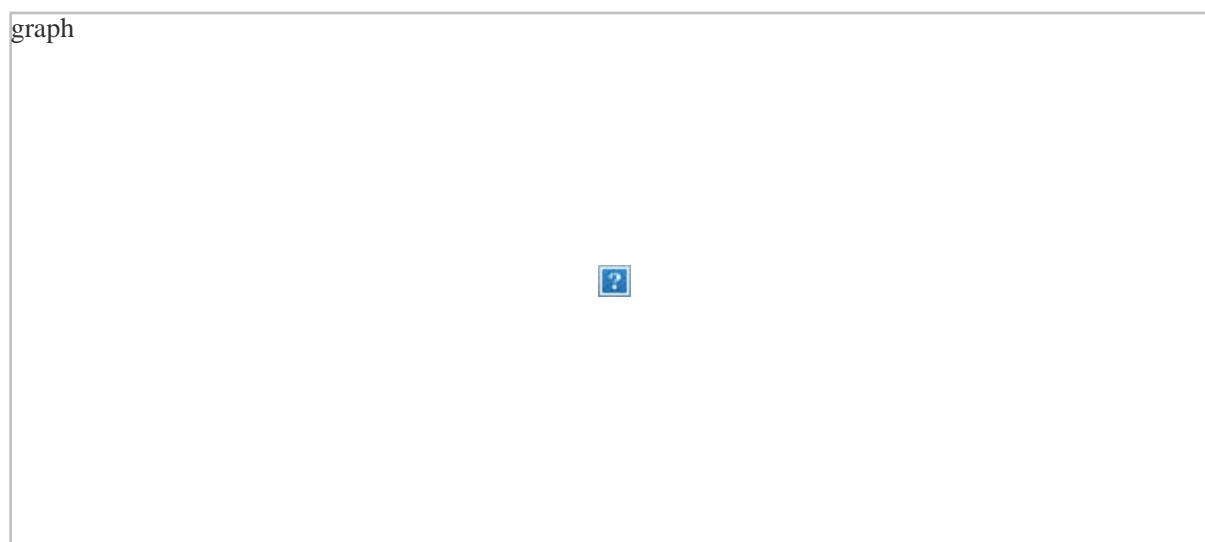
Manufacturing production will also gain competitiveness as the Mexican peso is expected to continue its depreciation. Private investment in the oil sector will see a small boost as the price of oil will continue to increase this year. Household consumption will keep up because remittances from migrant workers in the U.S. will compensate for the loss of purchasing power due to higher inflation, especially as the Fed increases their rates in 2017. However, there are downside risks to this forecast as domestic policies, such as interest rate increases and fiscal austerity, could impair economic growth and prolong the sluggishness in the economy.

The BRICS

Representing over 40 percent of the world's population and 30 percent of the world's GDP, BRICS (Brazil, Russia, India, China and South Africa) growth rates have historically helped counterbalance the effects of low advanced-country growth on overall global growth. However, in 2016, the slowing of China's economy—combined with sharp recessions in Brazil and Russia, as well as near zero growth in South Africa—failed to provide the fuel necessary to boost the

globe's economic engine. Only India has exhibited strong growth in the face of slowing global demand and commodity price decreases (see **Figure 3**).

Figure 3: BRICS real GDP growth



Source: International Monetary Fund ("World Economic Outlook," October 2016)

China's growth rate is expected to continue to decline moderately, from 6.6 percent in 2016 to 6.2 percent in 2017, and inflation will remain low at around 3 percent. This slowing of China's growth rate reflects the necessary "rebalancing" of China's economy away from an overreliance on investment spending and exports in favor of greater consumption spending, and its transition from a manufacturing economy to one with a significant services sector. Indeed, the anticipated benefits from this transition have allowed China to remain a top destination for future foreign direct investment.

As the world's second-largest economy, however, even small changes in China's economic growth rate can have global repercussions. These effects have been particularly significant for China's Asian neighbors and for commodity exporters in Latin America and sub-Saharan Africa, which have supplied the inputs for China's production. We expect the shock of China's slowdown on emerging markets will subside in 2017 as these countries begin to adjust to the new growth normal. Further, those countries who are net commodity importers will continue

to benefit from lower commodity prices, while those economies who can take advantage of China's transition away from labor-intensive manufacturing or who can supply the goods and services demanded by growing incomes of Chinese consumers will stand to benefit from China's economic rebalancing.

China's ability to guide its economy to a soft landing during this transition is not without risks. Like the advanced economies, China's population is aging, and this demographic shift could lead to larger-than-expected decreases in workforce productivity. Regions that have a higher concentration of industries facing lower profits are seeing higher unemployment, falling property values and a deterioration of their bank balance sheets. State-owned banks, which had relied upon overly optimistic projections and an expectation of implicit government guarantees, are particularly vulnerable.

Given the current high degree of leverage, as well as the interconnectedness of China's banks, a large negative adjustment to the financial positions of major Chinese banks could sharply curtail lending and have negative impacts on China's economy and stock market. As we witnessed in August 2015, shocks to China's financial markets can have global implications. Furthermore, although the addition of the Chinese renminbi (the official name of Chinese currency, of which the yuan is a unit of measure) into the International Monetary Fund's Special Drawing Rights (SDR) basket in October 2016 was celebrated as a signal of the progress in China's liberalization of its capital markets, continued uncertainty about the pace of liberalization could lead to accelerated capital outflows, a drop in reserves and pressures for a sudden depreciation of China's currency.

The recent modest recovery in commodity prices should provide a small boost to

the commodity-rich BRICS countries of Brazil, Russia and South Africa. In 2017, Brazil and Russia are expected to emerge from their deep recessions and experience positive, though muted, economic growth of 0.5 percent and 1.1 percent, respectively.

Brazil's economy will benefit from the recent resolution of political uncertainty, the new government's commitment to reducing its 9 percent inflation rate and a reduction of sovereign credit risk. Several downside risks remain, however, including its rising budget deficit (now at 10 percent of GDP), the country's high unemployment rate and the economic repercussions of the Zika public health crisis. Brazil and its currency also remain vulnerable to sudden capital outflows should economic progress prove disappointing or if its trading partners experience slower-than-expected growth.

Russia's economic growth will continue to be subdued by the impact of economic sanctions on investment, low productivity and the country's dependence on the fate of oil; however, consumer spending is expected to improve as inflation and Ruble depreciation pressures subside. Still, we anticipate geopolitical tensions will continue to present significant downside economic risks, and we doubt that last year's 69 percent drop in foreign investment flows will be reversed anytime soon.

South Africa's economy is also expected to experience a mild rebound, with real GDP expected to rise from near zero in 2016 to 0.8 percent in 2017. The economy continues to suffer the effects of lower commodity prices, policy mismanagement and political risk, and a 25 percent unemployment rate for its working-age population. As the second-largest economy in sub-Saharan Africa after Nigeria, such low growth prospects will weigh on the growth prospects for the region as a whole.

Brazil, Russia and South Africa will all three need to undertake structural adjustments in light of China's lower growth rate and the fact that commodity prices are unlikely to recover to their pre-2015 levels.

India, by contrast, stands out as a bright spot in the BRICS forecast, with the country's 7.6 percent growth rate expected to continue in 2017. Positive policy actions taken by the current government to reduce inflation to just above 4 percent, reform the tax structure and reduce barriers to foreign investment flows have made India an attractive destination for foreign direct investment and will continue to support growth. India is also expected to benefit from a growing workforce and its position as a net importer of commodities.

Summary

These low, but positive, global growth prospects for 2017 are not without risks. For example, a faster-than-expected slowdown in China's growth, a change in the U.K.'s Brexit strategy and a lower growth rate in the U.S. could all threaten the global economic forecast. Shifting interest rate expectations can increase financial uncertainty and financial market turbulence. The rise of private and public emerging market debt burdens denominated in foreign currencies will be at risk from sudden currency depreciations should sudden capital outflows occur. And, the risks of greater protectionist measures will negatively impact the global trade and investment flows necessary for global growth to return to its long-run average.

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U.S. outlook for 2017

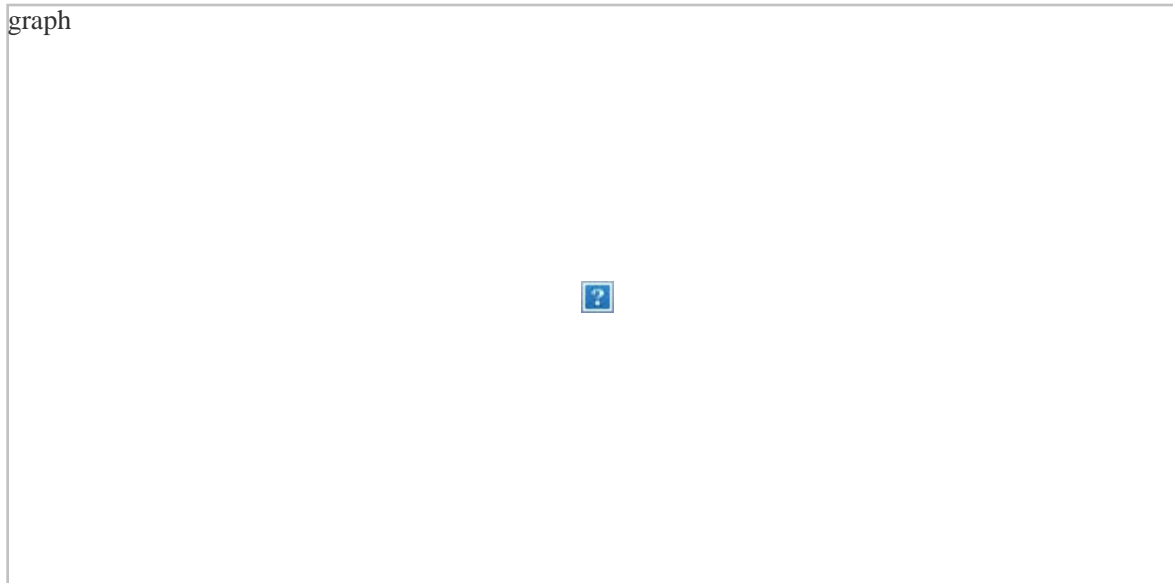
Willard E. Witte, Ph.D.

Associate Professor Emeritus, Department of Economics, Indiana University Bloomington

An observer of the political scene recently said, “I try to be cynical, but I just can’t keep up.” As an economic prognosticator, I feel a little the same. I try to be pessimistic (or at least not optimistic), but I just can’t keep up.

Two years ago, our forecast for 2015 had the economy breaking out of its “2 percent slog” to growth of nearly 3 percent. The actual number was 1.9 percent (fourth quarter to fourth quarter). A year ago, looking ahead to 2016, we saw “little reason for any real optimism,” but we did think growth would reach about 2.5 percent, thus surpassing 2015. It now looks like 2016 will struggle to reach even 2 percent. Over the first three quarters, real GDP has averaged just 1.8 percent (see **Figure 1**).

Figure 1: Rate of change in U.S. real output



Source: U.S. Bureau of Economic Analysis

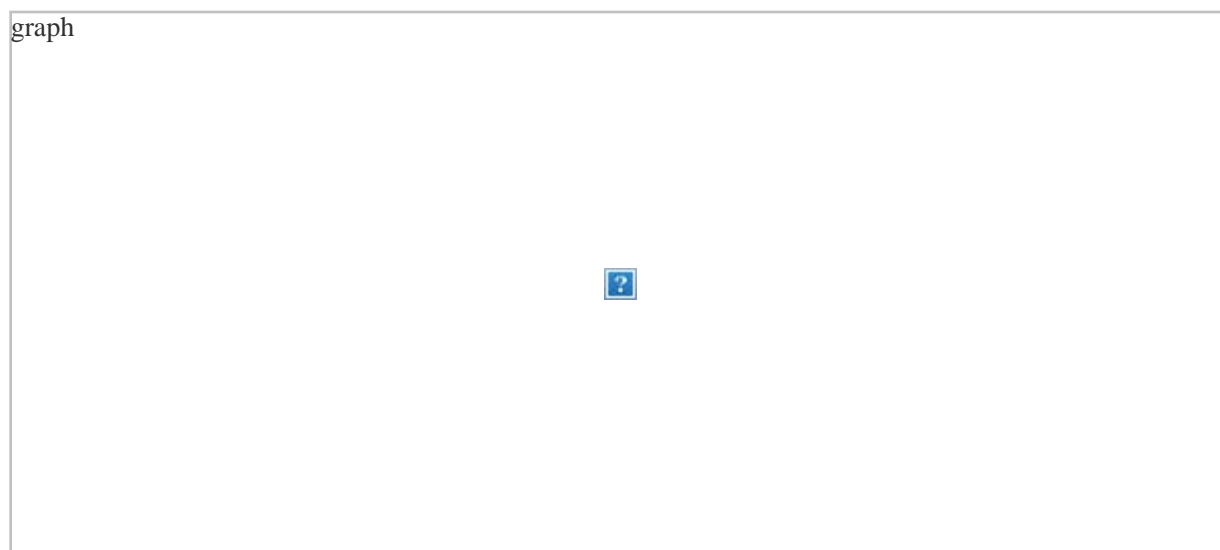
So, what went wrong? Nothing really dramatic. First, the business, housing and government sectors all underperformed relative to our expectations. We had expected business investment to increase at a 3.7 percent rate, building on improving growth in 2015; instead (based on the first three quarters of 2016), it collapsed to -0.8 percent. Housing was similar—expected growth of 5.8 percent turned into an actual decline of -1.7 percent. Government was less dramatic, with actual growth below 0.1 percent versus our forecast of 0.8 percent. In total, these three sectors pulled output down by almost 1 percent relative to our expectation. (Exports would also have underperformed except for a huge third-quarter jump in soybeans exports. This alone added as much as a quarter point to overall Q1-Q3 growth.) However, consumption offset some of these shortfalls—consumption has grown at a 2.9 percent rate, a little above our forecasted 2.5 percent.

Output in the third quarter of 2016 increased at an annual rate of 3.2 percent. This was better than the 1.1 percent average for the first half of 2016. However, an increase in inventories and the soybean factor mentioned above accounted for about 1 percent of that third-quarter advance.

In the labor market, the economy added 161,000 jobs in October (see **Figure 2**).

For the first 10 months of 2016, the monthly average was 181,000. This is significantly below the average of 229,000 for all of 2015. The unemployment rate in October was 4.9 percent, essentially unchanged from the beginning of the year.

Figure 2: U.S. monthly job creation and unemployment rate, January 2013 to October 2016



Source: U.S. Bureau of Labor Statistics

Overall, 2016 must be rated as mildly disappointing. Growth has been weak, but that is nothing new. It is a continuation of the pattern of the previous six years. Job creation has slowed and the decline in unemployment seems to have ended. This is to be expected as the labor market approaches full employment. The household sector is in good shape and consumption has been quite strong. At the same time, every other part of the economy is lackluster or worse. This lack of balance is troubling for the present and unsustainable for the future.

Forecast

Looking to the future, we see little reason for any real optimism, but we do think the economy will continue to muddle through, matching the past year—or perhaps a little better. This outcome depends on at least some improvement in

investment (both business and housing) and government spending. This will offset a modest deceleration in consumer spending, bringing the latter into better balance with income growth. Some specifics:

- We expect output growth in 2017 to average slightly above 2 percent. This will about match the past year. It represents a continuation of the pattern that has been in place since 2011.
- The labor market will continue the trends seen in 2016—job gains will average below 150,000 per month, with little, if any, decrease in the unemployment rate. By the end of 2017, the rate will remain below 5 percent, but only by a tick or two.
- As we expected, inflation moved up during 2016 and will average about 1.5 percent for the year. We think this trend will continue in 2017, with the personal consumption expenditures measure preferred by the Fed reaching their target 2 percent rate by year's end.
- Consumer spending will continue to advance, but at a rate below this year. Business investment and housing will resume growth, but at rates below those earlier in the recovery. The trade balance will experience further deterioration, even with some increase in export growth.
- The Fed finally raised rates at the very end of 2015, but has been sitting on its hands since. We think it will raise rates in December 2016 and then twice more during 2017.

This is a more pessimistic outlook than we presented a year ago, but it could easily prove (once again) to be too optimistic. There are significant risks in the current environment that could cause a worse outcome than we expect. A short list:

- The international state of affairs contains a multiplicity of potential

problems:

- The Chinese situation seems to have stabilized lately, but very serious structural problems remain to be addressed. At the top of this list is the need to shift the economy from a focus on infrastructure and investment to a more consumer-driven structure. Close behind is a serious internal debt problem.
- Europe has also been doing a little better recently, but mostly due to monetary stimulus. There is little, if any, progress being made on their underlying structural problems, with debt problems again a prominent feature. In addition, the migrant crisis continues to produce political pressures whose ultimate effects are highly unpredictable, but unlikely to be productive for the economy. The Brexit vote is indicative of these forces.
- We continue to feel that Federal Reserve policy has produced significant distortions in the financial sector that at some point will be corrected. While any Fed move on rates would, taken alone, have little effect, the economic consequences could be far more dramatic if it triggered a broader financial market event.

The election of Mr. Trump adds a large dose of uncertainty to the outlook. This uncertainty adds to the downside risks, but also creates some upside potential.

- On the negative side, significant moves toward protectionism—either on trade or immigration—carry large economic risks. Like it or not, the U.S. economy is totally integrated into a global system. Efforts to limit imports, say from Mexico or China, would inevitably affect international supply chains in ways that would be highly disruptive for domestic production.
- On the positive side, action to enact tax reform or a long-term program of infrastructure investment could have a positive impact. Regulatory changes

that put more emphasis on economic costs could as well.

Summary

The U.S. economy has underperformed during 2016, even relative to our diminished expectations a year ago. Our outlook is for some improvement during 2017, although only a little. But the massive uncertainty in the current situation could make our pessimism end up being wishful thinking. Or perhaps a year from now we will report that in 2017 the economy has (finally) outperformed our expectations.

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Financial markets 2017: Make P/E ratios great again

Robert S. Neal, Ph.D.

Associate Professor of Finance, Kelley School of Business, Indiana University

Charles Trzcinka, Ph.D.

James and Virginia Cozad Professor of Finance, Kelley School of Business, Indiana University Bloomington

In a year of intense focus on walls, audio recordings and deleted emails, what is surprising is how little the financial markets have reacted. Compare the U.S. financial markets to the market for the Mexican peso, which has fluctuated based on bets of whether Trump would win. Since May, the peso depreciated by about 15 percent, rebounded 7 percent when the *Hollywood Access* tape of Trump was released, and jumped to a 20 percent decline following the election.

In contrast, the U.S. financial markets have not reacted much. Last year, we predicted the market would grow “below average,” and we were unfortunately correct. The return of the S&P 500 from November 2015 to November 2016 is about 3 percent, most of which is after the election. This is certainly below the long-term average of about 8 percent, not to mention the high returns we had from 2012 to 2014 (the market grew 16 percent in 2012, 32 percent in 2013 and

14 percent in 2014—for a remarkable total of 75 percent).

Opinions are split on why the market has had a flat response to the political campaigns and a positive response after the election. (The 7 percent fall on election night was in the overnight futures market, which is not very liquid. Jim Cramer said it was “some guys trading in their pajamas.”) Some argue that the market expected Hillary Clinton to win and to continue the current policies. Others argue that with Trump winning, he doesn’t really mean what he says—except maybe on taxes. Still others argue that neither Clinton nor Trump would have been able to implement their agendas because the Congress would be split, and Republicans in Congress have a very different policy agenda than Trump.

Our view is a bit of an outlier: We think the market treated both campaigns as if they were sales pitches that neither candidate believed nor would implement. What really matters is cash flows and valuation—which is what we mean by “let’s make P/E ratios great again.”

Factset examined the recent “earnings calls” of 386 S&P 500 firms between September 15 and November 2, and 80 firms mentioned the word “election.” So only 21 percent were concerned enough about the election to even mention the word. In 2012, it was 26 percent.

For certain, the agendas that appeal to the base supporters of each party if fully implemented would not be good for the stock market. The Democratic agenda of higher taxes and regulation to ostensibly help the middle class will discourage business investment and startups. The Trump agenda of sharp restrictions on trade and immigration will likely hurt much more than a tax decrease will help—especially if he sparks a trade war—and his tax decrease will adversely impact both the budget deficit and the debt level. In either case, any significant policy

changes would go through a lengthy legislative process, so implementation would likely start in 2018.

What about 2017?

Fed policy: While we were supportive of the Fed's liquidity policies during the financial crisis, we are concerned that the aggressive monetary policies since 2009 have become counterproductive and pose a material risk to our investment portfolios.

From 1947 until 2009, GDP growth averaged 3.2 percent per year; since 2009, it has fallen to 2 percent per year. This lower growth is reflected in lower corporate earnings. Over the past two years, S&P 500 earnings, excluding energy, are less than half their historical average. This is no doubt a reaction to what has been the weakest post-recession recovery of the modern era.

The Federal Reserve recently has kept interest rates flat, a "dovish" policy in targeting interest rates rather than inflation in the near term. We expect a small increase in the federal funds rate in December and then one or two small increases next year. This may cause some volatility in the stock market.

International trade: The S&P 500 derives about 31 percent of its revenue from sales outside the United States, so earnings are sensitive to growth in the global economy.

- The eurozone stagnation suggests that the eurozone will not be a source of growth in the U.S. and is unlikely to contribute to major stock market performance.
- China is slowing and transitioning to more of a consumer economy. It will not be as important a source of U.S. manufacturing cost-savings and could

see more exports.

With this as a background, we turn to fundamentals. Stock prices are determined by the future stream of cash flows—driven by earnings—and the valuation of these cash flows, which is the present value using a discount rate that reflects risk. Typically, this is summarized by earning forecasts and a valuation ratio—the price-earnings (P/E) ratio.

Fundamentals

There are some positive factors for stock returns in 2017:

- **Earnings growth:** Analysts are forecasting earnings will increase about 11.6 percent in 2017 for the S&P 500. Energy is predicted to grow 325 percent (that's not a typo). Real estate is expected to fall 18.6 percent.
- **Revenue growth:** Among S&P 500 firms, revenues are expected to rise 5.9 percent in 2017. The best sector, energy, is expected to rise 27.5 percent, while the worst sector, telecom, is predicted to rise 1.4 percent. Real estate revenue is expected to rise 5.3 percent.
- **Year-over-year earnings growth:** For the first time since the first quarter of 2015, this is a positive 0.5 percent for the S&P 500.
- **Year-over-year revenue growth:** For the first time since the fourth quarter of 2014, this is a positive 2.6 percent for the S&P 500.
- **Third-quarter earnings and revenue “beats:”** Of the 425 companies in the S&P 500 that have reported earnings and revenues for the third quarter of 2016, 71 percent have reported earnings above the mean estimate of analysts (higher than the historical average of 67 percent) and 54 percent have reported revenues above the mean estimate (matching the historical average).

- **Valuation:** P/E ratios are above their long-run averages, but only by modest amounts. The S&P 500 P/E ratio is 18, above its long-term average of 15.9. The “forward” P/E (price today divided by expected earnings) is 16.4, above its long-term (10-year) average of 14.3. All this suggests that valuation ratios are not about to fall off a cliff.
- We think **inflation will remain subdued**. Our forecast of 2 percent is in-line with most forecasts (the Fed’s 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).

However, there are some headwinds:

- **The cyclically adjusted P/E ratio (CAPE) for U.S. stocks** is at 26.5, which is the highest since January 2008 (but lower than May 2007, which was 27.5). This CAPE is above its historical average of about 18, but we are hopeful that this is a signal that the market is optimistic of future earnings growth.
- **IPOs are mixed:** As of November 2, there were 95 IPOs raising \$178 billion. The number of IPOs are down (150 in 2015 and 365 in 2014), but the amount raised is significantly higher (\$28 billion in 2015 and \$85 billion in 2014). The average first-day return was 14 percent, which is also down.
- **The eurozone is more a source of risk than return:** Supply-side barriers, such as labor market constraints, have been exacerbated by Brexit and may create a “secular stagnation,” which would impede an economic recovery.
- **China’s growth** is clearly slowing, and analysts are increasing skeptical about official numbers.
- **Profit margins are declining:** Firms must increase earnings by revenue growth, which is problematic given the weakness in Europe and China.

- **The strong U.S. dollar is a headwind:** The dollar has appreciated about 8 percent against the euro and 10 percent against the yen during 2016, despite continuing quantitative easing (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 total debt (held by the public) to GDP ratio has increased to 76.6 percent in 2016. Congressional Budget Office projections for 2017 have it around 80 percent of GDP under current policies. Trump does not have any feasible program to decrease it and probably will expand it dramatically (as would have Clinton). The massive government deficits may lead to fears of higher interest rates, accelerating inflation and slower growth.
- **Budget deficits:** The projected budget deficit for 2016 is about 3.2 percent of GDP. 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 about 2 percent and interest payments are forecast to be \$248 billion, rising to \$300 billion in 2017 even if interest rates do not change. Increasing the average rate by 1 percent will trigger an additional \$140 billion in federal spending. This will require reduced spending in other areas, increased taxes or both.
- **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 \$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 2017, 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 around 2 percent. [The combination of low inflation, a Fed that will cautiously return to normal interest rates, and decent prospects for earnings growth suggest at least a positive year for stocks.](#) The primary risks are trade restrictions from Washington, economic policy uncertainty and the Fed.

In this environment, we expect the return on equities to be positive, but below the 7.5 percent average return over the past 50 years. 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. Investors should stick to short-term bonds to reduce their exposure to higher interest rates.

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Housing: Positive growth expected for 2017

Douglas M. McCoy

Director of the IU Center for Real Estate Studies, Kelley School of Business, Indiana University

In 2017, housing supply and pricing will be the key drivers, while demand for single-family housing will remain strong—mirroring 2016. Positive job gains and attractive interest rates continue to bring buyers to the market. Consumer confidence will improve as employment growth remains positive, interest rates stay attractive, and consumers continue to improve their balance sheets.

On the other hand, supply is struggling to keep up with demand as builders struggle to come back to the market. Moreover, the foreclosure inventory has evaporated and the excess of available existing homes is gone. Coupling these realities with low interest rates is resulting in pricing growth that outpaces inflation. In particular submarkets, with very strong demand characteristics and constrained supply, it is likely that unsustainable pricing exists. In summary, the 2017 housing market will be strong, but buyers should beware of potential pricing “bubbles” resulting from an imbalance between supply and demand.

For example, the National Association of Realtors forecasts that existing home

sales will increase 1.6 percent from 2016 levels, while new single-family home sales will increase 9.8 percent nationally. These increases compound the corresponding 2015 and 2016 existing-home sales and new-home sales increases (see **Table 1**). Housing starts are projected to increase 6.5 percent, with single-family units increasing by 9.1 percent and multifamily units increasing by 1.5 percent. Median home prices for both existing and new homes are expected to increase 3.7 percent and 2.7 percent, respectively. The S&P CoreLogic Case-Shiller Index reported a 5.3 percent annual gain in home prices in August. Portland, Seattle and Denver led the way with the highest pricing gains at 11.7 percent, 11.4 percent and 8.8 percent, respectively. Consumer prices are expected to increase 2.3 percent in 2017, up from 1.2 percent in 2016.

Table 1: National housing outlook

	History		Forecast	
	2014	2015	2016	2017
Home sales (thousands)				
Existing home sales	4,940	5,284	5,358	5,443
New single-family sales	439	527	570	626
Home sales (% change – year ago)				
Existing home sales	-2.9%	7.0%	2.1%	1.6%
New single-family sales	2.3%	20.1%	13.8%	9.8%
Median home prices (\$ thousands)				
Existing home sales	\$197.1	\$207.3	\$231.0	\$238.5
New single-family sales	\$268.9	\$277.0	\$304.0	\$312.1
Median home prices (% change – year ago)				
Existing home sales	5.7%	5.8%	3.9%	3.7%
New single-family sales	5.2%	2.2%	2.6%	2.7%
Additional measures				
Housing starts (% change – year ago)	8.5%	10.8%	6.4%	6.5%
Housing affordability index*	164	162	165	156

* 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 2016"

Considering these numbers, one can see the strong demand outpacing starts and the resulting increase in pricing outpacing inflation. Also, one can reason the need for supply to catch up with demand to provide a more reasonable pace of home price increases. The high price increases of Portland, Seattle and Denver show the impact of these dynamics on particular markets that have very strong demand drivers (primarily positive job growth) and weak supply drivers (mainly available land). In these markets, it is likely prices are being driven to unsustainable levels considering the availability of low interest rates. In short, it is important for the housing market's price stability that housing supply catch up with demand.

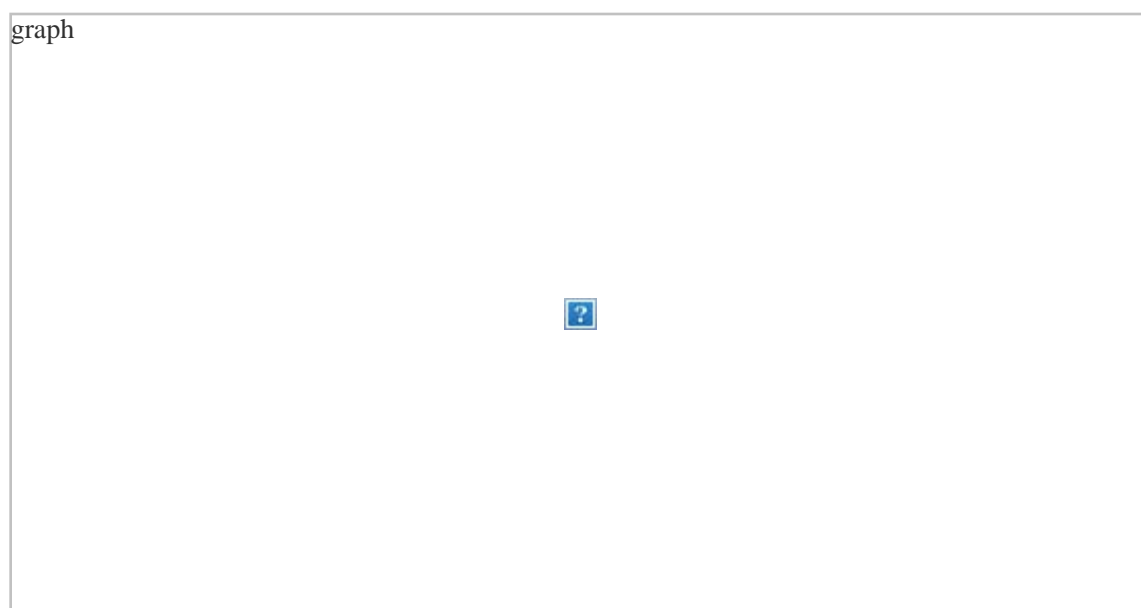
The likelihood of continuing improvement in the single-family housing market in our nation's cities and towns largely depends on job growth and how wages compare to that locale's housing prices. When differentiating single-family markets across the country, it is important to remember that a key factor of mortgage qualification is a household's monthly gross take-home pay relative to its payment 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 more stable single-family housing market than communities with more narrow home affordability.

In 2017, home affordability is expected to slightly decrease across the country. The National Association of Realtors projects a change in this index from 165 to 156 from 2016 to 2017. Considering a positive outlook for employment and continued attractive interest rates, this relatively minor reduction in affordability should have little impact nationally.

How will the Indiana housing market fare in 2017?

In terms of employment, Indiana is experiencing very positive trends. According to the Current Employment Statistics data from the U.S. Bureau of Labor Statistics, Indiana added 44,300 jobs between September 2015 and September 2016. And according to the Indiana Business Research Center and the IU Center for Econometric Model Research, Indiana's employment growth will continue at a pace of about 30,000 jobs per year through 2019 (see **Figure 1**). In addition, unemployment is expected to decline during this period and the personal income of Hoosiers will rise at a faster rate than the nation.

Figure 1: Indiana employment and unemployment rate quarterly forecast



Source: Indiana University Center for Econometric Model Research and Indiana Business Research Center (released in September 2016)

In terms of existing home sales, Indiana beat the nation by 1.6 percentage points for the 12 months ending June 2016. In residential building permits, Indiana outpaced the nation by 4.3 percentage points. In contrast, Indiana lagged the nation by 0.8 percent in home price appreciation at the end of the first quarter. While Indiana's months supply of inventory generally mirrors the nation, its rental vacancy rate surpasses the nations' by 3.3 percentage points (see **Table 2**).

Considering these results together, Indiana is doing a good job of adding new single-family homes and multifamily apartments relative to the nation—a positive for Hoosier homebuyers and renters compared to others around the country that are facing a shortage of inventory.

Table 2: Mid-year comparison of Indiana and U.S. housing markets

	U.S.	Indiana
Existing home sales, July 2015 to June 2016, year-over-year change	5.1%	6.7%
House price appreciation, 2015 Q1 to 2016 Q1	5.5%	4.7%
Residential building permits, July 2015 to June 2016, year-over-year change	3.1%	7.4%
Foreclosure rate, 2016 Q2	1.6%	1.8%
Months supply of inventory, June 2016	4.6	4.9
Rental vacancy rate, 2016 Q2	6.7%	10.0%
Housing affordability index, 2015*	164	280

* 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. The value shown for Indiana is an average of the available metros .

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, and CoreLogic

According to the Indiana Association of Realtors, Indiana's year-to-date 2016 closed sales are trending higher than 2015, while its median sale price increased 4.4 percent to \$139,900 year to date (see **Table 3**).

Table 3: Indiana housing overview

	Sep 2015	Sep 2016	Percent change	Year-to-date 2015	Year-
Closed sales	7,282	7,736	6.2%	61,509	
Median sales price	132,500	142,900	7.8%	134,000	

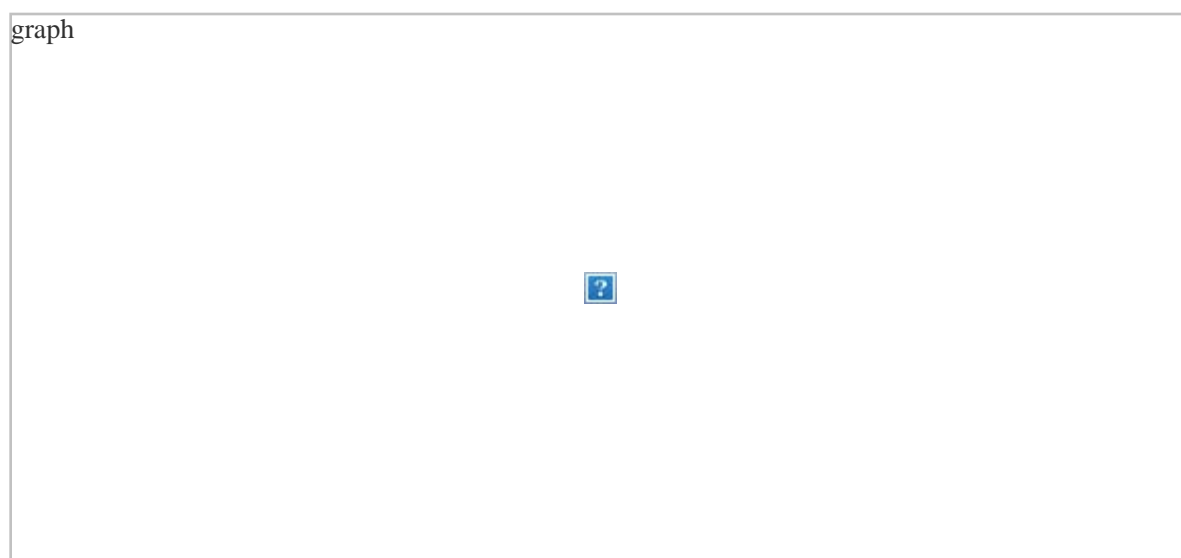
Source: Indiana Association of Realtors

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 unfold each year.

While Indiana trailed the country in home price appreciation over the past year, as seen in **Table 2**, its foreclosure rate generally kept pace with the nation at 1.8 percent. Perhaps most importantly, Indiana's housing affordability remains very attractive, with an affordability index ranging from 245 in Indianapolis to around 297 in Fort Wayne and South Bend, as interest rates remain low.

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

Figure 2: Ratio of median sales price to median household income



Source: IBRC, using data from the Indiana Association of Realtors, the National Association of Realtors and the U.S. Census Bureau

If Indiana's economy continues its positive run through 2017, with more jobs and better wages, it will mean positive results for the housing market. **Moreover, the threat of unsustainable home prices in Indiana is lower, as Hoosier developers are doing a good job of adding supply to the market.** On the other hand, if job growth slows, wages stagnate or interest rates rise more than expected, Hoosiers will still fare well compared to less stable parts of the country.

Summary

Overall, the 2017 single-family housing market is looking positive for Indiana and the country. Job growth is improving and other economic fundamentals are positive. Thus, consumer confidence should be high. 2017 should see the single-family housing market remain strong for both Indiana and the nation.

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Indiana's outlook for 2017

Timothy F. Slaper, Ph.D.

Director of Economic Analysis, Indiana Business Research Center, Kelley School of Business, Indiana University

Ryan M. Brewer

Assistant Professor of Finance, Indiana University Division of Business, Indiana University–Purdue University Columbus

If there is a common thread through our economic forecasts over the last few years, it has been uncertainty. Since the Great Recession, the national economy's performance has been anything but vigorous. But, whether the economy has been weighed down by uncertainties—government shutdowns, the effects of the Affordable Care Act (Obamacare) on small businesses, the effect of Federal Reserve interest rate policy, the economic slowdown of large emerging economies like China—we'll leave to the historians. But one thing is certain: The national economy has had a series of unexceptional (to put it gently) years of economic performance.

That's the bad news.

The good news, at least for Indiana, is that this last year or two have been pretty good, especially compared to our neighboring states. Over the last six years,

2009 to 2015, Indiana's average growth in chained-dollar, or "real," gross domestic product (GDP)—also known as gross state product (GSP)—was only barely edged out by Michigan's average for the same time period, 2.2 percent versus 2.3 percent. Indiana's current-dollar average GSP growth surpassed all neighboring states, although by a mere 0.1 percentage point relative to Michigan and Ohio.

Since the teeth of the Great Recession in 2009, we have also seen Indiana's unemployment rate fall more quickly than neighboring states, except for Ohio. Indiana's and Ohio's unemployment trajectory since 2009 were similar. At the time of this writing, Indiana's current unemployment rate was about equal to that of Michigan's, a state that took the greatest economic hit among Indiana's neighbors, but has enjoyed an economic bounce thanks to robust auto sales in the last couple of years.

In terms of GDP (or GSP) growth, 2016 looks to reverse the trend of Indiana underperforming the overall nation. We currently forecast that 2016 will close out with real economic growth of 3.0 percent, compared to 1.6 percent nationwide.

GDP growth and employment

Indiana has trailed the U.S. in GDP growth for four out of the past five years, but is expected to grow at a slightly faster rate than the U.S. through 2018. **Figure 1** shows the relationship between Indiana and U.S. GDP growth since 2006. We expect Indiana's annual rate of real GSP growth in 2016 to be 3.0 percent, and the forecast for 2017 is 2.8 percent.

Figure 1: Annual change in gross domestic product

graph



Source: IBRC, using U.S. Bureau of Economic Analysis and Indiana University Center for Econometric Model Research data

GSP is an aggregate of the value-added totals—mostly compensation and returns to capital—from many different industries, each with a different performance profile. Some industries or sectors may prosper, while others may not. In 2014, the GSP increases in manufacturing of both durable and nondurable goods were above the statewide growth rate. These increases, however, were offset by double-digit percent GSP decreases in mining and agriculture.

Indiana's economic growth is greatly affected by the demand for Indiana's goods and services internationally and from elsewhere in the country. That demand for the products and services that are produced in the state will drive growth in employment, compensation and overall economic output (GSP). Assumptions, therefore, of continuing strong demand in the auto sector will have an out-sized effect on the forecast of the state's economic performance.

Was the auto, and more broadly total industrial, production hiatus in August (of 2016) just a blip? A pause to let the sector catch its breath? Or did it signal the beginning of a cooling sector? The answer to those questions may well influence the accuracy of our forecast.

So far, it has been a great year for auto sales. After a strong 2015 that saw auto sales hit over 17 million units, it looks like 2016 is on track to match that. Furthermore, various automotive industry analyst reports suggest that light vehicle sales in the United States are expected to near 20 million units by 2018, given no shocks to the economy.¹ That said, the state's fortunes don't rise and fall with the auto sector. As it happens, the broadly defined "chemicals" industry, which includes the pharmaceutical industry, continues its march to dominate the state in terms of economic output (GSP), increasing its state's share of GSP from about 5.6 percent in 2005 to 9.1 percent in 2014 (the last year for available industry GSP data). Over the same period, the share of motor vehicles, bodies and trailer manufacturing fell slightly from 5.5 percent to 4.9 percent over the same period, further emphasizing the importance of pharmaceutical manufacturing in Indiana. From 2017 to 2021, pharmaceutical manufacturers are expected to grow by 5.8 percent annually, providing some buoyancy to this sector.²

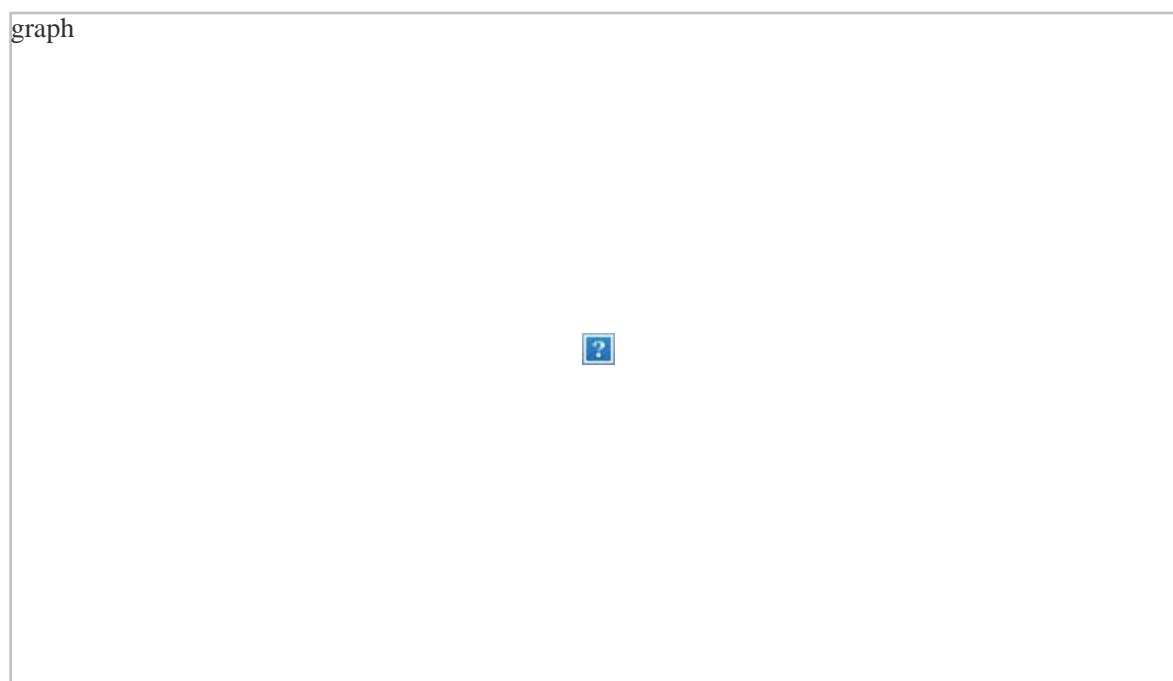
In terms of employment, the share of motor vehicles, bodies and trailer manufacturing—the auto sector—fell from 3.5 percent of Indiana workers in 2005 to 2.9 percent in 2015. (The employment data by industry are more timely than GSP.)³ The decline in manufacturing employment has been widespread across all manufacturing industries, with the exception of food and beverage manufacturing. Both durable and nondurable good manufacturing have shrunk as a share of Hoosier employment, with durable goods losing 1.7 percentage points from 2005 to 2015 and nondurables losing 0.3 percentage points.

Despite the general shrinkage in manufacturing employment in the Hoosier state over the last 10 years, one should note that the auto sector gained back nearly 35,000 jobs from 2009 to 2015.

The usual suspects (industries) increased their share of employment in the state, namely educational services (+0.4 percentage points) and health care and social assistance (+1.5 percentage points) over 10 years.

Figure 2 provides a glimpse of Indiana's employment swings from before the Great Recession, as well as the job growth forecast for the remainder of 2016 through 2019.

Figure 2: Indiana employment growth



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

Labor force, population and age

Indiana maintains its number one position nationally in percentage of GSP earned via manufacturing, coming in ahead of our peer states in the surrounding region, as well as North Carolina, Oregon, and Iowa—all of whom taken together round out the top nine in manufacturing prowess across the country. To assess how Indiana compares to these states, we can look at unemployment in each of these states over the past five years (see **Table 1**).

Table 1: Unemployment rate for Indiana and peer manufacturing-heavy states

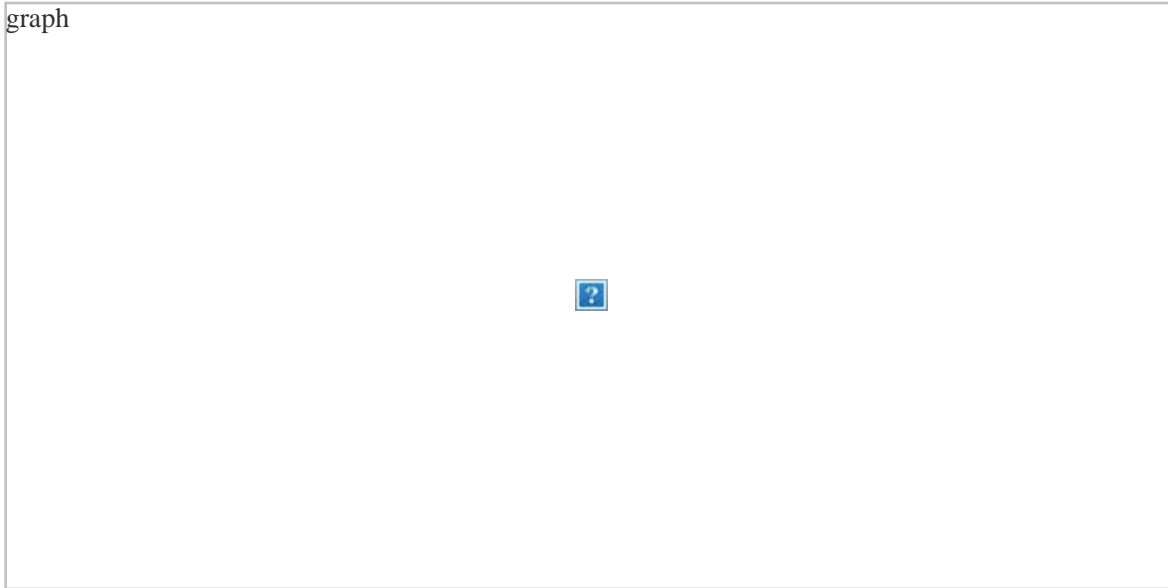
	August of each year				
	2012	2013	2014	2015	2016
U.S.	8.2	7.3	6.3	5.2	5.0
Indiana	8.4	7.3	5.9	4.5	4.6
Iowa	4.9	4.5	4.1	3.5	4.2
Illinois	9.2	9.1	6.9	5.8	5.5
Kentucky	8.2	7.9	6.0	5.0	4.8
Michigan	9.4	8.9	7.3	5.2	4.9
North Carolina	9.5	7.8	6.7	5.9	5.0
Ohio	7.2	7.3	5.6	4.4	4.7
Oregon	8.7	7.6	6.8	5.7	5.6
Wisconsin	6.9	6.3	5.1	4.2	4.0

Source: U.S. Bureau of Labor Statistics

We see that as of August 2016, Indiana had a lower unemployment rate (4.6 percent) than the nation (5.0 percent), and its unemployment rate stood more favorably than its peer states, except Wisconsin (4.0 percent) and Iowa (4.2 percent). However, unemployment rates only tell part of the employment story in a given region. Other parts of the story include the age of the population, the percentage of the population who participate in the labor force and the educational attainment level of the residents.

To the first point about age, Indiana is a relatively young state (see **Figure 3**). This statistic could be dismissed without much further thought; [however, in terms of attracting new business and generating future production from a workforce, Indiana offers a relative advantage among the manufacturing leaders.](#)

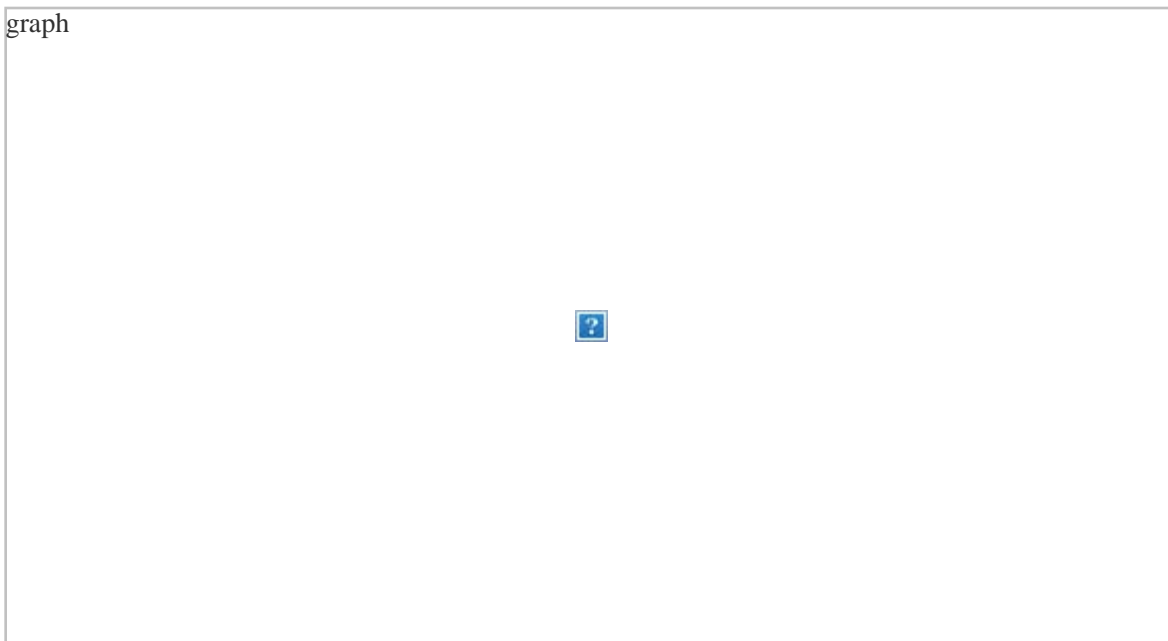
Figure 3: Median age among peer manufacturing states, 2015



Source: U.S. Census Bureau

To address the second point of labor force participation, we analyzed a five-year period (2010-2015), as shown in **Figure 4**. Since 2012, Indiana has trended upward in terms of expanding its labor force as a percentage of its total population. Thus, when considering the unemployment rate of 4.6 percent, we couch that in terms of an increasing number of Hoosiers formally seeking employment. Taken together—a falling unemployment rate and an expanding labor force— these indicators are a good sign.

Figure 4: Labor force as a percentage of population among selected peers



Source: U.S. Bureau of Labor Statistics and U.S. Census Bureau

Hoosiers are relatively young, have been increasingly employed in life sciences, and the automotive industry has recovered well since the gloom of the Great Recession. All these facts sound good. So, what is holding Indiana back from surging forward nationally in GSP growth? One possible answer is that Hoosiers need to continue to focus on becoming better educated.

Education and per capita income

With spending rates at around 95 percent of earnings, when people earn more money, GSP will rise. So, how do we increase personal income? After all, who doesn't want to earn more income? It turns out that populations having a higher proportion of citizens with baccalaureate degrees earn more money.

In looking at the nine-state region—Indiana's peer manufacturing powerhouses—over an 11-year period (annual data) for each state, regression analysis suggests that for every percentage increase in baccalaureate attainment in a given state's population, that state's personal income per capita rises by about \$713. The statistical relationship is strong, with 79 percent of the variance in income level explained by educational attainment level.⁴ **Figure 5** shows a graphical relationship between higher educational attainment and personal income. (An earlier article in this publication compared all 50 states and found a similar relationship.⁵)

Figure 5: Baccalaureate attainment and its association with personal income, 2015

graph

Source: R. Brewer of Indiana University–Purdue University Columbus, using U.S. Census Bureau and U.S. Bureau of Labor Statistics data

This implies that a more-educated workforce makes more money. Not terribly surprising. However, according to the U.S. Census Bureau, as of 2015, Indiana ranked 42nd out of 50 states on baccalaureate attainment. Among the states in the manufacturing peer group, only Kentucky had a lower percentage of college graduates (see **Table 2**). Consequently, we notice an opportunity to turn up the dial in Indiana for future GSP improvement with a focus on continued higher educational development of Hoosiers.

Table 2: Baccalaureate degree attainment in the Manufacturing Belt

Year	U.S.	Indiana	Illinois	Iowa	Kentucky	Michigan	North Carolina	Ohio
2010	28.2%	22.7%	30.8%	24.9%	20.5%	25.2%	26.5%	22.1%
2011	28.5%	23.0%	31.0%	25.8%	21.1%	25.6%	26.9%	22.4%
2012	29.1%	23.4%	31.6%	26.3%	21.8%	26.0%	27.4%	22.7%
2013	29.6%	23.8%	32.1%	26.4%	22.6%	26.9%	28.4%	23.0%
2014	30.1%	24.7%	32.8%	27.7%	22.2%	27.4%	28.7%	23.3%
2015	30.6%	24.9%	32.9%	26.8%	23.3%	27.8%	29.4%	23.6%

Source: U.S. Bureau of Labor Statistics

While work remains to be done, Indiana has improved its educational attainment level over the past 10 years. Between 2005 and 2015, Indiana has outpaced all of

its peer-group states, except Kentucky, on growth in baccalaureate degree attainment (see **Figure 6**). Of course, Kentucky and Indiana have the most work to do here to catch up with both the national average and their peers.

Figure 6: Growth of baccalaureate degree attainment, 2005 to 2015



Source: U.S. Census Bureau

Conclusion

Heading into 2017, Indiana is generally on the right track for continued economic growth considering several key dimensions:

1. Indiana's manufacturing base over the last eight years has diversified a bit away from automotive and has added additional defensive presence with life sciences and global transportation business, each of which is expected to grow from 2 percent to 6 percent over the coming year.
2. Indiana has a healthy blend of a comparatively low unemployment rate alongside an increasing labor force participation rate.
3. Indiana has the youngest population in the nine-state manufacturing-heavy peer group, which can help in terms of generating productivity—particularly now as the U.S enters the front-end of retirements for the baby boomers.
4. Over the last 10 years, Hoosiers have outpaced peer states in baccalaureate attainment growth, although Indiana still lags behind those peer states and

the U.S. as a whole.

For 2017, we suspect Indiana will see GSP growth near or slightly above the expected GDP growth rate of the U.S. For the longer term, many risks (some quite unusual) and opportunities exist in global markets, financial markets, and in terms of national policy and fiscal incentives. A continued emphasis on employment diversification and educational attainment will create a brighter long-term forecast for Indiana's economy.

Notes

1. See "Light Vehicle Sales from 2007 to 2021, by Major Market," Statista.com, accessed October 19, 2016, www.statista.com/statistics/383003/forecast-for-light-vehicle-sales-by-major-market/; Brent Snavelly and Greg Gardner, "Study: Auto Industry's Sales Boom will Last to 2018," *USA Today*, May 13, 2016, www.usatoday.com/story/money/cars/2016/05/12/study-auto-industrys-sales-boom-last-2018/84266302/; Robert Miles, "Automobile Engine & Parts Manufacturing in the US," IBISWorld Industry Report 33631, September 2016.
2. Sarah Turk, "Brand Name Pharmaceutical Manufacturing in the US," IBISWorld Industry Report 32541a, August 2016.
3. All data items, including "full and part-time employment" are as reported by the U.S. Bureau of Economic Analysis (Table SA25N).
4. The statistical relationship is significant, or confirmed, as shown by the t-statistic of greater than 10, as shown in the table below:

	Coefficient	Robust standard error	t-statistic	p-value
Baccalaureate attainment	712.93	70.79	10.07	0.00
Year effects removed?	Yes			
Adj. r-squared	0.79			
Observations	99			
Number of states	9			
Number of years	11			

Source: R. Brewer at Indiana University–Purdue University Columbus, using U.S. Census Bureau and U.S. Bureau of Labor Statistics data

5. For more elaboration, see Timothy F. Slaper, "Finding New Cheese: Why Indiana's Per Capita Personal Income Lags (and How to Fix It)," *Indiana Business Review*, Spring 2013, www.ibrc.indiana.edu/ibr/2013/spring/article1.html.

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The long view: Fostering Indiana's innovation and entrepreneurship

Timothy F. Slaper, Ph.D.

Director of Economic Analysis, Indiana Business Research Center, Kelley School of Business, Indiana University

Thomas W. Walton

Research Associate, Indiana Business Research Center, Kelley School of Business, Indiana University

In July 2016, Governor Mike Pence announced a new \$1 billion initiative for promoting Hoosier innovation and entrepreneurship. This ambitious initiative follows in the wake of the recent Regional Cities Initiative, in which seven major regions in Indiana competed for three \$42 million quality-of-life and workforce attraction investments.¹

It is no secret that Pence's administration prides itself in the story of Indiana's positive economic growth since he took office in 2012. Between 2013 and 2016, the unemployment rate fell from 8.4 percent to 5 percent, for example, and employment grew 10 percent from the end of 2012 until the summer of 2016.² Many have heralded Indiana as a key player in the grand rebirth of Midwest manufacturing since the height of the Great Recession in 2008. Indiana ranks highly among states with the highest number of manufacturing jobs.³ These

initiatives are a clear sign that Indiana is taking great strides to capitalize on this economic momentum.

The Hoosier state is certainly not alone in this endeavor. Startup activity, a vital indicator of economic growth, has risen significantly in dozens of major metropolitan areas since 2015.⁴ However, the sheer scale of the Indiana Regional Cities Initiative and the innovation-entrepreneurship bill is quite unmatched elsewhere. Economic development agencies are taking a keen interest in attracting young and ambitious talent to accelerate startup growth. Funding for venture capital, business incubators and industrial parks has become standard operating procedure in a majority of economic development districts. It is difficult to escape, and not be slightly envious of, the endless stream of enviable business statistics coming from high-growth regions, such as Austin, San Antonio, Seattle, Denver, Boston and San Francisco.

Public officials, when formulating economic development strategies, often heed the advice of high-profile business leaders and internalize bold claims, such as that “democracy only works in a growing economy,” which the current President of Y Combinator—the behemoth tech incubator responsible for startups like Airbnb, Reddit, and Dropbox—made in a warning to other entrepreneurs in the Bay Area.⁵

In actuality, the majority of interested parties probably do not maintain such a grim philosophy; however, there appears a heightened sense of urgency and determination behind these two government actions.

What is an entrepreneurial ecosystem?

What would an entrepreneurial ecosystem look like in Indiana? How can the state spur greater economic growth? An entrepreneurial ecosystem, as described in the

Ewing Marion Kauffman Foundation report, is the complex system of infrastructure, resources and human capital that drives innovation. It is measured by four distinct characteristics: density, fluidity, connectivity and diversity.⁶ Let's examine these concepts one at a time.

To measure the *density* of an area's entrepreneurial vibrancy, one can look at several figures that describe the makeup of businesses and startups. These figures include, but are not limited to, the number of new firms per 1,000 people, the share of employment in new firms and high-growth sector density. Ideally, one can interpret these figures to garner an idea of the relative density of entrepreneurs in a given area.

Our second characteristic, *fluidity*, is concerned with how entrepreneurs move between businesses and firms in an area. Some economists place a high value on the ability of workers to sort and re-sort themselves into optimum employment. Furthermore, a natural byproduct of such worker allocation is an increase in the sharing of ideas, which in turn produces more entrepreneurial activity. The Kauffman Foundation report suggests using an area's population flux, rates of labor market reallocation and the density of high-growth firms to describe this fluidity.

Next, there is a great deal of importance placed on the *connectivity* of a particular ecosystem. This concept encompasses how businesses and startups connect to, and draw inspiration from, others. One facet of this is the network of educational programs, resources and support organizations available in an area. Innovation thrives in a densely linked business network, and having a diverse array of resources at the disposal of new firms and startups will ultimately beget an increasingly diverse entrepreneurial environment. Also related to connectivity is the quantity of spin-off businesses generated as a result of entrepreneurial

activity. Startups and ideas that are robust enough to spawn further generations are a telltale sign of strong connectivity. A third measure to take into account is the presence of active “dealmakers” in a business network. These individuals utilize their substantial business ties, personal assets and social capital to initiate and broker exchanges between businesses, as well as aiding in the creation of new startups.

The final characteristic factored into this diagnosis is *diversity*, both in a business and demographic sense. First and foremost, we apply this concept to industry diversity. That the proverbial eggs should not all be in the same basket is important when describing a healthy entrepreneurial ecosystem. In addition, population diversity—and more specifically immigrant diversity—can be a great boon to startup growth. Immigrant populations historically start new businesses at significantly higher rates than their domestic counterparts. To foster startup growth, regional governments should make efforts to welcome and encourage immigrants to settle in the area. Finally, economic mobility plays a vital role in determining the effectiveness of an ecosystem. A more traditional statistic used in measuring the health of an economy, high mobility indicates ample opportunities for workers to improve their economic status—and it is often new businesses and startups that supply these opportunities.

With this detailed template in hand, the next question is this: Do the newly passed Regional Cities Initiative and innovation-entrepreneurship bill address any or all of the aspects that define a flourishing entrepreneurial ecosystem? In the next section, we attempt to answer this question.

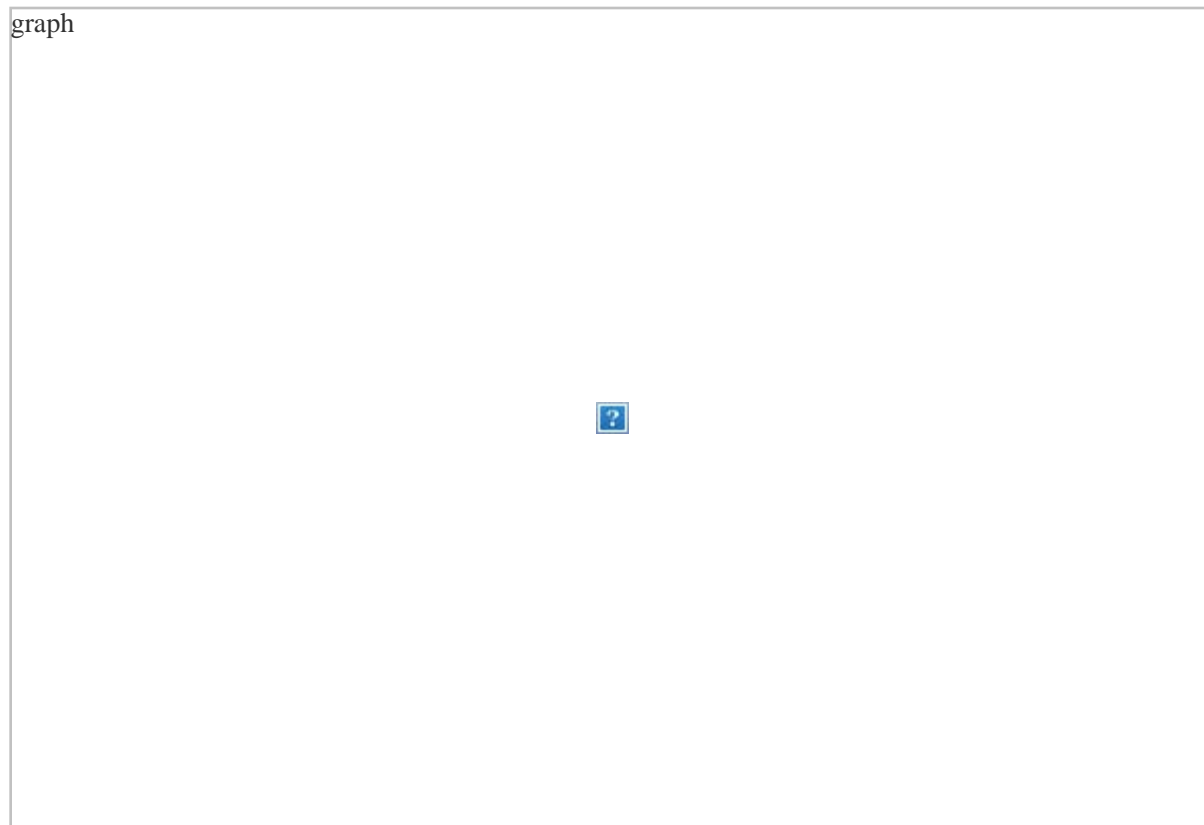
How does Indiana rank?

Our first task is to evaluate the *density* of Indiana's business climate. Right off

the bat, the startup density in Indiana shows room for improvement, ranking **21st among the 25 larger states**, with a rate of 63.5 startups per 1,000 firms.⁷ Low startup density is a common theme among Midwestern states, which occupy the bottom five ranks. Only Illinois (13th) and Michigan (18th) do better than Indiana in this category. Herein lies the underlying motivation behind the state innovation investments: Indiana needs to accelerate its economic growth, and funding startups is the key.

In addition, it is well-established that almost all net job creation occurs in new-and-young firms (defined as firms less than five years old).⁸ However, Indiana also struggles in this respect, ranking 41st out of 51 states (including the District of Columbia) in 2014, with a new-and-young firm share of only 24.0 percent (see **Figure 1**).⁹

Figure 1: New-and-young firms as a percent of total firms



Note: The new-and-young grouping is defined as firms less than five years old.
Source: Indiana Business Research Center

The state is taking a holistic approach to tackling these issues. The innovation-entrepreneurship bill allocates funding that facilitates startup growth in every step of the complex life cycle. For example, \$500 million of the \$1 billion plan is being poured directly into funding early-stage and mid-market (i.e., annual revenue between \$50 million and \$1 billion) companies in Indiana. They are also expecting investment partners to match state funds one-to-one, for an additional \$500 million. This is in combination with an allocation of \$300 million (\$30 million annually over a 10-year period) for *21Fund* venture capital programs. Consistent funding can be a source of great anxiety for new firms, and these measures seek to partially ease this burden.

Continuing on, the Regional Cities Initiative is providing three regions in Indiana \$42 million apiece for development projects aimed at attracting new residents. More specifically, each region that competed for funding submitted a detailed plan outlining quality-of-life and workforce attraction investments in hopes of bringing in an influx of skilled workers. Ultimately, the three regions selected were North Central, Northeast and Southwest Indiana. Aside from the \$42 million direct investment, the Indiana Economic Development Corporation successfully reaped an additional \$188 million in back taxes, \$126 million of which is being set aside for these Regional Cities projects.¹⁰

The benefits of such a large workforce-attraction investment play right into this concept of *fluidity*. Ideally, the quality-of-life improvements in the South Bend, Fort Wayne and Evansville areas will successfully draw skilled individuals from areas both within Indiana and outside the state. This will ideally lead to population increases, as people are drawn to new amenities, such as the \$40 million Skyline Tower in Fort Wayne, the Health Fitness Aquatics and Community Center in Elkhart or the \$110 million Tropicana Evansville

entertainment facility. These investments are substantial and show the desire of state and regional developers to reshape these areas' images into ones of great opportunity and prosperity.

What steps can the state take to improve *connectivity*? The more traditional approach to improving connectivity is through business incubators and research institutions, and investment plans in Indiana are no exception. \$100 million of the \$1 billion innovation-entrepreneurship bill—including an additional \$100 million in matched funding—are being set aside exclusively for innovation education at research and higher education institutes. Indiana already boasts an impressive number of high-tech entrepreneur support organizations, including TechPoint, AgriNovus Indiana, BioCrossroads, Conexus and Energy Systems Network. Going further, investments will be made in cross-sector groups, such as the Institute for Advanced Composites Manufacturing Innovation, OrthoWorx, 16 Tech and the Indiana Biosciences Research Institute. This list may bode well for the future of Hoosier startups. Other funded organizations, such as the Purdue Foundry Accelerator, have strong ties to research universities in the state. The presence of such a great number of support institutions suggests great potential for innovation and idea sharing, and it will be up to investors and development officials to capitalize fully on this opportunity.

One important *connectivity* factor is having an active group of “dealmakers” who champion new talent and facilitate business exchanges. Economic developers should make an effort to spotlight these types of individuals. The celebration of innovation leaders is already an old practice in tech hubs like the Bay Area, where people such as Steve Jobs, Marc Andreessen, Mark Zuckerberg, Elon Musk or Peter Thiel have transcended into national celebrities. Obviously, comparisons to Silicon Valley should be made with caution, but seeking out

personas as symbols of Indiana innovation is, nonetheless, a worthwhile endeavor.

Lastly, how does the entrepreneurial ecosystem in Indiana measure up in terms of its *diversity*? Economically speaking, Indiana is above the curve.¹¹ Manufacturing and high-tech industries top the list of Indiana's largest clusters, with automobiles, life sciences, transportation, information technology and research as the top five.¹² These are all high-growth sectors, providing the economy of Indiana genuine potential for rapid expansion.

Furthermore, the state would be wise to reach out to and attract immigrants. At least two-fifths of startups in Silicon Valley between 2006 and 2012 had at least one nonnative founding member.¹³ Foreign-born workers have been shown to start businesses at approximately twice the rate of nonimmigrants. As of 2014 though, Indiana's immigrant population only stands at 4.8 percent, compared to the national average of 13.3 percent.¹⁴ As we have experienced recently, there are several politically sensitive considerations when contemplating increasing immigration. Just the same, foreign talent is, arguably, a keystone of American entrepreneurship and, as a result, the state can take measures to be more welcoming of immigrants.

Industry and population diversity cannot be the only consideration in this matter, however. Improving economic mobility is essential to ensuring the optimal growth of industry in Indiana. The Harvard University Equality of Opportunity Project indicates only five of 17 commuting regions in the state have an economic mobility index above the median. Many social factors are largely responsible. Educational attainment (both of the individual and of their parents) and household makeup are primary determinants of economic mobility.¹⁵ Additionally, there are considerable obstacles for potentially increasing one's

economic status along racial lines.¹⁶

Access to affordable higher education is a key consideration in this regard, and not strictly from four-year institutions. Middle-skill employment (e.g., clerical or health care workers) that requires various types of licensing and certification is the fastest-growing type of employment in the United States. Workforce development, with a focus on aiding lower-income individuals gain access to training and licensing for these types of employment opportunities, could be essential for equitable growth.¹⁷

Consequences of growth

The Regional Cities Initiative and the innovation-entrepreneurship bill could prime the pump for Indiana's startup growth. As with many dramatic social and economic changes though, there can be unforeseen negative consequences. Gentrification, such as the displacement of lower-income families due to inflated living costs, has its downsides. Regions such as San Francisco, Denver, Austin and New York are grappling with the social costs of their economic renewal in traditionally ethnic enclaves.

Even Indianapolis is coming to terms with its quickly changing landscape. Some residents are pursuing novel approaches to renewal that are balanced and can serve all. For example, local artists—often a driving factor in improving a city's quality-of-life prior to rapid commercialization—have taken measures that provides lower-income individuals an equity stake in affordable housing, providing a secure residence going forward.¹⁸

Booming startup growth can have other potentially detrimental consequences. A somewhat unexpected phenomenon in high-growth areas is entrepreneurial burnout.¹⁹ It is often difficult for innovators to come to terms with the fact that

the majority of startup firms will fail. Highly competitive business environments can exert an immense amount of pressure on individuals who are seeking their fortune by founding a startup. Even successful entrepreneurs will admit that failure is part of the process. For this reason, business incubators can play a vital role by increasing the speed of failed ventures and ensuring that the good ideas make it to market quickly.

Conclusion

The Hoosier economy could be standing on the springboard for entrepreneurial expansion. The state government has taken action to re-envision the economic future through the two innovation and quality-of-life funding bills. Many experts agree that state interventions can be indispensable for catalyzing entrepreneurship.²⁰ It is encouraging that the state is taking action because there is much at stake. States with “one-legged economic stools” have suffered greatly when that one leg gets kicked out from under them. West Virginia, for example, is suffering an ongoing opiate crisis (the effects of which Indiana has not escaped either), which has been linked to the erosion of the job market and stagnation of their traditional industries.²¹

Coordinating massive innovation investments can be a delicate operation. The entrepreneurial ecosystem, in which *density*, *fluidity*, *connectivity* and *diversity* all fill equally important roles, is not created and nurtured by any one singular intervention. Cautionary tales abound where investments were not well allocated. For example, in Las Vegas, Zappos CEO Tony Hsieh invested \$350 million to turn a section of downtown into an entrepreneurial hub. However, five years later, the project has provided few dividends. Hsieh cites a lack of foot traffic, resulting from a lack of quality-of-life amenities, as well as a failure to facilitate the exchange of ideas among those who drive innovation.

Thankfully, Indiana legislators have done well to address the many facets of encouraging startup formation and economic development. There remain areas for improvement, such as attracting more immigrant populations to the state, or providing additional social services and workforce development opportunities for at-risk and lower-income individuals. Hoosiers have a reason to be optimistic though about the future of Indiana's entrepreneurial ecosystem. Perhaps, in the not-too-distant future, Indianapolis, South Bend and Evansville will join the ranks of the "best cities" in America.

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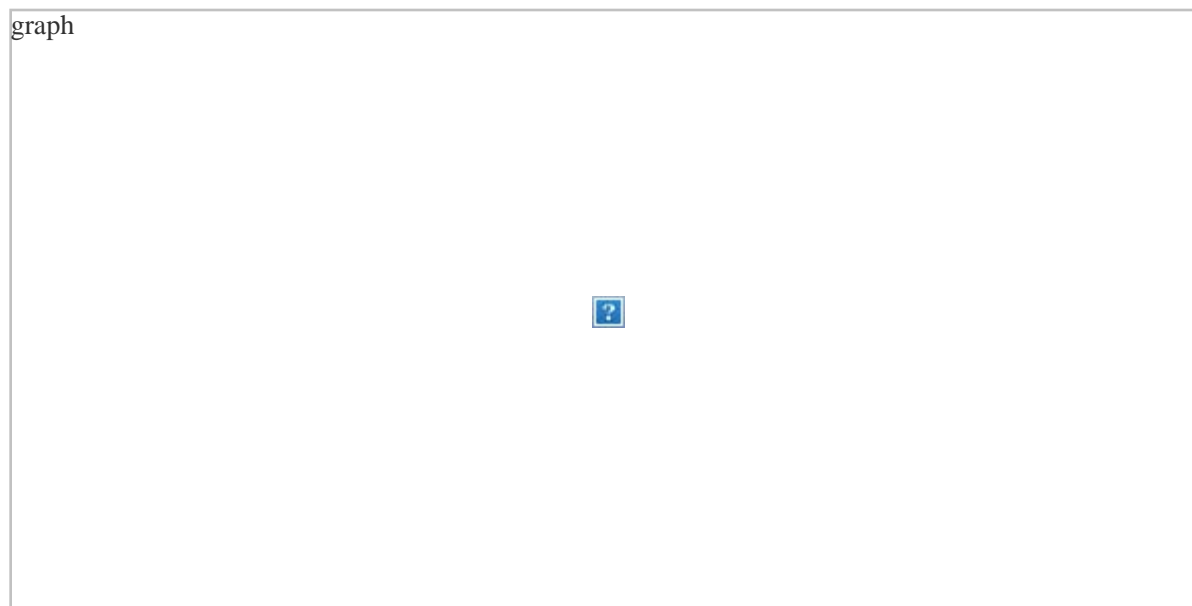
Indiana's agricultural outlook for 2017

Chris Hurt, Ph.D.

Professor, Department of Agricultural Economics, Purdue University, West Lafayette

Indiana farm incomes were strong from 2011 to 2014 before dropping sharply in 2015 (see **Figure 1**) and again in 2016. By 2016, estimated Indiana farm income had fallen by more than 50 percent from the strong income years. For 2017, farm incomes are expected to increase by about \$0.5 billion. This will be a welcome improvement, but will still be well below the peak years.

Figure 1: Indiana net farm income



Source: U.S. Department of Agriculture

Much of the improvement will come for crop producers, as yields for 2016 crops were at or near record levels. However, record national yields for corn, soybeans and wheat kept overall production high. This will cause inventories to grow and prices to remain depressed.

Lower costs have also been important to reducing crop losses. The two largest categories of cost reduction have been fertilizer and cash rents. Fuel costs were lower for the 2016 crop but are expected to be modestly higher for 2017. Machinery costs have dropped as the value of farmers' machinery has declined with the weak farm economy. Farm families have also tightened expenditures for family living expenses where possible.

Animal agriculture had peak incomes in 2014, with prices and incomes for animal products dropping since. Lower retail prices of animal products were the primary reason grocery store prices fell throughout 2016. The low farm incomes for animal agriculture in 2016 are expected to be similar in 2017.

Indiana farm families generally experienced financial erosion in 2015 and 2016. This was led by weak margins for crop production, declining values for land and machinery, and lower inventory values for grain and animals. The financial erosion is expected to continue in 2017, but the rate of erosion will be less severe as the sector makes more progress toward reducing costs.

Crops

U.S. yields of corn, soybeans and wheat all set new records in 2016. Indiana had record soybean and wheat yields, and corn yields were the second highest on record.

Prices will remain under pressure, but low prices are also stimulating strong consumption in both the export and domestic markets. However, consumption will be less than production and inventories of all three will grow. Indiana corn prices are expected to average about \$3.40 a bushel in 2017, compared to \$3.70 in 2016. Soybean prices will be slightly higher in 2017 at an estimated \$9.30 per bushel, compared to \$9.10 in 2016.

Negative crop margins are expected again in 2017, but losses will be reduced from 2016. The reduced losses will be due to somewhat higher soybean prices and to reduced costs.

Dairy

Milk prices in 2016 were at their lowest level in seven years and are expected to increase slightly in 2017. Milk prices have been below the costs of production. Milk production will be about 2 percent higher in 2017, and prices are expected to improve marginally. Feed prices should remain close to those of 2016. Milk producers will still operate at a small loss, but those negative margins will be somewhat less than in 2016.

Beef

There is some good news for consumers. Retail beef prices have been dropping. After peaking in May 2015 at \$6.41 per pound for an average beef cut, prices have been falling. In 2016, they were down about 5 percent.

Lower beef prices are great for consumers, but beef producers have seen their returns drop, and that decrease will continue into 2017. Finished cattle prices averaged a record \$1.55 per pound in 2015, but dropped to \$1.21 in 2016 and are expected to average only \$1.12 a pound in 2017. Calf prices were \$2.29 per

pound in 2015 and will drop to about \$1.40 per pound in 2017. Brood cow producers will not recover full costs of production in 2017, and this will likely end a short expansion phase of the cattle cycle.

Pork

After record-high prices and profits in 2014, hog producers have expanded production so much that prices are below the costs of production. Losses in 2016 were estimated at \$8 per head and will grow to \$15 per head in 2017. Pork producers will need to cut output in the second half of 2017 and into 2018.

Consumers have benefited by retail pork prices dropping about 6 percent since record highs in 2014. For 2017, retail prices are expected to move modestly lower.

Farmland

Narrow crop margins and the weak agricultural economy have resulted in lower Indiana land values. Average-quality farmland reached a peak of \$8,000 per acre in 2014, according to Purdue University survey results. In 2016, those values had dropped to around \$7,000. With crop prices below the full costs of production, more downward pressure is expected for land values. Anticipated higher interest rates will also contribute to lower land values.

Farmland values may drop an additional 4 to 6 percent in 2017. In the longer run, average-quality land may drop to about \$6,000 per acre, which would be a 25 percent decline from previous highs. There can be wide ranges in land values across the state.

Summary

In 2017, crop producers will likely fare better than those in animal agriculture. Corn prices will average slightly lower, while soybean prices will be slightly higher. Dairy, beef and pork producers will likely experience losses relative to their costs of production.

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Anderson forecast 2017

Dr. Terry C. Truitt, Ph.D.

Dean, Falls School of Business, Anderson University

Overview

A new trend: Historical, negative economic tendencies over the last few decades have given way to a new trend for Madison County and the greater Anderson community. In place of persistent unemployment and a long-term decline in the number of jobs, the economic outlook for Madison County has improved.

Employment and job creation

Positive trend in unemployment rate: The unemployment rate for Madison County has fallen to less than a third of what it was in 2010. As illustrated in **Table 1**, the unemployment rate declined from a high of 12.1 percent in 2010 down to 4.6 percent as of September 2016.

Table 1: Annual average employment and unemployment rates

Year	Madison County		Indiana	
	Employment	Unemployment rate	Employment	Unemployment rate

2010	52,228	12.1%	2,845,608	10.4%
2011	52,415	10.9%	2,892,327	9.1%
2012	52,213	10.0%	2,906,201	8.3%
2013	52,708	9.3%	2,947,114	7.7%
2014	54,498	7.1%	3,035,581	5.9%
2015	55,445	5.6%	3,109,217	4.8%
2016*	57,884	4.6%	3,221,019	4.2%

* 2016 data are as of September.

Note: Data are not seasonally adjusted.

Source: U.S. Bureau of Labor Statistics

Recent improvements: The positive employment trend continued over the last 12 months. The unemployment rate for Madison County decreased from 4.8 in October 2015 to 4.6 as of September 2016 (see **Table 2**).

Table 2: Monthly employment and unemployment rates

Date	Madison County		Indiana	
	Employment	Unemployment rate	Employment	Unemployment rate
October 2015	55,939	4.8%	3,144,165	4.8%
November 2015	55,989	5.1%	3,138,963	4.8%
December 2015	55,924	5.1%	3,125,715	4.8%
January 2016	56,031	6.0%	3,129,810	5.1%
February 2016	55,941	6.5%	3,130,100	5.4%
March 2016	55,996	6.5%	3,138,757	5.5%
April 2016	55,959	5.5%	3,188,345	4.8%
May 2016	57,630	4.9%	3,222,341	4.3%
June 2016	58,271	5.1%	3,248,079	4.6%
July 2016	58,960	4.7%	3,268,552	4.4%
August 2016	58,327	4.9%	3,232,052	4.6%
September 2016	57,884	4.6%	3,221,019	4.2%

Note: Data are not seasonally adjusted.

Source: U.S. Bureau of Labor Statistics

2016 shows a significant increase in jobs: After long periods of stagnate and

declining employment, the number of employed in Madison County showed healthy increases over the last few years. The number of employed individuals increased from 52,708 in 2013 to 57,884 in 2016. This represents an annual increase of 3.4 percent from 2013 to 2014, of 1.7 percent from 2014 to 2015, and of 4.4 percent from 2015 to 2016.

Jobs recovery ahead of Indiana for 2016: The improvement in employment numbers for Madison County surpassed Indiana's gains over the year from October 2015 to September 2016. As noted in **Table 2**, employment increased from 55,939 to 57,884 for Madison County and increased from 3,144,165 to 3,221,019 for the state of Indiana. Madison County improved the number of jobs by 3.5 percent over the 12-month period, while Indiana improved by 2.4 percent.

Closing the Gap

Unemployment rate: Over the last several years, Madison County has been closing the gap between the local unemployment rate and the state rate. For decades, the Madison County unemployment rate has trailed the state unemployment rate, but that gap has shown significant signs of closing since 2010 (see **Figure 1**).

Figure 1: Comparing Indiana and Madison County annual unemployment rates



Note: Data are not seasonally adjusted. 2016 data are as of September.
Source: U.S. Bureau of Labor Statistics

Fewer People: The increase in the number of employed in Madison County was achieved in the challenging face of a falling population base. As illustrated in **Figure 2**, Madison County and Indiana employment increased, along with Indiana's population; however, the population of Madison County declined over that same period. Since 2010, the number of employed in Madison County increased by 10.8 percent, while the population fell by almost 2 percent.

Figure 2: Employment and Population Comparison



Source: U.S. Census Bureau and U.S. Bureau of Labor Statistics

Outlook for 2017

The employment picture for Madison County is expected to continue its positive trend in 2017, but at a much slower pace. We can expect only a slight decline in the unemployment rate and a moderate increase in employment.

The unemployment rate for Madison County is projected to hold fairly steady, perhaps falling between 0.2 and 0.5 percentage points in 2017. While the improving economy will likely draw a number of previously frustrated unemployed individuals back into the labor force, another drop in the unemployment rate in Madison is expected. The best estimate is an unemployment rate of about 4.9 percent for 2017.

The number of employed in Madison County is expected to have a modest increase of about 1.0 percent in 2017, with the number of jobs expected to hit just over 58,000. For the first time in several years, the Indiana economy could fare better in 2017 than the rest of the United States. Most likely, Madison County will still lag behind the Indiana economy; however, it is expected that Madison County will continue to narrow the gap between Indiana in the unemployment rate and in job creation in 2017.

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Bloomington forecast 2017

Jerry N. Conover, Ph.D.

Director, Indiana Business Research Center, Indiana University Kelley School of Business

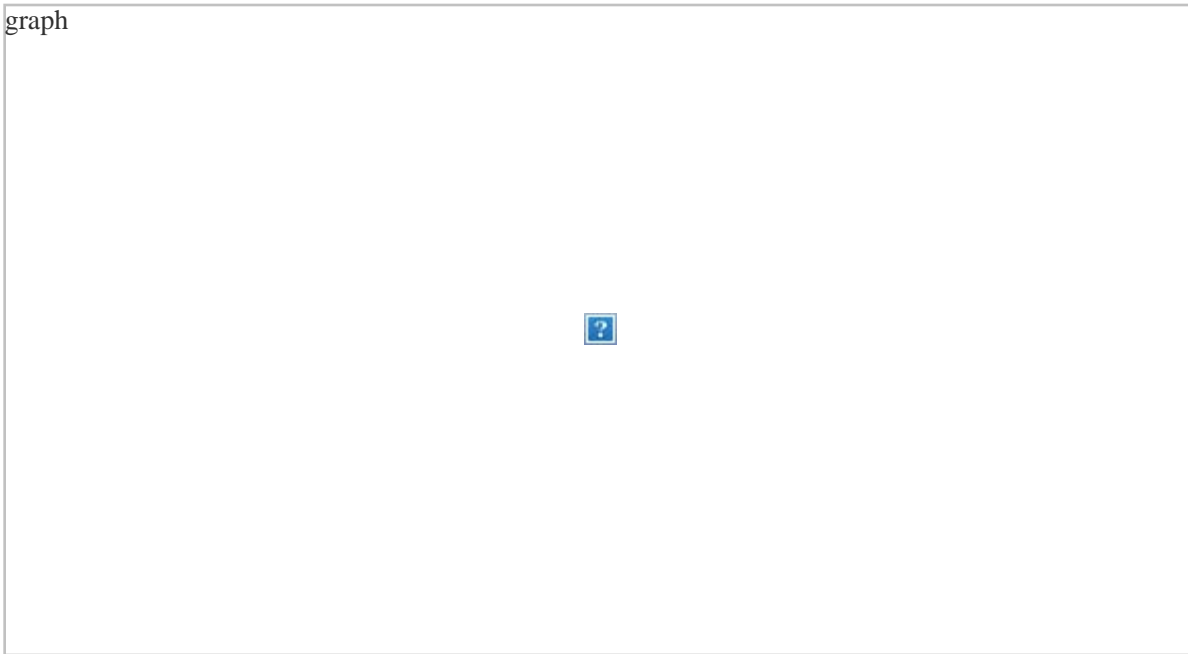
The performance of the Bloomington-area economy reveals a pattern of growth mixed with challenges. Summarized below is our analysis of local area performance across a variety of measures and our forecast for 2017.

Local economy growing gradually

The Bloomington Metropolitan Statistical Area (MSA) economy, consisting of Monroe and Owen counties, expanded in 2015 for a second straight year, though by less than 1 percent (about \$44 million in real-GDP terms).¹ This upturn follows three years of local post-recession shrinkage (see **Figure 1**). Despite the recent growth, however, the local economy is still \$295 million smaller than it was in 2010.

Figure 1: Bloomington MSA economy starting rebound

graph



Source: IBRC, using U.S. Bureau of Economic Analysis data

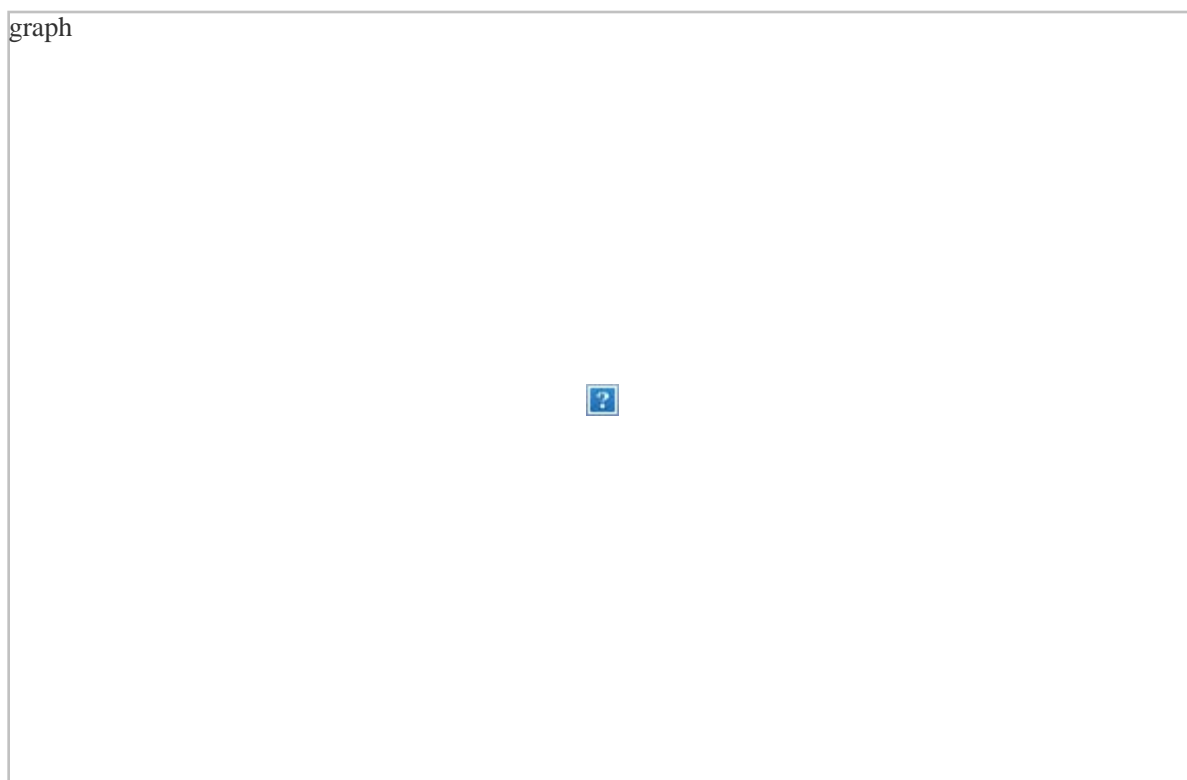
Given Bloomington's weak GDP growth coupled with its continued population growth, the metro area's real GDP per capita was essentially flat in 2015 at \$35,501—just two-thirds of the national per capita GDP and more than \$3,400 below Bloomington's 2009 peak (which was 78 percent of the U.S. metro average). In contrast, the nation's combined metropolitan economies grew by an average of 6.2 percent since 2009. Over the 2005-2015 period, GDP per capita in the nation's metro areas averaged 13.1 percent growth, well above the 7.4 percent gain in the Bloomington area. Thus, the Bloomington economy is falling farther behind the average metro area.

Manufacturing remained the largest contributor to the area's economy last year, generating 22.7 percent of total GDP, although the sector's output shrank slightly from the year before. Government was close behind at 22.4 percent; these two sectors combined account for nearly half of the local economy—more than \$2.6 billion.

Trends in several sectors over the past decade are shown in **Figure 2**. The biggest swings across these years are seen in the real estate, rental and leasing industry,

which grew more than 50 percent from 2005 to 2009—only to drop to the 2005 level again by 2013. Since then, the sector has grown slowly. Manufacturing experienced similar swings in local output, peaking in 2010 (nearly 40 percent above its 2005 level), only to surrender most of that gain by 2013. The two subsequent years have witnessed only slight growth in local manufacturing output.

Figure 2: Bloomington MSA output by industry: GDP relative to 2005



Note: Data for professional, scientific and technical services is not available for all years.
Source: IBRC, using U.S. Bureau of Economic Analysis data

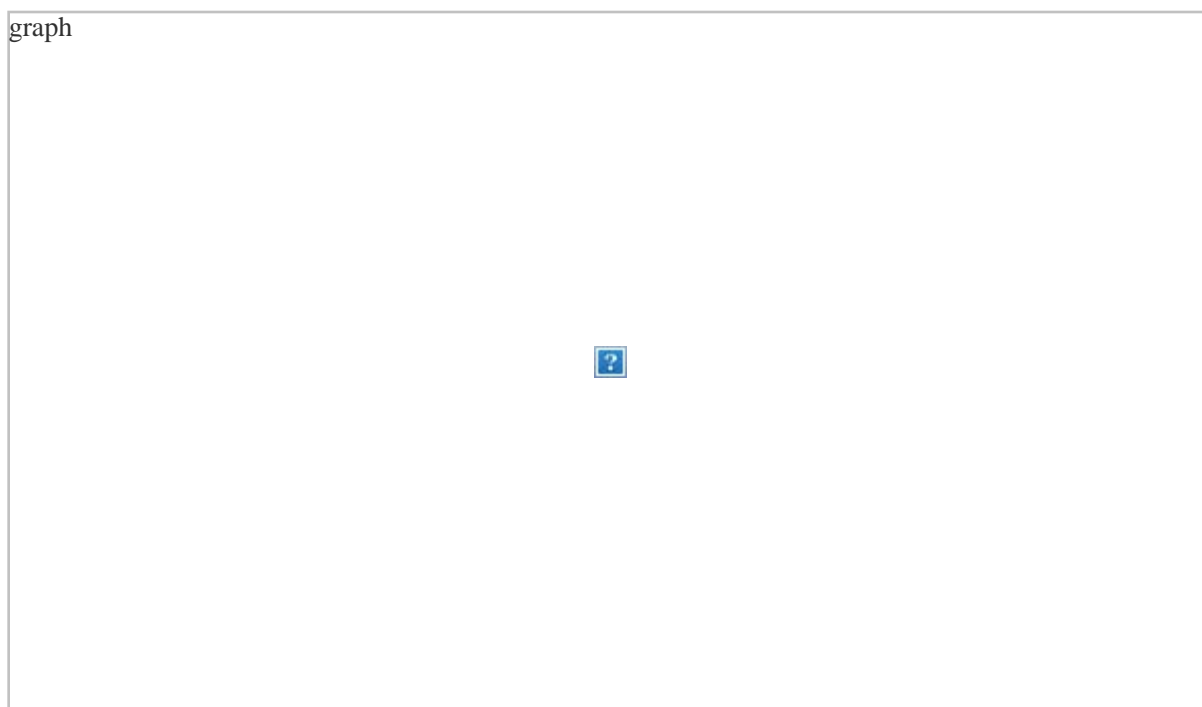
The education, health care and social services sector has grown gradually through most of the decade, with a mild retreat in the past two years. In contrast, the finance and insurance industry has had the most volatile ride over the past 10 years, finally starting a period of impressive output growth in 2012 that reached 26 percent above the industry's 2005 output. Perhaps least volatile of the main local sectors has been retail trade, whose output slowly moved down and then up within a 7 percent range across the decade, ending 2015 about where it was 10

years earlier.

Employment steady, unemployment shrinking

The Bloomington metro area has experienced very limited job growth for many years. Total payroll employment last year averaged just 2,655 jobs (4 percent) more than at the start of the century. This aggregate change, however, obscures substantial variation across industries. For instance, as seen in **Figure 3**, the health care and social services sector had expanded by one-third as of 2012, though it's slipped a bit since; in 2015, there were still 20 percent more jobs in the sector than in 2000. The highest-growth large sector has been accommodation and food services, with 31 percent job growth since 2000; public administration has also grown steadily by 18 percent. The other large sector with significant growth (11 percent) is educational services, though most of its growth was achieved by 2002.

Figure 3: Relative change in Bloomington MSA employment: Seven largest industries



Source: IBRC, using Quarterly Census of Employment and Wages (QCEW) data from the U.S. Bureau of Labor Statistics

Several large sectors shed jobs over this period. Among the largest are manufacturing (down 1,059 jobs since 2000), construction (down 509 jobs since 2000, but growing again the last few years), and retail (down 507 jobs since 2000).

The Bloomington MSA unemployment rate has declined steadily since peaking at 9.2 percent in 2010 (not seasonally adjusted). The rate stood at 4.3 percent in September 2016, and it's stayed under 6 percent for more than two years. This rate represents 2,926 people looking for work, compared to more than 4,000 as recently as 2014 and more than 6,000 in 2010.

Average weekly wages for payroll workers in the Bloomington MSA reached \$779 last year, 5.6 percent higher than the year before and a 14 percent gain since 2000 (adjusted for inflation). This was the area's fastest year-over-year wage growth in at least 15 years.

Personal income growth accelerating

The latest revised real personal income (PI) data at the time of this writing show Bloomington metro area residents' real personal income rising in 2014 by 3.4 percent to \$5.36 billion, an all-time high, improving on the modest growth characterizing most of the years following the Great Recession. Since the area's population continues growing faster than its PI, its real per capita personal income (PCPI) grew just 2.7 percent in 2014, less robustly than total PI growth (see **Figure 4**). At \$32,647, the area's PCPI was far below the state and national averages of \$40,640 and \$42,523, respectively, reflecting the notable impact tens of thousands of students have on the local average.

Figure 4: Real personal income and per capita income in the Bloomington MSA

graph



Source: IBRC, using U.S. Bureau of Economic Analysis data

Stronger housing market

Monroe County year-to-date closed home sales through October 2016 were 10 percent above 2015's pace, a solid growth rate. Median sale prices for the same period rose 2 percent, and the inventory of homes on the market in October was down 16 percent versus a year earlier. The latter trend resulted in not quite enough supply of homes to meet five months' demand. This tightening supply implies a continued rise in home prices in the year ahead.

Far fewer residential building permits were issued in Monroe County in 2015 than in each of the three previous years. And for the first time in four years, more single-family permits were issued than multi-family permits. The area's multi-year stretch of building large apartment complexes may finally have satisfied demand.

The year ahead

The IBRC's Center for Econometric Model Research forecasts 2017 employment growth of about 2.1 percent (2,300 jobs) for the Bloomington metro area and personal income growth around 4.2 percent (around \$300 million). Such outcomes would be the strongest in several years, ranking Bloomington in the top

few Indiana metropolitan areas.

Notes

1. Real GDP values in this section represent chained 2009 dollars.

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Columbus forecast 2017

Ryan M. Brewer, Ph.D.

Assistant Professor of Finance, Indiana University Division of Business, Indiana University–Purdue University Columbus

Gross domestic product (GDP) in Columbus is growing for a seventh consecutive year, though the rate of expansion over the past three years has been less than the expansion seen across the rest of Indiana taken together. Indicators relevant to the local economy suggest further economic expansion is unlikely, yet Columbus is poised to continue at or near full employment. It also has the lowest unemployment rate and best average wages relative to its peers.

Some of the metrics on track to continued strength in 2017 include GDP, employment, labor force and wages.¹ Also, per capita income in 2014 (the latest data available at the time of this article's writing) was up 2.6 percent in the Columbus Metropolitan Statistical Area (MSA), which consists of Bartholomew County.² However, the Columbus Area Stock Index (CASI) has experienced volatility recently—down more than 10 percent in the last two years. Cummins forecasts continue to show weakness, the automotive sector may be nearing the end of its expansion, and local building permits and tightened labor markets suggest growth into 2017 will be challenging.

Measures of concurrent economic vitality

Unemployment: With a current unemployment rate of just above 3 percent, Columbus has one of the most industrious labor forces anywhere in Indiana and the United States, placing upward

92 years of economic insights for Indiana



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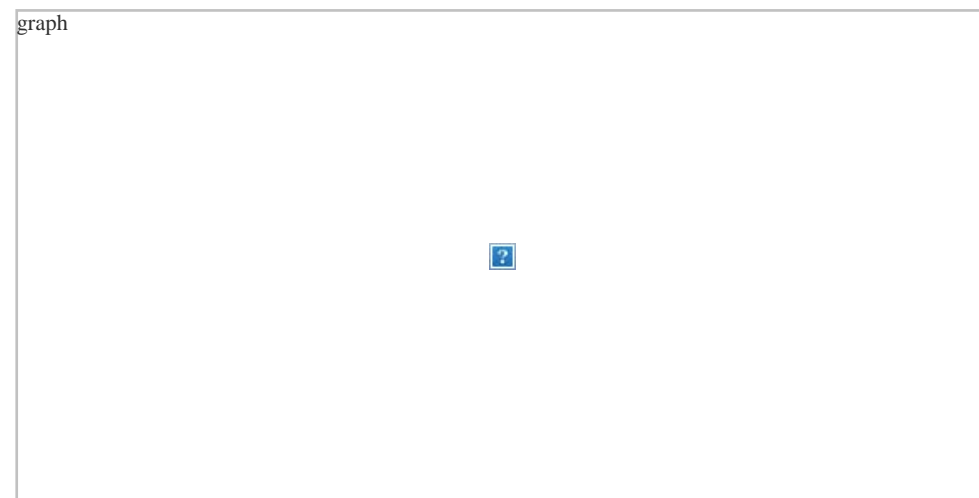
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wage pressure on employers who seek to expand business in Columbus. Businesses around the Columbus metro are now struggling with a deficit of available employees during the holiday retail season, when employment opportunities for service jobs tend to peak. Local area weekly wages have risen by about 25 percent over the past seven years, from roughly \$800 in 2009 to over \$1,000 in 2016 (see **Figure 1**).

Figure 1: Average weekly wages and the unemployment rate in the Columbus MSA



Source: U.S. Bureau of Labor Statistics

While unemployment rates across America and Indiana have continued to trend downward over the past year, the rate for Columbus continues to reflect the least slack relative to comparison regions. Furthermore, the rate has stabilized across most regions analyzed. See **Table 1** for unemployment rates among selected Indiana metros and micros.

Table 1: September unemployment rate comparison for selected Indiana metros and micros

	2012	2013	2014	2015	2016
U.S.	7.6	7.0	5.7	4.9	4.8
Indiana	7.7	6.8	5.3	4.1	4.2
Columbus	5.7	5.1	3.9	3.0	3.1
Indianapolis-Carmel-Anderson	7.5	6.6	5.2	3.9	3.9

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Bloomington	7.1	6.3	5.3	4.3	4.4
Evansville	6.9	6.2	4.8	3.6	4.0
Kokomo	8.5	7.1	5.6	4.3	4.2
Greensburg	7.3	5.6	4.4	3.3	3.2
North Vernon	9.3	7.8	5.7	4.1	4.3
Seymour	6.9	5.7	4.5	3.5	3.6

Note: Data are not seasonally adjusted.

Source: U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development

Employment and labor force: One telling aspect of the net positive growth Columbus has been experiencing over the past seven years is seen through the lens of jobs available to residents of the Columbus MSA. During this time, Columbus has produced about 12,000 jobs. In September 2016, Columbus-area employers provided 53,200 jobs to a local labor force of 45,114 (see **Figure 2**).³ These numbers are up from 52,100 and 43,700 in September 2015, respectively. This implies that Columbus employers provide a net 8,086 jobs to citizens outside of the Columbus MSA, placing upward demands on discretionary services during workdays, and leaving economic impact on the Columbus table. Job growth over the prior 12 months was 1,100 (2.1 percent), while labor force growth over the prior 12 months was 1,414 (3.2 percent).

Figure 2: Local jobs and local labor force



Source: U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development

Job growth, wage growth, a skilled workforce and high-tech GDP growth have earned Columbus, Indiana, national recognition as the second-best small city overall in America for

attracting additional capital investment.⁴ Between 2008 and 2014, various enterprises invested at least \$145 million into the Columbus economy.⁵ Planned investments over those years exceed this amount, leaving additional promise for growth in the future, as planned investments are executed. For instance, in 2015, \$156 million in planned investments were reported to the Columbus Economic Development Board, while in 2016, \$71 million in additional capital investments had been announced through November 4 (see **Table 2**).⁶

Table 2: Columbus MSA planned business investment announcements since the Great Recession

Year	Number of expansions	Investment (\$ millions)	Number of employees
2008	3	16.05	511
2009	0	n/a	n/a
2010	11	23.68	515
2011	9	35.52	945
2012	15	67.41	249
2013	18	135.98	884
2014	11	52.64	130
2015	9	156.15	181
2016	7	70.79	37

Source: Columbus Economic Development Board

Leading indicators

State leading index and consumer sentiment: These numbers relate to Indiana and the United States, respectively, yet they also impact Columbus—particularly since Columbus is dependent on capital investment (manufacturing) and consumer spending (transportation). Since 2009, both of these measures had been generally increasing through June 2016, indicating continued economic expansion (see **Figure 3**).

Figure 3: State leading index for Indiana and U.S. consumer sentiment

graph



Sources: Philadelphia Federal Reserve Bank and the University of Michigan

Since the recovery began in earnest in January 2011, Indiana's state leading index⁷ has averaged 1.78, measured monthly, while consumer sentiment⁸ has averaged 81.5 over the same period. Currently, the state leading index stands at 1.8 (down 18 percent from a year ago) and consumer sentiment stands at 91.2 (up 4.5 percent from 2015).

Purchasing Manager's Index (PMI): In August 2016, the PMI measure came in at 49.4. A reading below 50 generally indicates that the manufacturing economy is contracting. However, the September and October readings were 51.5 and 51.9, respectively, suggesting that the manufacturing environment remains in expansion mode (see **Table 3**).

Table 3: Purchasing Manager's Index

Month	PMI
November 2015	48.4
December 2015	48
January 2016	48.2
February 2016	49.5
March 2016	51.8
April 2016	50.8
May 2016	51.3
June 2016	53.2
July 2016	52.6

August 2016	49.4
September 2016	51.5
October 2016	51.9

Note: Values above 50 generally indicate that the manufacturing economy is expanding, while values below 50 indicate contraction.
Source: Institute for Supply Management

Yield curve: The yield curve for U.S. treasuries remains in normal form. Short-term rates remain near zero, while 30-year securities continue to hover around 2.5 percent as of November 4, 2016.⁹ Inflationary threats from wage increases are now considered as the Federal Reserve Board continues to debate the decision to increase short-term rates in December.

Local building permits: In 2009, in the wake of the Great Recession, 125 residential building permits were filed in Bartholomew County.¹⁰ Following years saw increases in the number of residential building permit filings. Measured by fiscal years (October through September of each year), building permit applications have begun to show inconsistent growth (see **Figure 4**). In particular, Columbus saw a 23 percent decline in permits between the 2015 and 2016 fiscal years.

Figure 4: Local building permit trends for the Columbus MSA

graph

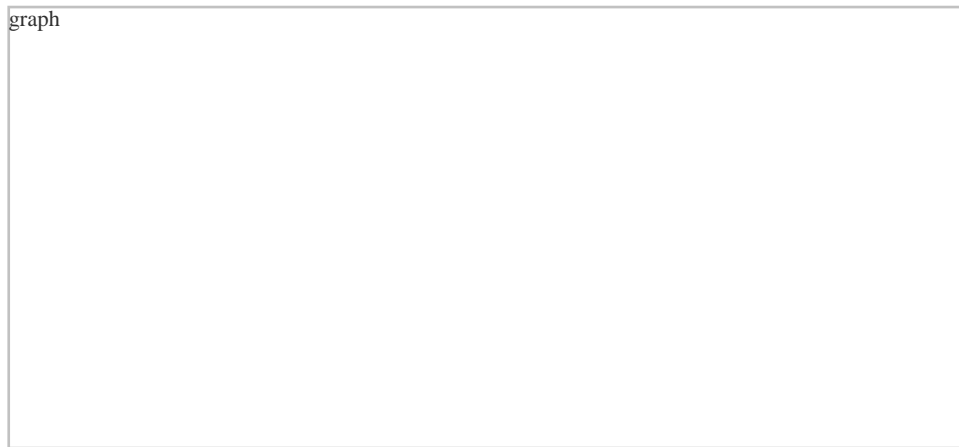


Note: Data for each fiscal year reflect October to September data.
Source: U.S. Census Bureau

Residential housing sales: While the number of new building permits has declined in 2016, **Figure 5** and **Figure 6** illustrate that the residential real estate market has experienced a reduction of inventory, lower sales turnover and increased median sales prices (which largely is due to a sharper decrease in sales levels of lower-priced properties). While 2016 may have seen a slowing in residential real estate turnover, this market is likely to be affected—possibly catalyzed—by any increases in the target federal funds rate, which may compel on-the-fence buyers into action.

Figure 5: Columbus residential real estate sales turnover and inventories

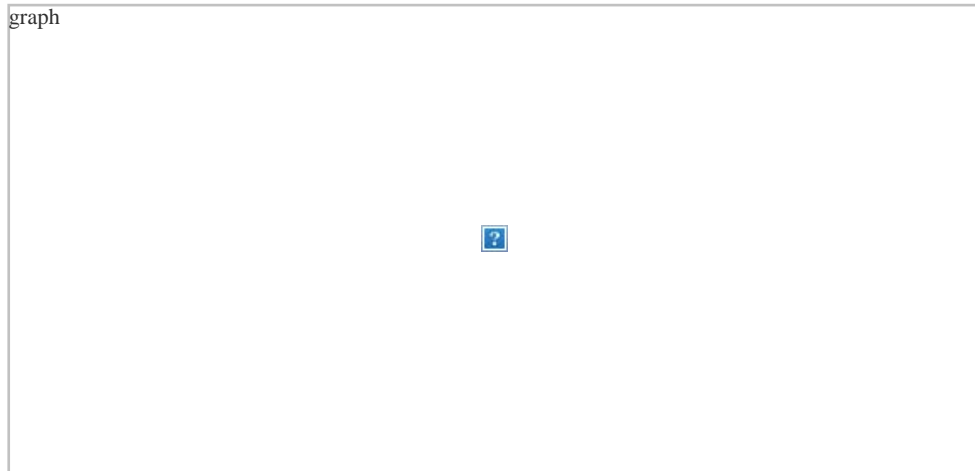
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Source: Berkshire Hathaway—Columbus, Indiana offices

Figure 6: Columbus average median house sales price

graph

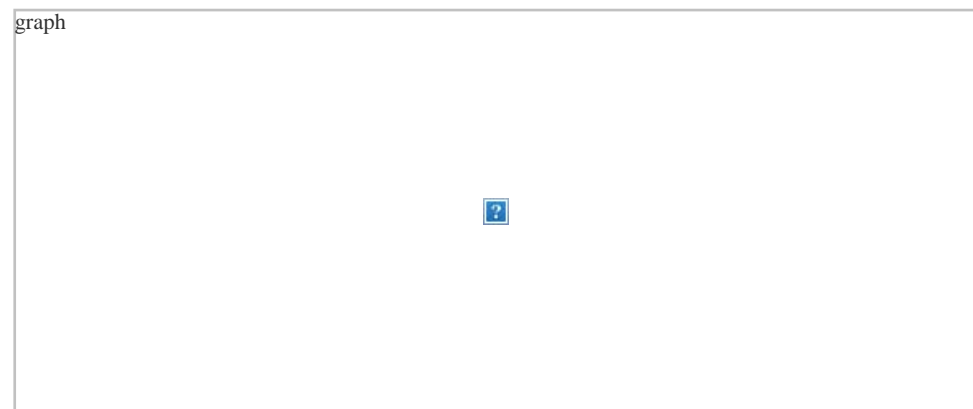


Note: This chart shows the median sales price, averaged for January to October of each year.

Source: Berkshire Hathaway—Columbus, Indiana offices

Local real GDP growth: Since the recession, chained GDP has risen in the Columbus MSA—from \$3.98 billion in 2009 to the 2015 output of \$5.23 billion.¹¹ However, the rate of increase in GDP growth has slowed over the past three years (see **Figure 7**).

Figure 7: Real GDP growth over 10 years



Source: U.S. Bureau of Economic Analysis

While GDP has been increasing more slowly over the past decade in Columbus, an association between waning building permits preceding a decline in GDP can be seen in the 2006 to 2008 timeframe (see **Figure 8**). In 2005, the number of local building permits began to drop (hitting a low point in 2009). This trend was followed by an eventual drop in GDP a few years later. Will such a lagged association exist again between permits and GDP? Time will tell.

Figure 8: Real GDP and building permits in the Columbus MSA



Source: U.S. Bureau of Economic Analysis (chained GDP) and U.S. Census Bureau (building permits)

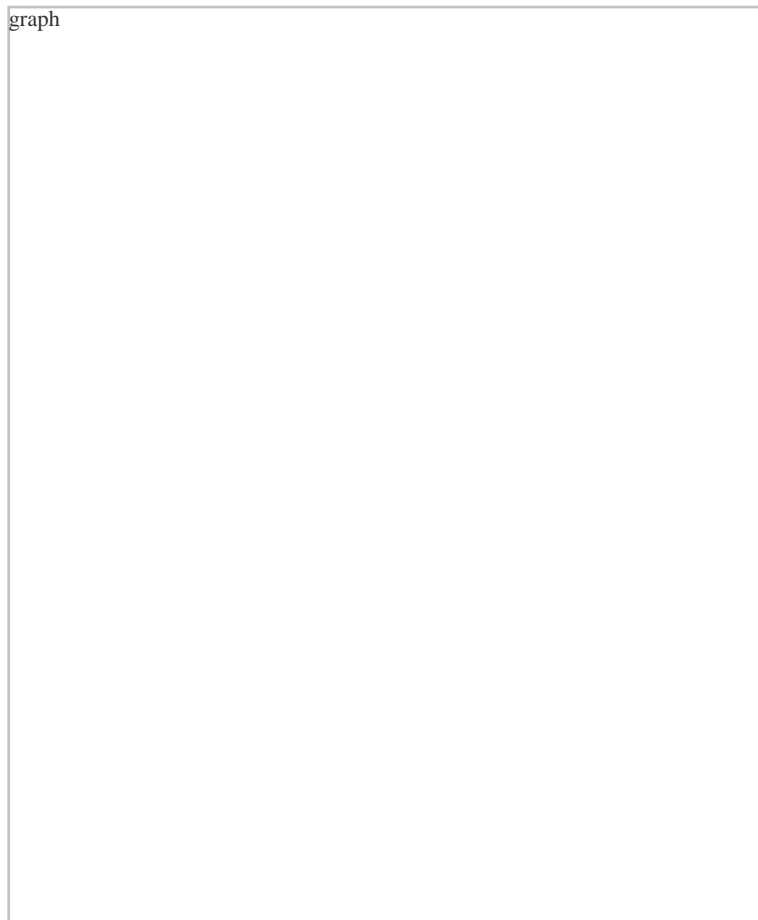
Columbus Area Stock Index (CASI): The composition of the Columbus economy may be reflected by an index of publicly traded securities relevant to the community. CASI was developed as a tool to keep abreast of the returns performance of securities affecting the local community, as well as a tool for forecasting local economic conditions. CASI is an economy-

size-weighted index, which weights each component by the number of total jobs estimated to be produced and available in the Columbus MSA. Therefore, securities were selected using area employment as the basis for inclusion in the index. Not all sectors in the local economy were considered. Where the economic condition of a sector was estimated to change relative to some other independent sector, then the dependent sector was excluded.

Figure 9 shows a graphic of the major Columbus-area employment sectors, how they are interrelated, and to what extent each plays a role in the health and vitality of the local economy by providing jobs. Weights reflect the percentage of the core or base employment jobs available within the Columbus MSA. Support jobs are not included in this analysis. Thus, for instance, of the base jobs in the Columbus MSA, nearly two-thirds of them are in manufacturing.

Figure 9: CASI sectors included for the Columbus core economy

graph



Source: Indiana University–Purdue University Columbus

It is estimated that manufacturing, retail (e.g., grocery and staples), consumer discretionary (e.g., restaurants, hotels, hospitality and tourism), and health care are the core, independent sectors in the Columbus economy. Remaining sectors—including finance, utilities, government, professional services and construction—were estimated to rise and fall according to the performance of the four independent sectors. Once the core sectors were identified, securities were then selected to represent active participation in the local economy. These securities were then weighted according to the estimated numbers of jobs filled by each organization or group (see **Table 4**).¹²

Table 4: Components of the Columbus Area Stock Index

Independent sector (sector weight)	Proxy	Percentage	Weighting	Scaled w
Health care (10.89%)	Vanguard ETF (healthcare)	10.89%	4.76	
Consumer discretionary (10.44%)	Vanguard ETF (consumer discretion)	10.44%	4.57	
Manufacturing (64.95%)	Cummins	39.76%	17.39	
	Faurecia (private auto supply)	8.02%	3.51	
	Honda	5.83%	2.55	
	Ford (proxy for other auto suppliers)	5.83%	2.55	
	Toyota	5.51%	2.41	
Retail (13.72%)	Simon Property Group	3.43%	1.50	
	Wal-Mart	5.72%	2.50	
	Target	2.29%	1.00	
	Lowe's	2.29%	1.00	

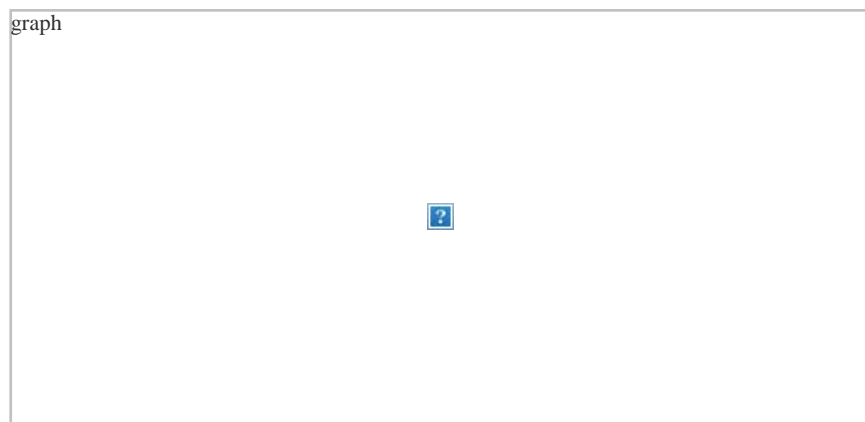
Source: Indiana University–Purdue University Columbus

Where no individual security could be found, such as is the case for the health care and consumer discretionary sectors, Vanguard ETFs were selected to approximate local employer return performance. The index was then created using daily adjusted close prices from 2004 through 2016 and compared to the S&P 500 (daily adjusted close prices), which is a market capitalization value-weighted index.¹³ The S&P 500 daily adjusted close hit its low point on March 9, 2009. ^GSPC is an ETF reflecting the S&P 500, and its value on that date was 676.53. On that same date, the CASI was measured at 82.24, whereas the 10-year low was measured at 78.72 on November 20, 2008.

Since early January 2014, the S&P 500 has been up approximately 13.8 percent. Up 0.1 percent, CASI has essentially neither gained nor lost value during that time frame, yet has experienced considerable volatility over the period (see **Figure 10**). This is largely due to lagging performance in Cummins Inc. (CMI), which has lost about 14 percent of its value over that time. It dropped from about \$145 per share to \$87 in early January 2016, before making a strong recovery this year to about \$125 per share as of November 4, 2016. This level of

volatility and underperformance suggest caution to the Columbus economy going forward.

Figure 10: CASI and S&P 500 performance comparison



Source: Author's calculations and Yahoo Finance

National and global considerations

National concerns: A primary concern going forward is the effect on the U.S. economy of the end of the low short-term federal funds rate. On September 13, 2012, the Federal Reserve voted 11-1 in favor of the third round of quantitative easing (QE), after which equity securities experienced a two-year bull market without interruption until October 2014, at the end of QE. Over that stretch, the S&P 500 gained 17.4 percent annualized returns, while CASI grew 20.1 percent annually. QE provided markets with a form of credit liquidity, not unlike the zero federal funds rate, which is expected to end in the coming year. During the aftermath of the Great Recession, the S&P 500 experienced volatility while American corporations built up working capital levels and were slow to hire workers—all of which was moderated by QE and the zero federal funds rate.

QE was terminated in October 2014, and since that time the S&P has been volatile as cash levels across Corporate America surged to nearly \$2 trillion, even as CASI experienced even greater volatility and lost value. Questions exist going forward as to how equity values will

respond in the absence of zero interest rates. Questions also exist going forward about what additional volatility in the equities markets will cause in American consumer confidence, spending and jobs. We have no experience as a country coming off QE or coming off a zero federal funds rate. We are entering uncharted waters.

Purchasing Manager's Index: The August 2016 PMI report showed a reading of 49.4 percent, the lowest reading since May 2013, and suggests the manufacturing economy fell into contraction mode after 44 consecutive months of expansion. The PMI has been greater than 43.1 percent for 89 consecutive months, which indicates expansion of the overall U.S. economy.¹⁴

Global concerns: China continues to experience growth weakness, with reports of growth below 7 percent, ahead of their five-year economic planning meeting in 2017. Alongside continued weakness in Russia and western Europe, Brexit offers additional uncertainty moving forward. The overall U.S. unemployment rate is now 4.5 percent, the lowest in eight years. Continued implications for cheap commodities and oil may not be well understood, yet certainly many sectors have been harmed worldwide—including energy and mining—even as oil shows promise for a pricing recovery in 2017. These two sectors in particular have proven material in decelerating sales growth for Cummins in their high horsepower engine and power generation segments, largely overseas, through October 2016. Cummins has largely positioned itself for continued flat sales through 2017.

Outlook

The Columbus, Indiana, economic outlook for 2017 is neutral to slightly negative. Continued growth is slightly overshadowed by suspicions that the economic expansion seen in Columbus over the last eight years may be facing headwinds.

Upside potential

Leading indicators: After a brief spell at 49.4 in August this year, the PMI returned to above 50, which implies continued manufacturing expansion. Also, Cummins stock has increased in value by over 45 percent since the beginning of 2016—a strong sign that the investing community has approved of actions taken to mitigate risk factors across its businesses. The yield curve remains in normal form. Finally, consumer sentiment (and spending) continues to buttress the economy with strength.

Additional planned investment: Locally, seven businesses announced plans for business expansions with infrastructure improvements amounting to more than \$70 million, and some have stated modest future hiring in the area, with plans for about 40 new positions having been announced to the Columbus Economic Development Board.

Neutral

Automotive industry: With an annualized sales rate of 17.9 million units as of October, U.S. cars and light truck sales are poised to continue near-record-level sales.^{15, 16} *USA Today* reports that light automotive sales are expected to grow through 2023, but *Automotive News* reports that 2017 is expected to be weaker than 2016 for light automotive sales.¹⁷ Thus, we project 2017 sales levels will be similar to 2016 levels. While the projection to hold at 2016 sales levels could be good news for Columbus, an expected industry decline could hinder capital investment or sustainable job growth in future periods. If the sales decline begins in 2017, this may impact the Columbus economy sooner.

Employment base: Columbus boasts the lowest unemployment rate among Indiana metros at 3.1 percent at the time of this writing. Also, wages have increased in the area and nationally. Furthermore, workers are increasingly hard to find, yet some workers may be re-entering the workforce as the local labor force increased by 3.2 percent this past year—outpacing new jobs in the region, which increased by 2.1 percent.

Downside potential

Leading indicators: Local building permits were down 23 percent for the 2016 fiscal year, off of a 2015 fiscal year high of 269 permits filed. The CASI, a stock index weighted to reflect the Columbus metro area, is trading 15 percent lower than the S&P 500 over the last 15 months—even as Cummins stock has recovered quite well in 2016.

Cummins: Cummins 2016 numbers to date have included sales drops in each of its business units.

- Power systems (-12.8 percent in Q3) lost business arising from weakness in international markets.
- The engine division was down 11.6 percent in Q3, arising from the natural industry cycle of medium and heavy truck sales in North America entering its low points in 2016 and 2017.
- Components (-7.8 percent in Q3) were also disaffected by losses in North American markets.
- Distribution dropped 3 percent in Q3 due to soft domestic markets and a strong dollar weakening revenues earned in acquisitions abroad.

Continued weakness in mining and lower demand for durable goods caused by a higher interest rate environment may exacerbate already soft North American heavy-duty engine and component sales going forward, which had been strong through mid-2015. Class 8 heavy-duty engines commonly seen in long-haul semi-trucks are expected to experience 10 percent drops in 2016 and 2017.¹⁸ Medium-duty truck engines and bus engines show signs of weakness, although to a lesser extent, with sales off 3 percent. Entry into light-duty trucks (Nissan Titan) provides additional opportunity for new markets for Cummins, yet with unproven financial economics. The Hedgehog project (Seymour, Indiana) also provides new opportunity for growth; yet again, any forecast for light-duty or Hedgehog would be unknown for now, until further sales data come in over the coming two or three quarters.

Multinational synergy: Weakness in economic growth persists throughout the world, which has altered growth opportunities for Cummins—particularly for high-horsepower engines and associated components, as well as power generation in developing economies. Also, the strong dollar may begin to affect other local manufacturing firms having global supply chains, either by reducing demand for international customers or cooling potential for acquiring new international markets.

Conclusion

With 45,000 people in its labor force plus access to 1.7 million in population within a 45-minute commute, Columbus could be positioned to experience another year of economic prosperity in 2017. However, due to complications arising from global weakness, automotive and class 8 engine sales moving toward lower levels, upward pressures on interest rates, struggles for Cummins in key businesses worldwide, increasing difficulty for new corporate prospects to find workers in the low unemployment environment and rising wages, Columbus is most likely to experience net flat job growth—or even slight contraction in 2017.

Columbus stands to continue to attract capital investment and people and retain its share of high-income jobs, but slow international economic growth and cooling North American markets may hamper opportunities for significant expansion. Growth in the manufacturing sector can be expected to persist going forward, particularly as short-term interest rates remain near zero, but changes to consumer borrowing costs in the coming year will likely yield a chilling effect on demand for the products built in the Columbus area.

Wage increases may lure additional workers back into the workforce, and yet eventually, this can have inflationary effects, which could inspire the Fed to raise rates, disenchanting consumers, which could ultimately signal the end of the business cycle. As is nearly always the case, since Columbus depends disproportionately on cyclical business patterns to fuel its GDP, this could be particularly sobering for Columbus in the coming three years.

Notes

1. Taken from StatsAmerica's [USA Counties in Profile](#) on November 6, 2016.
2. U.S. Bureau of Economic Analysis data taken from www.stats.indiana.edu/bea/simple/pi.html on November 6, 2016. 2015 data were not yet released.
3. U.S. Bureau of Labor Statistics data taken from www.stats.indiana.edu/laus/laus_view3.html on October 31, 2016.
4. Milken Institute, "2014 Best-Performing Cities: Where America's Jobs Are Created and Sustained," January 2015, 33, www.best-cities.org/2014/best-performing-cities-report-2014.pdf.
5. Ryan Brewer, "Columbus Forecast 2015," *Indiana Business Review*, Winter 2014, www.ibrc.indiana.edu/ibr/2014/outlook/columbus.html.
6. Information taken from an interview with Jason Hester, Columbus Economic Development Board, November 3, 2016.
7. State leading index data taken from the Federal Reserve Bank of Philadelphia website: www.philadelphiafed.org/research-and-data/regional-economy/indexes/leading/.
8. Consumer sentiment data taken from the University of Michigan website: www.sca.isr.umich.edu/.
9. U.S. Department of the Treasury data taken from www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/Historic-Yield-Data-Visualization.aspx.
10. U.S. Census Bureau data from <http://censtats.census.gov/bldg/bldgprmt.shtml>.
11. U.S. Bureau of Economic Analysis data taken on November 1, 2016 from www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=2#reqid=70&step=1&isuri=1&7003=900&7004=naics&7035=-1&7005=1&7006=14020,18020,21780,26900,29020&7001=2900&7036=-1&7002=2&7090=70&7007=-1&7093=levels.
12. Employment information for local employers was retrieved from the "Hoosiers by the Numbers" website on October 31, 2016: www.hoosierdata.in.gov/highlights/profile.asp?geo_val=S18;C005&page_id=6.
13. Daily adjusted close prices were retrieved from www.yahoo.com/finance. Adjustments include stock splits and dividends over the period.
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Evansville forecast 2017

Mohammed Khayum, Ph.D.

Professor of Economics and Dean of Business, Romain College of Business, University of Southern Indiana

There are 382 metropolitan statistical areas (MSAs) in the United States, and nearly 70 percent have populations less than 500,000. While regional analyses of economic development and innovation have tended to focus on metro areas with populations above 500,000, there has been increased interest in exploring the economic dynamism of relatively small metro areas (i.e., those with less than 500,000 people).

Recently, the Federal Reserve Bank of Atlanta launched a research project on the economic dynamism of small cities. An outcome of this project was the creation of an economic dynamism index based on 14 indicators related to the demographics, economic performance, human capital and infrastructure of metropolitan statistical areas with less than 500,000 people. As one of the 245 MSAs included in the study, the Evansville MSA is shown to be in the medium-high economic dynamism quartile, with strong anchor institutions and industrial structure being important drivers of growth.

The closure of Alcoa's smelting plant in 2016 was a drag on output and employment in the Evansville metro area. However, new investment in the health care and hospitality sectors provided a boost in economic activity that will continue in 2017.

Relatively strong growth in the education, health care, and leisure and hospitality sectors in 2016—combined with increases in personal income and announcements of future fixed investments—provide the basis for projecting increased output, income and employment in 2017.

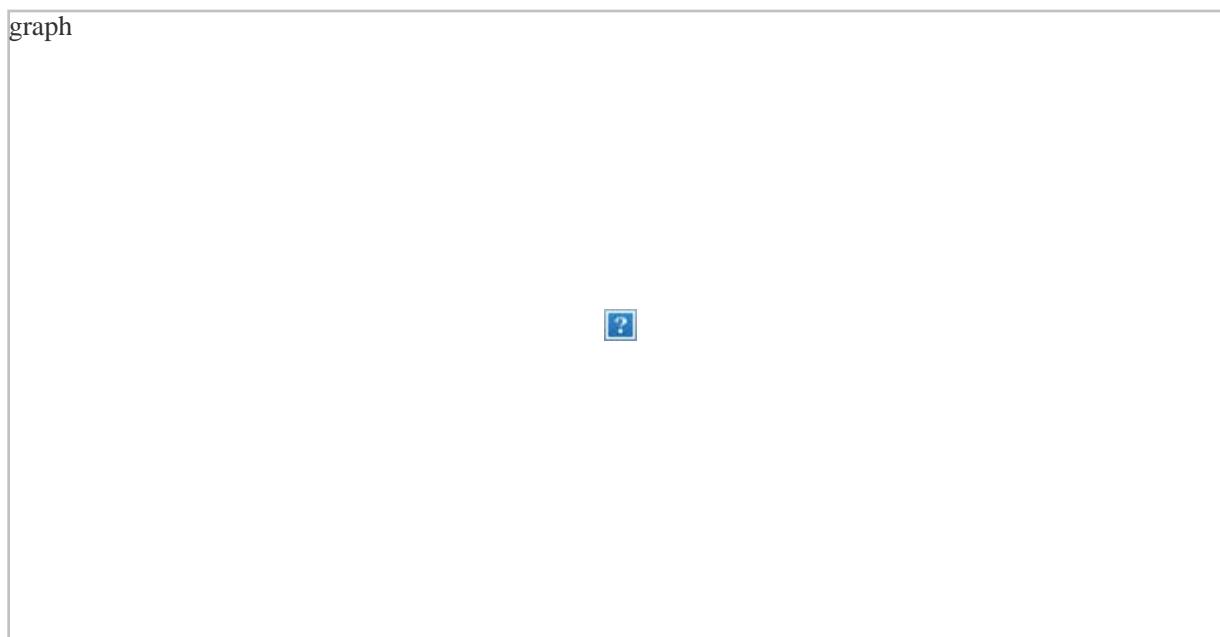
Nominal personal income for 2016 is estimated to have increased by 3.9 percent and real gross metro product is estimated to have increased by 3.2 percent. In 2017, Evansville metro area output is forecasted to increase by 2.6 percent, the number of jobs is projected to increase by 1,800, nominal personal income growth is forecasted to increase by 5.6 percent, while the unemployment rate is projected to be 4.2 percent.

The unemployment rate in the Evansville metro fell from 4.7 percent in January 2016 to 4.4 percent in August 2016. Meanwhile, the national unemployment rate slightly increased from 4.9 percent to 5.0 percent over the same time period. Job gains occurred primarily in the following sectors: education, health care, and leisure and hospitality. The primary sectors experiencing jobs losses were manufacturing and professional and business services.

On average, homeowners experienced an increase in existing-home prices over the year, from an average of \$145,228 to \$150,310 in 2016. Between 2015 and 2016, single-family housing permits are estimated to have increased by 28.8 percent, while housing starts increased from 746 to 852.

The manufacturing sector continues to be an important base to local household incomes and consumer spending activity, even as the economy exhibits a long-term pattern of diversification away from manufacturing-industry dependence (see **Figure 1**).

Figure 1: Evansville metro manufacturing employment as a percent of total nonfarm employment



Note: 2016 data are for September.

Source: STATS Indiana, using U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development data

As one of the most manufacturing-dependent metro areas in the nation, the Evansville economy was noticeably impacted by the Great Recession. Since 2007, Evansville's manufacturing workforce has fallen by 12.9 percent (or about 3,300 workers), compared to the 6.1 percent reduction in Indiana's manufacturing workforce over the same period. In 2016, manufacturing earnings continue to be a significant driver of economic activity, accounting for about 26 percent of total earnings in the Evansville economy. As **Table 1** shows, the manufacturing sector accounts for 14.1 percent of employment in the Evansville metro.

Table 1: Manufacturing percent of total employment, September 2016

	Evansville metro	Indiana	U.S.
Manufacturing	14.1%	16.6%	8.5%
Durables	39.6%	70.5%	62.3%
Nondurables	60.4%	29.5%	37.7%

Source: STATS Indiana, using U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development data

Given the proportion of output that is sold outside the metro area, the strength of the recovery in the Evansville area is linked to the strength of the broader economy. As employment and demand for locally produced goods continue to surpass pre-recession levels, disposable income and output growth are expected to increase in 2017.

A widening gap between the Evansville economy and the U.S. economy with regard to income growth over the past three decades highlights the importance of achieving higher rates of future output and employment growth. The completion of the I-69 segment between Evansville and Bloomington represents an important development for future expansion of economic activity. The additional transportation and distribution networks resulting from the I-69 extension are expected to provide a solid foundation for long-term employment and output growth.

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Fort Wayne forecast 2017

Hedayeh Samavati, Ph.D.

Professor, Department of Economics, Indiana University–Purdue University Fort Wayne

Zafar Nazarov, Ph.D.

Assistant Professor, Department of Economics, Indiana University–Purdue University Fort Wayne

Employment

Labor market conditions in the Fort Wayne Metropolitan Statistical Area (MSA)—which consists of Allen, Whitley and Wells counties—have continued steadily improving over the past six years. The number employed in the Fort Wayne MSA displays a clear upward trend from 2010 through September 2016. The latest data show that the number of employed in the Fort Wayne MSA in September 2016 stood at 210,437, compared to its pre-recession level of 204,866 in September 2006—the last “normal” year prior to the Great Recession (December 2007 to June 2009). Employment numbers clearly show a labor market that has recovered to its pre-recession levels (see **Figure 1**).

Figure 1: Fort Wayne MSA annual employment

graph



Note: 2016 is the January-September average.
Source: U.S. Bureau of Labor Statistics

Table 1 shows the top five sectors that contributed to the surge in employment in the Fort Wayne MSA since 2010. Employment in the services sector increased by 19 percent, while leisure and hospitality grew by 13 percent. Education and health care, as well as manufacturing, have had employment growth of 11 percent. Meanwhile, construction experienced a 9 percent employment growth. The four largest sectors in employment all experienced double-digit employment growth.

Table 1: Top five contributing industries to employment in the Fort Wayne MSA: Index since 2010

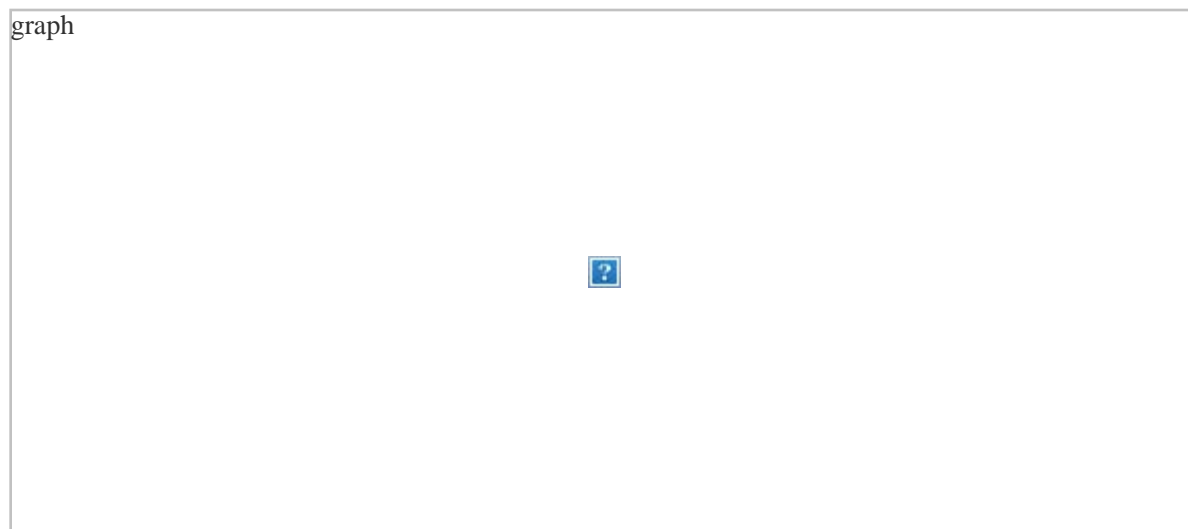
Year	Education and health care	Construction	Manufacturing	Services	Leisure and hospitality
2010	1.00	1.00	1.00	1.00	1.00
2011	1.01	1.03	1.03	1.04	1.04
2012	1.05	1.00	1.05	1.05	1.05
2013	1.07	1.02	1.07	1.10	1.10
2014	1.08	1.04	1.09	1.14	1.14
2015	1.11	1.09	1.11	1.19	1.19

Note: Values in this table are indexed to 2010.
Source: U.S. Bureau of Labor Statistics

Comparing changes in employment in the Fort Wayne MSA relative to Indiana

and the United States, we observe that the recession hit Indiana and the Fort Wayne MSA much harder than it did the nation as a whole. Post-recession, employment recovery in the Fort Wayne MSA proceeded in tandem with that of Indiana and the United States; however, the pace of recovery has been slower in the Fort Wayne MSA (see **Figure 2**).

Figure 2: Change in employment since 2006



Note: 2016 is the average of January-September data.

Source: U.S. Bureau of Labor Statistics

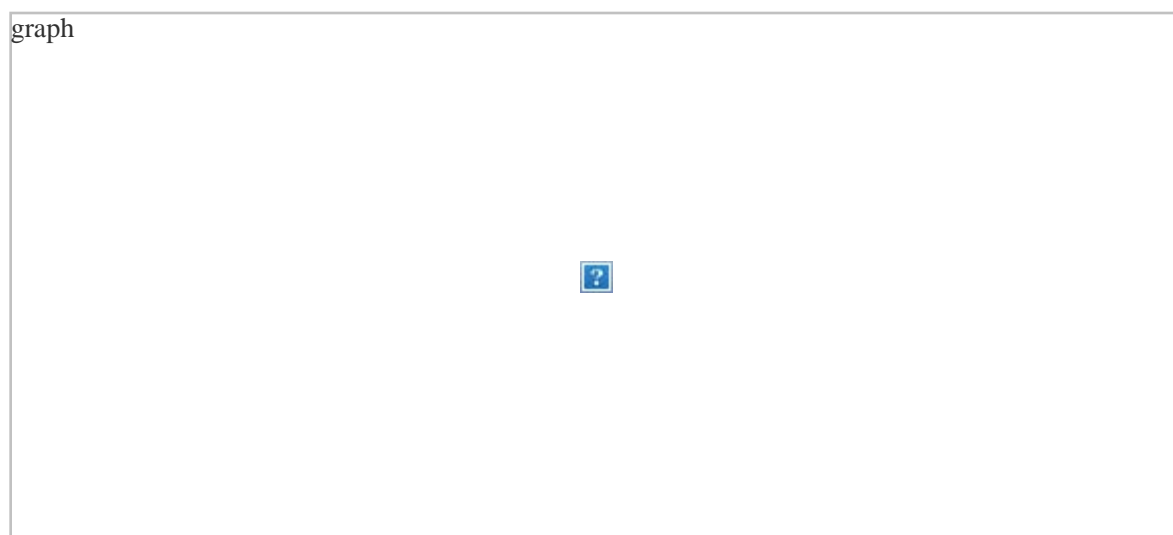
While employment was back to its pre-recession levels by 2013 for the U.S., it took an additional year for Indiana to bounce back and two more years after that for the Fort Wayne MSA to catch up to its pre-recession employment levels. The data, however, do contain good news for the Fort Wayne MSA because it shows a surge in employment since 2014 (as seen in **Figure 2**).

Unemployment

Unemployment in the Fort Wayne MSA climbed to 10.7 percent in 2009—a rate that was more than double its pre-recession level of 5 percent in 2006. Similarly, between 2006 and 2010, the number of unemployed more than doubled from 10,673 to 22,234. Since 2010, however, both the number of unemployed and the unemployment rate have declined systematically. The average unemployment

rate for 2016 (using January through September monthly data) is 4.3 percent. This rate is 0.2 percent below the 4.5 percent for 2015, reinforcing an optimistic picture of labor market conditions in the Fort Wayne MSA. Furthermore, while local fluctuations in the unemployment rate have been closely related to those for the state and the nation, the Fort Wayne MSA has had a lower unemployment rate than Indiana and the U.S. since 2014 (see **Figure 3**).

Figure 3: Annual unemployment rates



Note: 2016 is the average of January-September data.
Source: U.S. Bureau of Labor Statistics

Labor force

Another bellwether indicator of labor market conditions is the *labor force*, which consists of those employed plus those unemployed and looking for work. It is important to track movements of the labor force because normally, for a growing population, we would expect the labor force to be increasing. However, during an economic downturn, where jobs are hard to come by and the duration of unemployment increases, the number of discouraged workers—those who are without a job, but stop looking for work—increases and, therefore, the labor force decreases. On the other hand, when labor market conditions are improving, with normal growth in the population, the labor force will increase. This will

occur when the number of employed goes up more than the fall in the unemployed. The labor force can also increase when the numbers of both employed and unemployed increase as those who dropped out re-enter the labor market and start looking for jobs, thus joining the ranks of the unemployed. Either way, we would expect the labor force to rise during “good” times in the labor market.

In 2006, the Fort Wayne MSA’s labor force stood at 215,207. With the onset of recession in 2007, the labor force continued declining through 2012 (with the exception of 2008 when it staged a brief comeback). It took until 2016 for the metro’s labor force to return to pre-recession levels. The labor force is currently sitting at 218,794— mostly due to the acceleration in its growth since 2015, but especially in 2016 (see **Figure 4**). In addition, the right axis of **Figure 4** shows the changes in labor force relative to its 2006 base level. In 2012, for example, the Fort Wayne MSA’s labor force was at 95 percent of its pre-recession level, while in 2016 it was about 2 percent above the 2006 level.

Figure 4: Fort Wayne labor force and change in labor force



Note: 2016 is the average of January-September data.
Source: U.S. Bureau of Labor Statistics

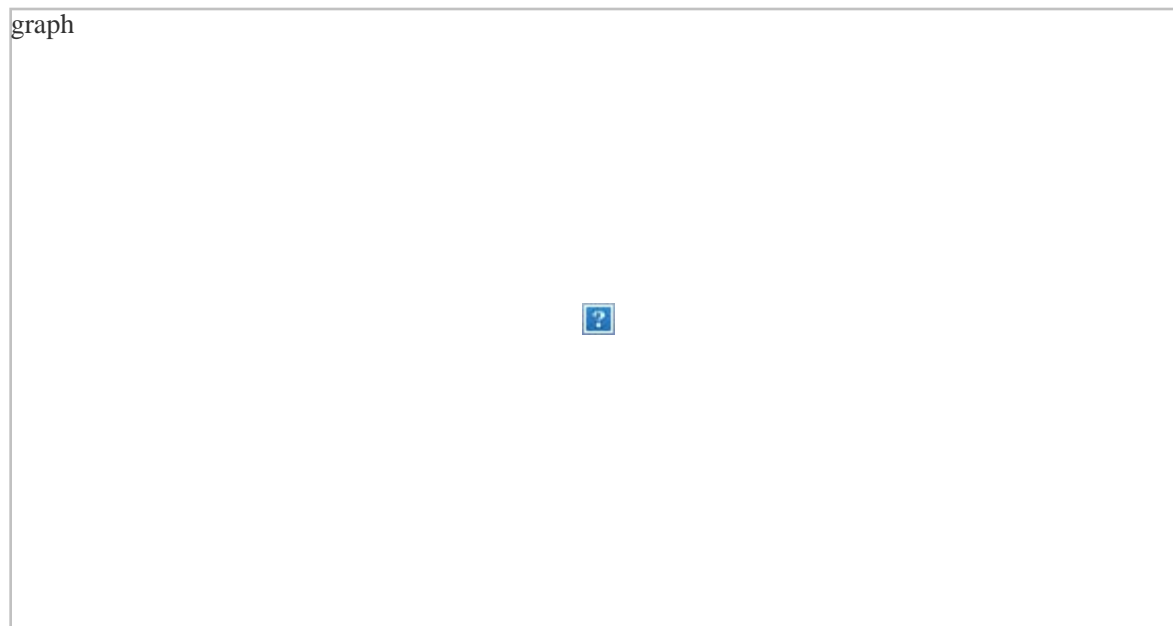
Taken together, movements of employment, unemployment and labor force suggest improving labor market conditions post-recession, with current conditions suggesting a labor market at or very near “full-employment” conditions.

Gross regional product

Inflation-adjusted gross regional product (GRP) for the Fort Wayne MSA recovered to its pre-recession levels of just over \$18.1 billion by 2011. Since

2011, the region's total output has grown at an average rate of 1.7 percent to about \$19.3 billion in 2015. This trend bodes well for continued growth in the region in the coming year (see **Figure 5**).

Figure 5: Fort Wayne MSA real GRP



Source: U.S. Bureau of Economic Analysis

Examination of contribution to the regional GRP growth by sector shows that the largest value-generating sector in the Fort Wayne MSA continues to be manufacturing, at about 25 percent of GRP. The next largest sectors are finance and real estate at about 17 percent and then health care and education at about 12 percent of GRP. The government and construction sectors account for 7 percent and 4 percent, respectively (see **Figure 6**).

Figure 6: Fort Wayne MSA contribution to real GRP

graph



Source: U.S. Bureau of Economic Analysis

Earnings and income

Income and earnings in Fort Wayne continue to be a challenge despite recent gains. Inflation-adjusted annual pay per worker started to increase since 2013, four years after the end of the recession and reached \$42,000 in 2015, slightly above where it was in 2006. However, this level still lags the state and the nation. Indiana reached \$44,000 and the nation was nearly \$53,000 for comparison (see **Figure 7**).

Figure 7: Real annual pay per worker

graph



Note: Data are in 2015 dollars.

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Forecast

Forecasts for the main economic and labor market indicators for the Fort Wayne MSA in 2017 paint an encouraging picture. The most conservative estimates show that, in 2017, the Fort Wayne MSA's economy may expand to \$19.5 billion (in 2009 dollars), a 1 percent increase relative to the 2015 level. In 2017, the unemployment rate is predicted to be in the 4.5-4.7 percent range, which is slightly above the current rate. The number of individuals in the labor force is expected to increase to 223,085, which is 2 percent growth relative to the 2016 level. Finally, the number of employed workers will increase to 211,661, or a 1.5 percent increase relative to the current year (see **Figure 8**).

Figure 8: Fort Wayne MSA forecasts for key indicators

graph



Note: Time-series statistical tools were utilized to estimate the numbers for 2017.

Source: U.S. Bureau of Labor Statistics and U.S. Bureau of Economic Analysis

Notes

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- The authors wish to thank Dr. David A. Dilts for his helpful comments.

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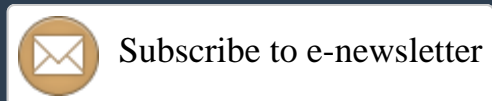
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Gary forecast 2017

Micah R. Pollak, Ph.D.

Assistant Professor of Economics, School of Business and Economics, Indiana University Northwest

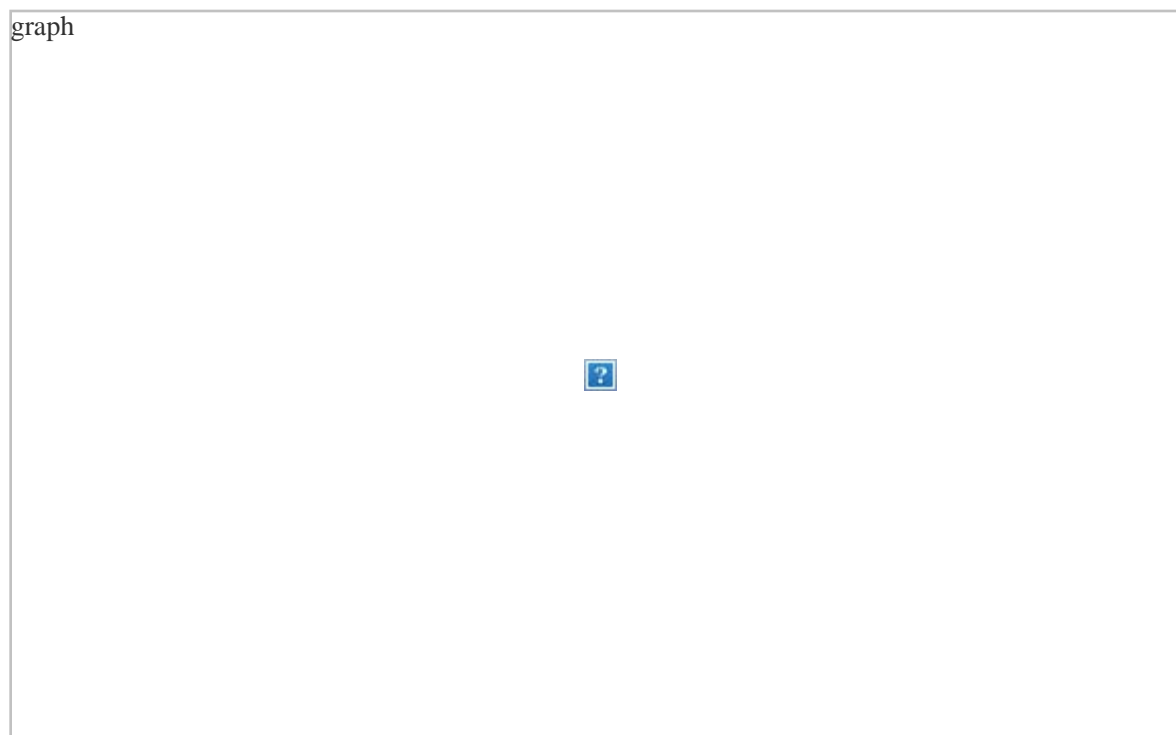
The value of Northwest Indiana's economy in 2016 was \$29.4 billion, measured using imputed gross metropolitan product (GMP).¹ This makes Northwest Indiana's economy equivalent in size to 4.6 percent of the Chicago metropolitan area's economy, or 8.6 percent of Indiana's economy.²

Despite its relative large size, Northwest Indiana's economic growth has been anemic. During 2016, the growth in real GMP for Northwest Indiana was just 0.1 percent (compared to 0.4 percent for the state and 1.4 percent nationally). Even more concerning, real GMP per capita for Northwest Indiana decreased 0.3 percent in 2016 to \$41,616 per person (compared to a 0.2 percent increase to \$51,521 for the state and a 0.6 percent increase to \$57,131 nationally).

Figure 1 provides a visual comparison of real GDP/GMP for the United States, the state of Indiana and Northwest Indiana since 2009. Since the low point of the Great Recession in 2009, real GMP per capita for Northwest Indiana has risen only 0.1 percent per year on average (+\$35/year), compared to 1.2 percent

(+\$647/year) nationally and 1.9 percent (+\$898/year) for the state. This lack of significant real growth can also be seen in real personal income, real earnings per worker and other measures. This suggests that, for the average worker, the region's economy has recovered very little since the Great Recession.

Figure 1: Real GDP/GMP per capita



Source: School of Business and Economics at Indiana University Northwest (Northwest Indiana GMP) and the U.S. Bureau of Economic Analysis

This lack of economic growth is perhaps surprising given that other measures of the regional economy have improved significantly. The unemployment rate for the seven-county Northwest Indiana region (which includes Lake, Jasper, LaPorte, Newton, Porter, Pulaski and Starke counties) dropped to 5.6 percent from its 12.4 percent peak during the Great Recession. Total employment for Northwest Indiana was 395,970 in July 2016, which is higher than before the Great Recession and higher than any time in the last 25 years.³ Even the production of steel in Indiana, the traditional lifeblood of the region, has returned to its pre-recession average.⁴

Despite these improvements, the average annual income per person in Northwest

Indiana has not risen significantly since the end of the Great Recession. To understand why the effects of the recovery have been so limited for workers, we have to look at ongoing changes to the labor market and the types of jobs being created in the region.

When you look closer at employment in Northwest Indiana, two significant trends stand out. The first is that our economy is becoming increasingly service-based. The second is that the service-providing jobs that are growing in Northwest Indiana are mostly low-paying. Taken together, these two trends help explain what is happening to average incomes in Northwest Indiana.

A shift toward a more service-based economy has been a national trend in the United States since the 1960s, and is consistent with the continued economic development of our nation. As our economy develops, our comparative advantage shifts from goods-producing sectors (like manufacturing and construction) to more service-providing sectors (like education and professional/technical services). Between 1990 and 2015, the proportion of service-based jobs in Northwest Indiana rose from 70 percent to 79 percent. These numbers are consistent with employment changes in the state of Indiana (66 percent to 77 percent) and nationally (77 percent to 85 percent) over the same period.

By itself, a shift toward service-sector jobs does not necessarily pose a problem, provided the region replaces declining high-paying goods-producing jobs with similar high-paying service-providing jobs. However, this is an area where Northwest Indiana has struggled.

Table 1 shows the 10 largest subsectors of employment for Northwest Indiana in 2015. These 10 subsectors make up approximately 45 percent of all employment

in Northwest Indiana. The largest subsector, with 30 percent higher employment than any other, is food services and drinking places, which has an average annual pay of just \$13,313. This service-providing subsector is also one of the fastest-growing subsectors, adding more than 2,400 jobs in the region since the Great Recession. In contrast, the two highest-paying subsectors are primary metal manufacturing and specialty trade contractors—both of which are goods-producing subsectors and lead the decline in regional jobs.

Table 1: Northwest Indiana's top 10 employment subsectors

NAICS subsector	2015 employment	2015 average annual
1. Food services and drinking places	27,539	\$13,313
2. Educational services(a)	26,471	\$31,313
3. Primary metal manufacturing*	18,875	\$89,313
4. Ambulatory health care services	17,851	\$54,313
5. Administrative and support services	11,811	\$27,313
6. Hospitals	11,289	\$50,313
7. Specialty trade contractors*	10,715	\$60,313
8. Executive, legislative and general government	9,856	\$35,313
9. General merchandise stores	8,619	\$18,313
10. Professional and technical services	8,104	\$49,313

* Goods-producing subsector

(a) 2008 to 2014 data are used due to non-disclosure issues

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Northwest Indiana has aggressively fought to stem the decline of (and attract new) manufacturing jobs. Between 2007 and 2015, manufacturing employment fell 11 percent nationally compared to just 5 percent in Northwest Indiana. However, as employment in goods-producing industries continues to decline nationwide, there will be even greater competition over these jobs. Northwest Indiana needs to expand its strategy for economic growth by focusing on attracting new high-paying service-based jobs.

For example, one of the fastest-growing and highest-paying subsectors nationwide is professional and technical services, which includes education-intensive jobs like legal services, accounting, architecture, engineering, computer systems, design, consulting services, advertising and public relations. Since 2007, this subsector has added almost 1 million jobs nationally (+12.8 percent), with an average annual pay of \$90,000 per year. This same subsector pays on average only \$49,000 in Northwest Indiana, and employment has declined by more than 1,000 jobs (-12.5 percent) since 2007.

If we wish to attract high-paying service-sector jobs, then we need to aggressively invest in human capital and regional quality of life initiatives. In its 2016 annual *Manufacturing and Logistics Report Card*, Conexus Indiana graded the state of Indiana with a “C” in human capital. High-paying service-sector jobs generally require greater education and training than their goods-producing counterparts. Besides improving our human capital, we need to take steps to attract educated workers and retain those that are already here. This means we need to focus on improving quality of life in the region and developing the assets that millennials and future generations care about.

Forecast

Despite these challenges, the 2017 forecast for the economy of Northwest Indiana is positive. **Table 2** provides the 2017 forecast, along with the 2016 forecasted and actual growth. In 2017, the Northwest Indiana economy is expected to grow by 1.5 percent, with regional employment expanding by 0.5 percent. That amounts to the creation of approximately 1,500 jobs—almost all of which will be in the service sector. While any growth is good news, this forecast barely keeps pace with inflation and is likely to be significantly slower than the economic growth for both the state of Indiana and the nation overall.

Table 2: Northwest Indiana regional forecasts

	2016 forecast	2016 actual	2017 forecast
Northwest Indiana Coincident Index*	+1.0%	+0.99%	+1.5%
Employment	+0.4% (+1,100 jobs)	+2.1% (+5,700 jobs)	+0.5% (+1,500 jobs)
Unemployment rate	<i>n/a</i>	5.6%	5.2%
Gross metropolitan product (GMP)	<i>n/a</i>	+\$270 million	+\$450 million

* The Northwest Indiana Coincident Index is produced by the School of Business and Economics at Indiana University Northwest.
Source: Author's calculations

Notes

1. Northwest Indiana imputed gross metropolitan product (GMP) produced by the School of Business and Economics at Indiana University Northwest. These GMP numbers reflect Lake, Newton, Jasper and Porter counties, while the rest of the article is based on the broader seven-county region.
2. Based on the GDP by metropolitan area and state data from the U.S. Bureau of Economic Analysis.
3. Based on Local Area Unemployment Statistics (LAUS), monthly Current Employment Statistics (CES) and Quarterly Census of Employment and Wages (QCEW) from the U.S. Bureau of Labor Statistics.
4. According to data from the American Iron and Steel Institute (AISI).

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Indianapolis-Carmel forecast 2017

Kyle Anderson, Ph.D.

Clinical Assistant Professor of Business, Kelley School of Business, Indiana University

Growth in the Indianapolis-Carmel-Anderson metropolitan area¹ economy has been some of the strongest in the state, as unemployment continues to fall in Central Indiana. The unemployment rate for the Indianapolis metro stands at 3.9 percent, which is significantly below state and national levels.

The performance of the Indianapolis economy reflects broader trends of growth in urban economies, while more rural economies continue to struggle. However, even with decent job growth and low unemployment, real wages remain flat, holding down overall income levels.

Employment and wages

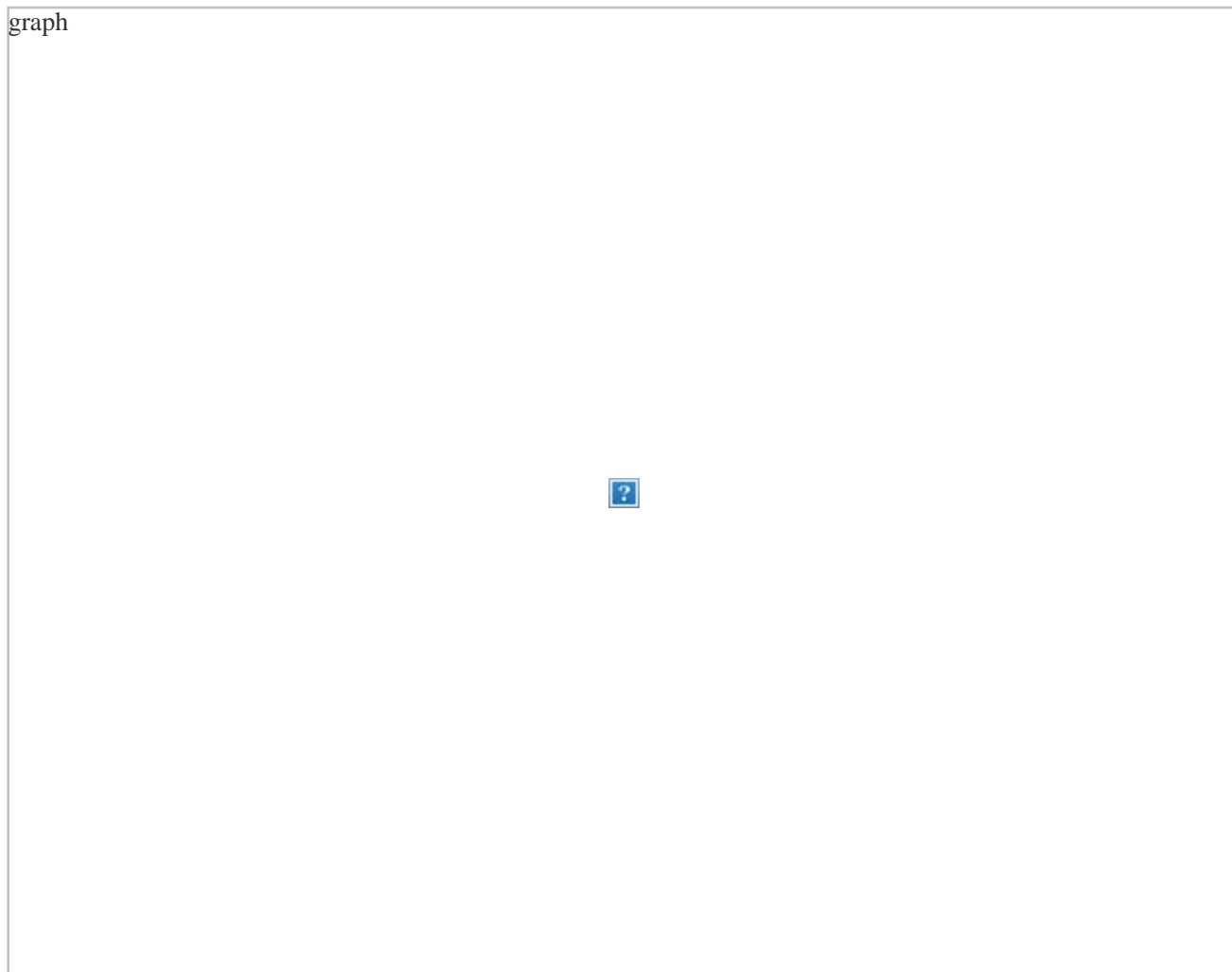
The Indianapolis economy is nearing full employment, with more than 1 million jobs in the metro and surrounding area and 40,000 unemployed.

The difference in the unemployment rate between Indianapolis and the rest of the state is largely attributable to differences in educational attainment. More than 30

percent of Indianapolis residents have a bachelor's degree or higher, whereas across the rest of the state, that number is closer to 20 percent. Given the current unemployment rate for college grads of 2.5 percent, it is not surprising that Indianapolis has lower unemployment and higher wages.

The unemployment rate is lowest in the suburban counties, specifically Hamilton, Boone, Hendricks and Johnson counties, and highest in Madison and Marion counties. **Figure 1** shows the unemployment rate as of September of 2014 and 2016 for the Indianapolis region broken down by the 11 counties in the area. Every county in the area is showing lower unemployment rates than the national average of 5.0 percent.

Figure 1: Unemployment rate by county



Source: U.S. Bureau of Labor Statistics

Given the low level of unemployment, job growth may taper off in 2017. We will finish 2016 with about 37,000 new jobs added. We are unlikely to see that kind of growth again without some migration into the area from other parts of the state, the country or the world.

Not all of the employment news has been good for workers in the area. Despite strong job growth and low unemployment, real average wages have been flat over the last two years. Much of the growth in jobs has come from lower-paying sectors (e.g., retail) or in areas where real wages have declined (e.g., health care).

Higher-paying industries, such as manufacturing, have seen losses in jobs—leading to lower overall wages. The number of manufacturing jobs has stabilized recently, but the long-term trend is downward. There are currently about 90,000 manufacturing jobs in the MSA, compared to more than 120,000 as recently as 2000. High-profile plant closings in 2016 have made headlines, but these are part of broader trends. Manufacturing is a strong segment of the Indianapolis economy, but technology and efficiency has led to increasing output without a corresponding increase in the workforce.

Housing and construction

Residential construction continues to be a segment of growth for the local economy, creating new jobs and additional investment. After a year of 20 percent growth, construction has flattened out in the latter part of 2016. As in years past, the highest levels of growth² have been in the surrounding areas, especially Hamilton (16 percent), Hancock (38 percent) and Johnson (38 percent) counties.

The forecast for 2017 calls for slower growth based on a couple of factors. First, low unemployment in the area will make it more difficult for expansion to

continue. Second, rising interest rates will dampen both investment enthusiasm and demand for housing.

Sectors

Job growth in Indianapolis is driven by a few strong sectors, including management, construction and transportation. By contrast, job growth was weak in information, manufacturing and utilities (see **Table 1**).

Table 1: Jobs by industry, 2016 Q1

Industry	Jobs	Percent of total jobs	Average weekly wage	Change in jobs	Change average weekly wage
Health care and social services	139,383	14.5%	\$939	3.6%	-2.4
Retail trade	106,297	11.0%	\$527	4.6%	-0.4
Accommodation and food services	89,253	9.3%	\$314	1.7%	1.9
Manufacturing	88,819	9.2%	\$1,754	-1.0%	1.7
Administrative and support	79,526	8.2%	\$579	1.9%	-0.2
Educational services	71,202	7.4%	\$806	1.8%	2.7
Transportation and warehousing	63,668	6.6%	\$794	6.6%	-2.3
Professional and technical services	54,293	5.6%	\$1,433	4.8%	4.2
Finance and insurance	45,346	4.7%	\$1,648	4.0%	-7.9
Public administration	44,686	4.6%	\$985	0.6%	-0.7
Wholesale trade	42,657	4.4%	\$1,274	2.2%	-1.6
Construction	42,130	4.4%	\$1,030	8.4%	4.6
Other services	30,245	3.1%	\$658	3.6%	1.5
Information	17,023	1.8%	\$1,190	-2.8%	-2.5
Real estate and rental and leasing	15,450	1.6%	\$1,058	3.6%	0.7
Management of companies	13,281	1.4%	\$2,336	9.7%	10.8
Arts, entertainment and recreation	12,174	1.3%	\$924	1.0%	-12.6
Utilities	4,555	0.5%	\$1,958	-2.5%	-3.7
Agriculture	1,856	0.2%	\$748	-0.7%	3.9
Total	964,158		\$965	2.9%	-0.3

Note: Change columns are relative to 2015 Q1.

Source: STATS Indiana, using Quarterly Census of Employment and Wages data from the U.S. Bureau of Labor Statistics

Forecast

Overall, the Indianapolis economy continues to be fairly healthy. The region is at full employment and continued job growth will ensure that it stays there.

Furthermore, low unemployment and continued growth should lead to higher wages for workers. Increasing interest rates and a potential labor shortage will lead to slower growth in residential construction. Continued investment in the downtown area will drive growth in Marion County, while residential and commercial development in Hamilton, Hendricks and Johnson counties will fuel regional growth.

Notes

1. This analysis covers the Indianapolis-Carmel-Anderson metropolitan statistical area, which includes Boone, Brown, Hamilton, Hancock, Hendricks, Johnson, Marion, Madison, Morgan, Putnam and Shelby counties.
2. Growth is measured as percentage change in value of building permits compared to the prior year period using U.S. Census Bureau data.

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Kokomo forecast 2017

Alan G. Krabbenhoft, Ph.D.

Dean, School of Business, Indiana University Kokomo

This article provides a short synopsis of several key pieces of data that can be used in judging the economic well-being of the Kokomo region. Indiana University Kokomo serves a diverse 14-county region,¹ and includes communities very dependent on heavy manufacturing, as well as other areas that are far more agriculturally dependent. This article will touch on key issues that affect the overall region, while placing greater emphasis on the Kokomo and Howard County areas.

Limited gains in employment

The seasonally unadjusted unemployment rate within Howard County has fluctuated considerably over the course of the last 20 months (see **Figure 1**). As was the case in both 2015 and 2016, the unemployment rate was noticeably higher during the first quarter, but diminished considerably over the remainder of the year. The drop from August to September 2016 was, in fact, quite significant.

Figure 1: Unemployment rates

graph



Note: Data are not seasonally adjusted.

Source: STATS Indiana and Hoosiers by the Numbers, using U.S. Bureau of Labor Statistics data

However, when making year-over-year comparisons between 2015 and 2016, the unemployment rate has only made minimal changes. While not showing the extreme fluctuations seen for Howard County, the Indiana unemployment rate depicted in **Figure 1** does display much the same pattern, consistently being 0.1 to 0.3 percentage points lower than that for Howard County. In comparison to the national data, Howard County and the state of Indiana generally saw unemployment rates consistently lower than that of the nation as a whole.

Within the 14-county region, similar seasonal fluctuations were found—higher levels during the first quarter of the year and then a general decline throughout the remainder of the year. County-to-county comparisons revealed considerable differences between the unemployment rates across the region.

Howard County's unemployment rates were among the highest one-third within the region. Several counties, noticeably Grant and Madison—and Miami to a limited extent—also had higher unemployment rates than those found elsewhere within the region and were anywhere from 0.2 to 0.5 percentage points higher on average than those for Howard County.

At the same time, Carroll, Clinton, Hamilton, Tippecanoe and Tipton counties found their unemployment rates considerably lower. In some instances, the difference represented approximately half a percentage point. However, the true exception was Hamilton County, which was nearly 1.5 percentage points lower. The counties with the lower rates tended to be more rural and dependent on agriculture; though clearly, that is not the case for Hamilton County, which is part of the Indianapolis metropolitan area and has seen considerable economic growth in both goods-producing and, especially, service industries.

Industry gains

Total nonfarm employment within Howard County has seen a net increase of 300 jobs from September 2015 through September 2016. This net increase, however, reflects a gain of 600 jobs in goods-producing industries and a loss of 300 jobs in the service sector. Within the goods-producing sector, manufacturing provided the majority of the increase. Slight increases were also seen in trade, transportation and utilities and retail trade. The losses in the service sector were isolated to governmental sector jobs, excluding educational services. Given the substantial wage differentials between manufacturing and service sector jobs, the net increase of 300 jobs for the region carried with it a far more significant impact on the region's net income.

Agricultural production

As mentioned earlier, a significant portion of the 14-county region served by IU Kokomo is rural and dependent on the success of the agricultural sector. In particular, this portion of the state is primarily focused on corn and soybean production. **Table 1** shows that Indiana's 2016 agricultural production experienced a sizable increase over 2015 levels. Contrary to 2014 when growing conditions were ideal, many parts of the state received extensive rainfall in 2015,

and flooding was rampant. As such, corn acreage planted and harvested were down approximately 5 percent each, while yield per acre and total production were down nearly 25 percent.

Table 1: Indiana crop statistics

	2014	2015	2016*
Corn			
Planted (1,000 acres)	5,900	5,650	5,600
Harvested (1,000 acres)	5,770	5,480	5,410
Yield per acre (bushels)	188.0	150.0	177.0
Production (1,000 bushels)	1,084,760	822,000	957,570
Soybeans			
Planted (1,000 acres)	5,450	5,550	5,700
Harvested (1,000 acres)	5,440	5,500	5,680
Yield per acre (bushels)	55.5	50.0	59.0
Production (1,000 bushels)	301,920	275,000	335,120

* The 2016 data represent the forecast from October.

Source: "Indiana Agriculture Report," U.S. Department of Agriculture's National Agricultural Statistics Service, October 2016

The 2016 estimates show that while corn acreage fell slightly further, yield per acre and total production have rebounded nicely. While not at the record levels of 2014, certainly corn production considerably improved. Meanwhile, soybean production in 2016 is estimated to not only exceed 2015, but also exceed that from 2014, which was seen as a highly successful year. In terms of acreage, planted and harvested acreage in 2016 are expected to be 3 percent higher than in 2015 and 5 percent higher than in 2014. However, soybean yields and total production are expected to be nearly 20 percent above 2015 levels.

While production and yield are critical factors to agricultural well-being, so too are the prices these crops bring at market. The October 2016 "Indiana Agriculture Report" suggests that in comparison to August 2015 prices, corn prices are down

approximately 9 percent from \$3.90/bu to \$3.54/bu. On the contrary, soybean prices have been relatively stable. While prices fell from July to August 2016, they remain approximately 3 percent higher per bushel in comparison to August 2015. Since many of the counties within our region are heavily dependent on agricultural output and the resulting income, 2016 promises to present some financial windfall following the financial challenges of last year. Unfortunately, detailed county-level data for 2016 won't be released until February 2017.

Forecast

As mentioned in the 2016 forecast from last year, the state and the region are already operating at a level that most economists would describe as full employment. The overall forecast for the region for 2017 suggests very modest increases in the level of employment. Strong dependence on the automobile industry leaves the region (and the state) heavily dependent on the economic health of the broader U.S. economy, as well as that of much of the rest of the world. While this past year has seen some slight employment growth in automobile transportation manufacturing, the gains have been small relative to total employment in the industry.

Locally, the construction and trades sectors are likely to see a slight increase in employment over the next year from two main sources. Efforts continue in repairing and rebuilding from the devastation caused during the outbreak of tornados on August 24, 2016, that swept through Kokomo. The damage to several businesses, homes and two major apartment complexes was extensive and repairs to these businesses and dwellings are likely to extend well into 2017. Furthermore, plans to build two large apartment complexes within Kokomo will also support employment within the construction industry and the related trades.

While highly unpredictable, weather patterns are certainly a major driver of the well-being of the agricultural sector. Such weather patterns tend to be regional rather than global. Some parts of the country may suffer weather extremes that limit production, whereas other parts of the country may experience ideal conditions. The growing level of crop production and competition outside the U.S. also is a major driver. The agricultural sector is highly dependent upon the well-being of the rest of the world, due in large part to the dependence on agricultural exports. Recently, large purchases of products from China have helped support market prices. However, worldwide economic conditions leave such exports subject to uncertainty.

Conclusion

Clearly, the overall state of the U.S. and world economies will play a major role in local employment and economic output. The outcome of the 2016 elections will likely play a crucial part in the domestic and international environment. The true impact of such, however, may not be felt in any significant way in the short run. However, once the new president and congressional members are seated in early January, the longer-term implications for both domestic policies and international relations will begin to be clearer.

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- Hoosiers by the Numbers: www.hoosierdata.in.gov/docs/state/detailempl/2016/detailemplmth09.pdf
- Indiana Agriculture Report (October 2016): www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Ag_Report/2016/current.pdf
- STATS Indiana: www.stats.indiana.edu/topic/laus.asp

Notes

1. The 14-county service region includes Carroll, Cass, Clinton, Fulton, Grant, Hamilton, Howard, Madison, Miami, Pulaski, Tippecanoe, Tipton, Wabash and White counties.

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Lafayette forecast 2017

Tanya Hall

Community Development Regional Extension Educator, Purdue University

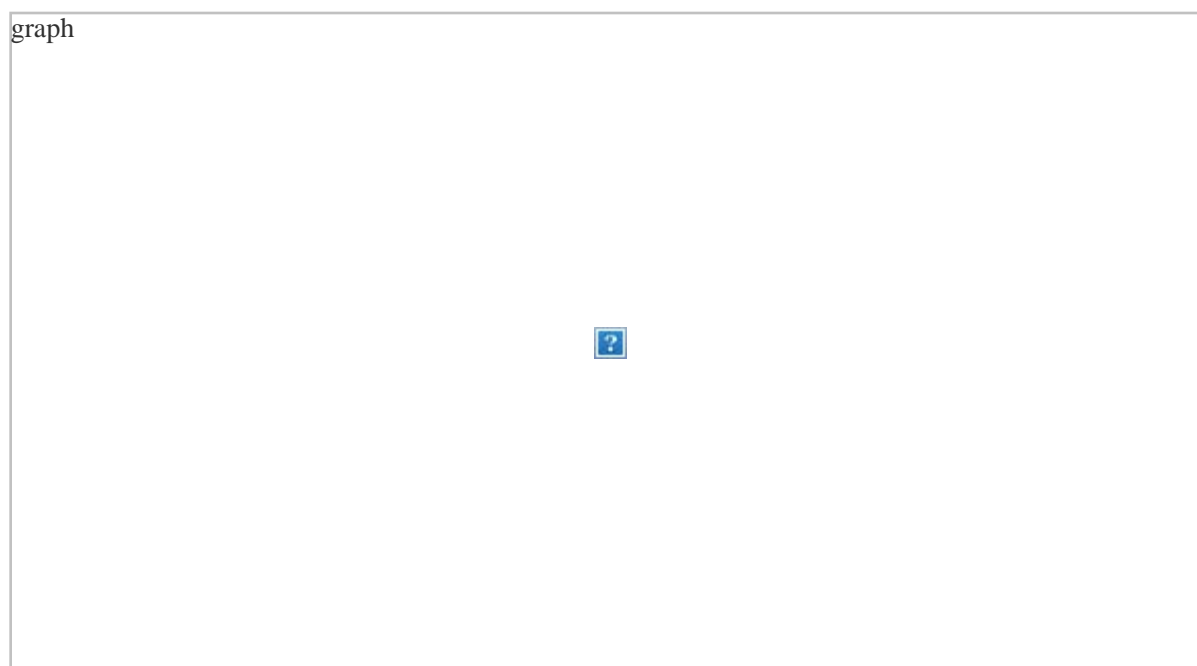
The Lafayette Metropolitan Statistical Area (MSA) returned to its tortoise pace on our less-than-robust economic recovery from the Great Recession. In 2016, the manufacturing and mining/logging/construction industries were the source of employment growth, serving as a contributing factor to dropping unemployment rates, increased employment and increased wages in the area.

The Lafayette MSA (which includes Tippecanoe, Benton and Carroll counties) has rebounded from that recession in a sustainable fashion with slow and steady growth—albeit frustratingly slow at times. Looking toward the future, there is little doubt that growth will continue, thanks to its diverse industry portfolio and strong university connection. These strengths coupled with its geographic location make it an attractive area to live and work.

The MSA has experienced continuous population growth—an addition of approximately 2,600 people per year between 2005 and 2015 (see **Figure 1**). The 2015 population is 214,363, and the Indiana University Center for Econometric

Model Research anticipates annual population growth of 0.8 percent in the region through 2019.

Figure 1: Annual Lafayette MSA Population



Note: Data for 2016 through 2019 are projections.

Source: U.S. Census Bureau and Indiana University Center for Econometric Model Research

Labor

The Lafayette MSA maintained a lower unemployment rate than the United States between August 2015 and September 2016 (see **Table 1**). The MSA also maintained lower unemployment rates relative to the state as a whole, except in March and July 2016. These lower unemployment rates reflect the diverse and strong economy within the Lafayette MSA. Last year's outlook predicted the MSA would see upper 3 percent unemployment rates, and that did occur a few times. In 2017, the local unemployment rate should continue to range between 3.5 and 4.5 percent due to steady economic growth.

A year-over-year comparison between September 2015 and 2016 shows that employment increased by 4,172 workers.

Table 1: Labor force and unemployment for the Lafayette MSA

Year	Month	Labor force	Employment	Unemployed	Lafayette MSA unemp
2015	August	103,998	99,690	4,308	
	September	108,558	104,612	3,946	
	October	109,632	105,491	4,141	
	November	109,951	105,418	4,533	
	December	108,881	104,546	4,335	
	Annual	107,381	102,864	4,517	
2016	January	109,205	104,380	4,825	
	February	111,077	105,925	5,152	
	March	110,869	105,597	5,272	
	April	112,578	107,929	4,649	
	May	111,386	107,137	4,249	
	June	108,620	103,714	4,906	
	July	109,447	104,465	4,982	
	August	109,490	104,720	4,770	
	September*	112,961	108,784	4,177	

*Preliminary data

Source: U.S. Bureau of Labor Statistics

Table 2 looks specifically at regional employment between 2015 and 2016 in the Lafayette MSA. Last year, it was anticipated that most of the employment growth would stem from professional and business services, with the potential for pullback in the manufacturing industry. However, though the MSA has had an increase in jobs thus far in 2016 (756 employees, or 0.7 percent), much of the gain came from goods-producing industries—manufacturing and mining/logging/construction industries (+533 workers). Professional and business services had the largest industry decline in numeric terms (-117 employees). Other industries with employment declines were also in the service-providing industries (information; other services; and trade, transportation and utilities), as well as government.

Table 2: Lafayette MSA employment

Industry	2016*	Change since 2015	Percent chan
Total nonfarm	101,822	756	
Total private	73,367	850	
Goods-producing	21,467	533	
Manufacturing	17,789	256	
Mining, logging and construction	3,678	278	
Service-providing	80,356	222	
Private educational and health services	12,167	350	
Trade, transportation and utilities	14,722	-19	
Leisure and hospitality	9,556	131	
Professional and business services	7,567	-117	
Financial activities	3,633	33	
Information	778	-22	
Other services	3,478	-39	
Government	28,456	-94	

*January through September data annualized for 2016. September data are preliminary.
Source: U.S. Bureau of Labor Statistics

As of September 2016, the top three industries in the Lafayette MSA are manufacturing (18 percent), trade, transportation and utilities (15 percent) and private educational and health services (12 percent). These top industries are reflective of the many manufacturing firms and their corresponding transportation providers, as well as the strength and presence of numerous health care facilities.¹

Since last year, the economic data show the economy's growth is derived from household spending. Economic news from the Lafayette MSA has been much quieter than typical, with a few layoff announcements (Oerlikon Fairfield and ALCOA). One must not forget that in recent years, several larger firms announced expansion plans that were not to be completed until 2016. While large

job announcements have been less prevalent in 2016, several stories have emerged talking about the Lafayette MSA's budding technology sector—giving an insight into other oft-overlooked sectors that are positively churning.

In 2017, slow and steady growth is expected to occur, a continuation of the trend since the recession. It is projected the Lafayette MSA may gain an additional 2,800 workers, distributed throughout the various industries. Recognizing that much of the economic growth has been occurring in household expenditures, the manufacturing sector is not expected to perform strongly. Rather, much of the growth will likely occur in other industries.

Between the first quarters of 2015 and 2016, average weekly wages increased 0.8 percent within the Lafayette MSA, considerably less than experienced between the first quarters of 2014 and 2015 (which yielded 4.6 percent growth). Eleven out of the 18 major sectors (two were nondisclosed) had negative wage increases, ranging from -0.7 percent (information) to -9.2 percent (management of companies and enterprises), as seen in **Table 3**. This negative growth pulled down the positive wage increases among the remaining industries (construction saw 14 percent growth and educational services had 9 percent growth). A similar level of wage growth is expected for 2017.

Table 3: Average weekly wages in the Lafayette MSA

Industry	Average weekly wage, 2016 Q1	C
Total	\$853	
Management of companies and enterprises	\$1,288	
Manufacturing*	\$1,341	
Professional, scientific, and technical services	\$1,132	
Wholesale trade	\$1,081	

Educational services*	\$1,085
Finance and insurance	\$1,099
Construction	\$912
Health care and social services	\$804
Transportation and warehousing	\$767
Public administration	\$760
Agriculture, forestry, fishing and hunting	\$719
Real estate and rental and leasing	\$635
Information	\$714
Other services (except public administration)	\$565
Retail trade	\$446
Administrative and support and waste management and remediation services	\$485
Accommodation and food services	\$284
Arts, entertainment, and recreation	\$229

* Indicates that some county-level data were excluded due to confidentiality restrictions.

Note: Data for mining and utilities were nondisclosable.

Source: STATS Indiana, using Quarterly Census of Employment and Wages data

Research shows that per capita personal income (PCPI) in Indiana and the Lafayette MSA historically lags behind the United States, due to a different occupational mix within the MSA and the fact that Indiana's highest-earning occupations tend to be paid less than similar occupations elsewhere, regardless of cost of living factors.² The most recent data for the Lafayette MSA at the time of this writing was 2014, which showed the MSA's PCPI being 74 percent of the national figure. Growth in the Lafayette MSA's PCPI between 2013 and 2014 was 2.6 percent. In 2015 and beyond, it is projected that PCPI will increase by more than 3 percent annually.

Housing

The real estate market in the Lafayette MSA continues to tighten slightly, with an uptick in closed sales (4.9 percent) and a drop in new listings (-2.9 percent).

Table 4 outlines the comparison of year-to-date (January through September)

2016 figures with 2015. Among the three counties that make up the Lafayette MSA, two experienced higher median sales price values, with Carroll County being the exception (-4.1 percent).

Across the three counties, each has a different housing story, with Tippecanoe County seeing an uptick in closed sales and median sales price and a drop in new listings. The months supply of housing inventory for the county has dropped by 29 percent with 600 homes on the market. Benton County has seen a slowing housing market with more listings, fewer closings yet higher median sales prices. Its months supply of inventory has increased by 70 percent with more homes on the market. Carroll County has had drops in new listings, sales, median home prices and inventory of homes for sale, yet a slightly higher supply of inventory. In the MSA, the total inventory of homes for sale has dropped by 18 percent.

Table 4: Lafayette MSA residential real estate sales

	Lafayette MSA			Benton County			
	Year to date*			Year to date*			
	2015	2016	Change	2015	2016	Change	
New listings	2,749	2,669	-2.9%	87	91	4.6%	
Closed sales	1,959	2,055	4.9%	62	47	-24.2%	
Median sales price	n/a	n/a	n/a	\$70,000	\$72,950	4.2%	\$
	September 2016			September 2016			
Months supply of inventory	n/a	n/a	n/a	5.6	9.5	69.6%	
Inventory of homes for sale	916	752	-17.9%	37	50	35.1%	

Note: Data reflect January to September for both years. Months' supply of inventory and inventory of homes for sale are September values.
Source: Indiana Association of Realtors

Nationally, the housing market is stronger than one year ago, with increases in sales in both existing homes and new single-family homes. Existing-home sale prices have increased, whereas new single-family home prices have dropped

slightly. Many of the trends evidenced in Tippecanoe County are also happening nationally. The limited supply of homes is causing prices to rise, thus reducing the affordability factor.

Within the Lafayette MSA, the housing situation will likely remain mixed based on location. Within Tippecanoe County, current trends are expected to continue in 2017 (i.e., diminishing housing supply due to increased sales and fewer listings, as well as increased sales prices or sellers able to receive close to their original asking price). In the more rural areas of the MSA, the housing market will remain volatile.

Given the past trends of a gradually tightening existing-housing market, it provides some insight into why Tippecanoe County has seen an uptick in housing permits issued in 2013 and 2014 (2,166 issuances). However, only half of these permits were for single-family housing—reversing more recent trends of tepid interest in multifamily dwellings. In 2015, the MSA did see a contraction in permits issued from the prior year (see **Figure 2**). Thus far in 2016, housing permits issuances are up and will likely eclipse the 2015 issuances.

Figure 2: Lafayette MSA residential building permits

graph



* 2016 reflects year-to-date figures through September 2016 for Tippecanoe County only.
Source: STATS Indiana, using U.S. Census Bureau data

In 2017, if the reduction in homes for sale continues, we can anticipate stronger demand to build homes. It is expected that median sales prices will likely continue to rise as the area reduces its inventory of existing homes for sale.

Conclusion

Growth continued within the Lafayette MSA in 2016, but at a tepid pace.

Surprisingly, much of the employment growth in 2016 centered around goods production—in the manufacturing and mining/logging/construction industries.

While a 1.5 percent growth in manufacturing is not overly dramatic, the size of the industry quickly generates employee impacts.

The MSA continues to maintain a favorable unemployment rate, job growth and slight wage growth. Individuals are still attracted to the Lafayette MSA, as evidenced by the population growth and demand for housing (both existing and new). The MSA is buoyed by the presence of Purdue University and its research park.

Looking forward, national trends do not indicate any major changes in the slow-and-steady pace of recovery. Despite the attractive and diverse economic array of businesses and amenities, it is not expected that Lafayette MSA will serve as an outlier to these national trends in 2017. Nevertheless, economic growth in the region will continue; however, it will likely be in non-manufacturing industries with minimal wage increases.

Notes

1. The data show an increase in private educational and health services. Given that only private educational facilities are included, much of the growth tends to be derived from health services.
2. For more research on differences between the U.S. and Indiana PCPI, see "[Occupational Hazard: Why Indiana's Wages Lag the Nation](#)" and "[Finding New Cheese: Why Indiana's Per Capita Personal Income Lags \(and How to Fix It\)](#)" in the *Indiana Business Review*.

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Louisville forecast 2017

Uric Dufrene, Ph.D.

Executive Vice Chancellor for Academic Affairs and Sanders Chair in Business, Indiana University Southeast, New Albany

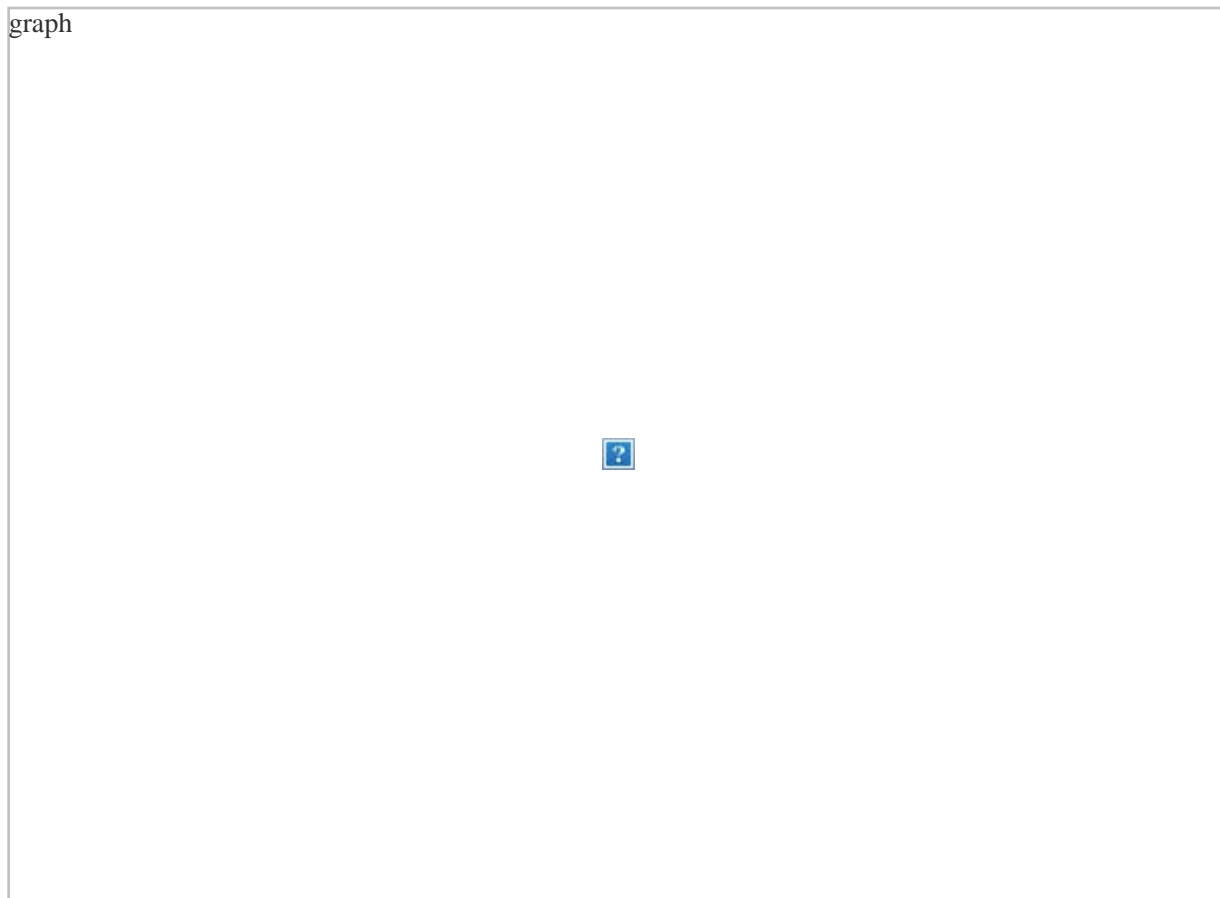
Last year's outlook forecasted "job gains, but at a slower pace than in recent years" in 2016. The Louisville metro ended 2015 with an above-average addition of nearly 20,000 jobs, but as of August 2016, the year's job gains are off from previous years. As we approach the second half of the year in data availability, Louisville added approximately 4,800 jobs as of August, which is below the average August-to-date job gains of 9,800 over the past three years. As we approach 2017, we expect job gains to accelerate once again, and 2017 will be another year with impressive job growth. Southern Indiana counties should see strong job gains as River Ridge continues to develop and both the downtown and East End bridges finally open.

Employment

The U.S. economy saw slower growth during the first half of the year, evident through lower gross domestic product (GDP) growth numbers. This slower national growth also shows up in slower Louisville metro payroll gains for the

first half of the year (see **Figure 1**).

Figure 1: Louisville metro nonfarm payroll jobs



Source: Factset

Sector payroll employment changes are mixed. Both retail and education and health services saw significant gains over 2016 and continue to increase, but the retail sector is now showing significant deceleration from earlier in the year (see **Figure 2**). Professional and business services, along with leisure and hospitality, also experienced a slowdown in growth, adding to the overall moderation in job gains for the Louisville metro.

Figure 2: Year-over-year percent change in payroll jobs for selected Louisville metro sectors, October 2011 to September 2016

graph



Source: Factset

However, as the national economy expands in 2017, both professional and business services and the local leisure and hospitality sectors will return to stronger growth in the metro area. The professional and business services sector is already beginning to accelerate compared to overall payroll growth.

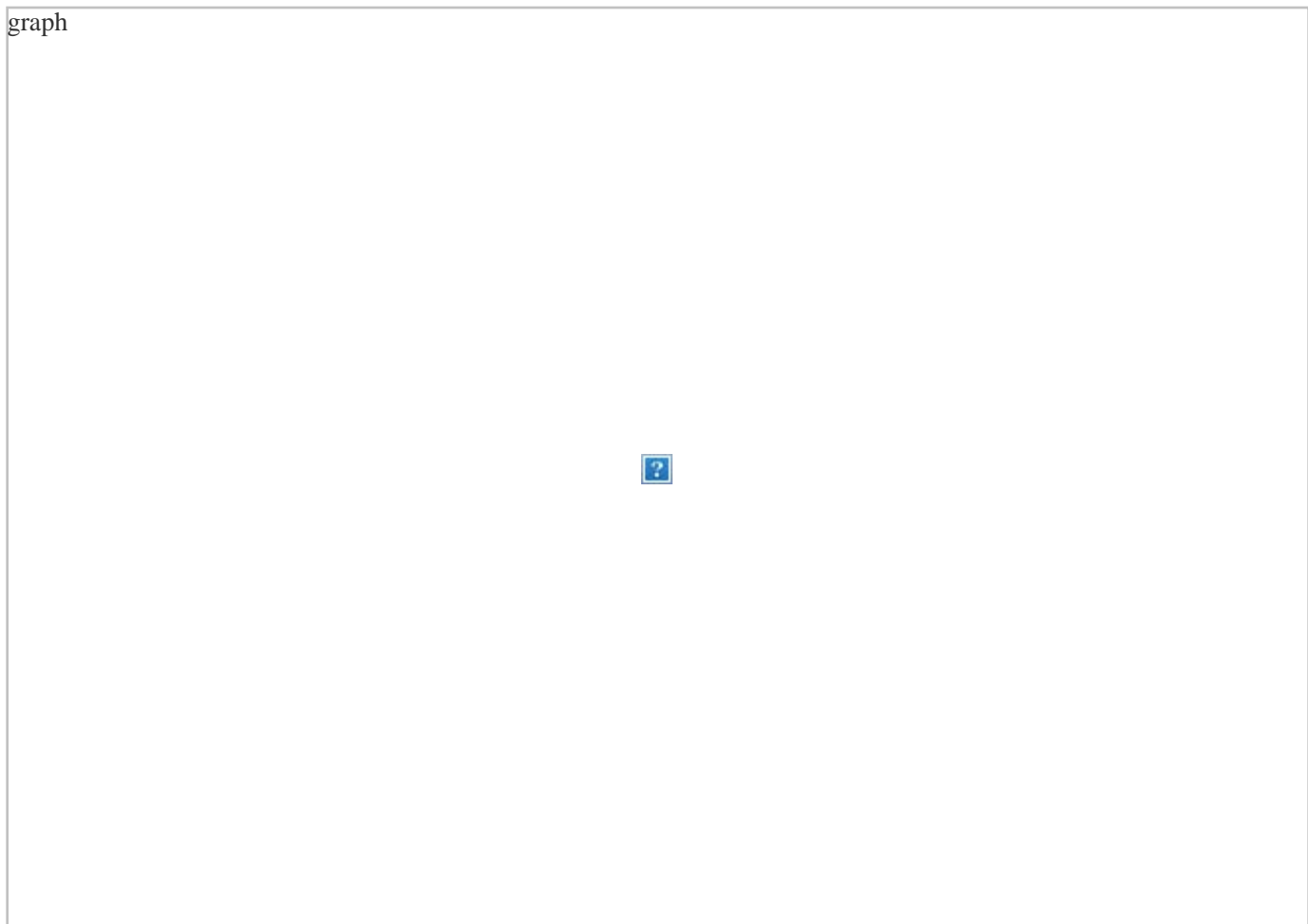
U.S. manufacturing experienced slower growth at the start of the year, but this is not evident in regional manufacturing growth. Regional manufacturing payrolls did slow down earlier in the year, consistent with national manufacturing.

However, manufacturing sector growth was slightly above overall payroll growth. Over the second half of the year, manufacturing is now accelerating once again, with a pace that exceeds overall job growth. An expanding regional manufacturing sector will be expected to contribute favorably to overall metro job growth.

Southern Indiana

Southern Indiana (Clark, Floyd, Harrison, Scott and Washington counties) saw impressive payroll gains over 2016. The fourth quarter of 2015 saw a record addition of more than 5,000 payroll jobs, year over year (see **Figure 3**). Outside the fourth quarter, Southern Indiana produced solid gains over the entire year. While there will likely be payroll deceleration in some quarters, expectations are that these job gains will continue. The sustained development of River Ridge and the opening of both Ohio River bridge crossings expect to produce strong growth for the Southern Indiana counties. Much of this growth will be concentrated in Clark County. However, surrounding counties will also benefit due to commuting patterns and suppliers located in the region.

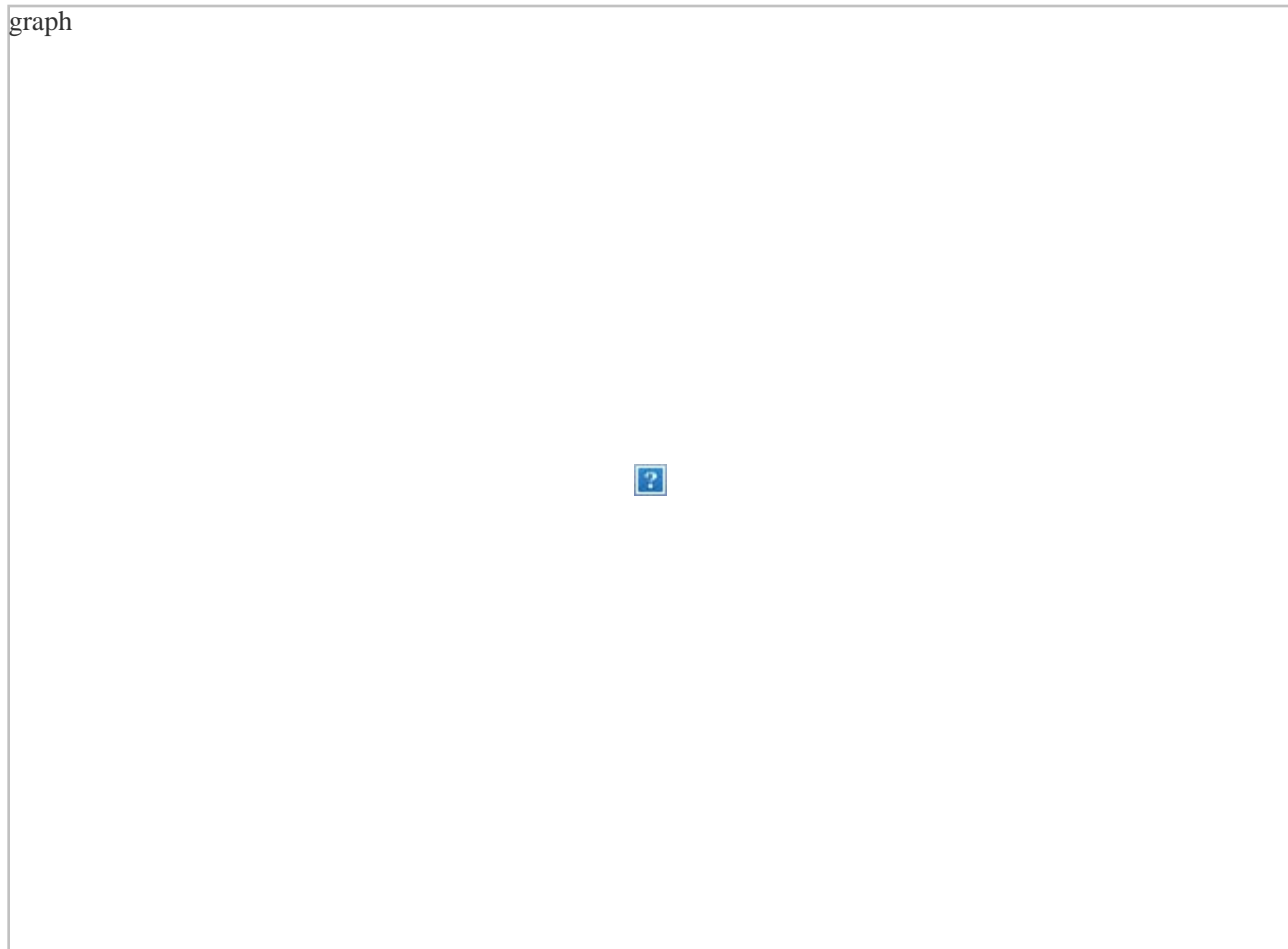
Figure 3: Change in Southern Indiana payroll jobs over time



Source: STATS Indiana, using Quarterly Census of Employment and Wages data

The most recent data available (first quarter 2016) show that retail, manufacturing, and transportation and warehousing were the highest-performing sectors in Southern Indiana in terms of job growth. Administrative, support and waste management and remediation services was the only sector with a noticeable decline for the first quarter of 2016 (see **Figure 4**).

Figure 4: Change in Southern Indiana payroll jobs for selected sectors



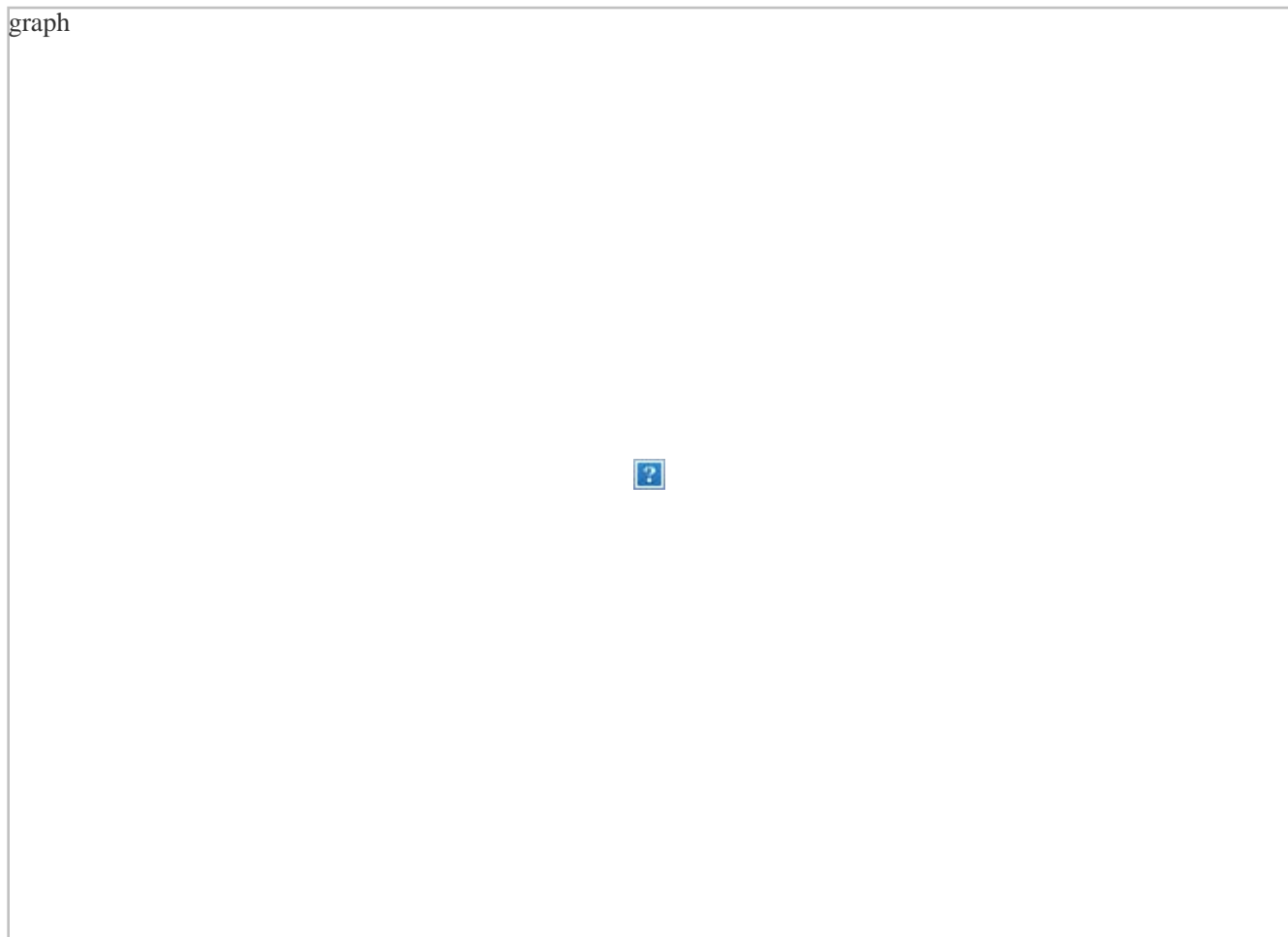
Note: This year-over-year change is from 2015 Q1 to 2016 Q1.
Source: STATS Indiana, using Quarterly Census of Employment and Wages data

Building permits

Clark County remains a leading producer of building permits in Southern Indiana (see **Figure 5**). Preliminary data for 2016 show that building permits for Floyd and Harrison counties are on pace to exceed total activity for 2015. As of August 2016, Floyd and Harrison counties are now at 168 and 102 permits, respectively.

In fact, total permits for Harrison County in 2016 have already exceeded total permits in 2015. As Clark County continues to show growth associated with River Ridge, surrounding counties should also benefit from additional building activity. Local quality of place and economic development initiatives in Harrison County will continue to increase its overall attractiveness, and this may be reflected in these impressive building permit data for 2016.

Figure 5: Total building permits for selected Southern Indiana counties



Source: State of the Cities Data Systems

Outlook

Last year's forecast expected strong gains across Southern Indiana. The data now show that Southern Indiana experienced record gains going back as far as 2001. The outlook expected continued gains for the entire metro area, but at a

somewhat moderate pace. The Louisville metro will produce another year of gains, but 2016 is now at a pace that is lower than the average of the prior three years. We do expect growth to pick up the last quarter of 2016, however.

For 2017, expectations are somewhat similar to 2016. We expect another year of solid gains for Southern Indiana. Manufacturing indicators are beginning to improve relative to the first half of the year; although, there are national indicators that show uncertainty with respect to the national manufacturing environment. However, despite this uncertainty, the Louisville metro will show gains for 2017. The nation will be moving past the slower growth of the first half of the year, and this is going to show up locally through additional acceleration in the manufacturing and transportation and warehousing sectors. There will likely be tightening in monetary policy, but consumer demand and continued gains in national payrolls will produce solid payroll gains for the metro area.

In conclusion, the outlook is favorable for both Southern Indiana and Louisville. Expect gains to exceed 2016 payroll growth for the Louisville metro at an above-average pace.

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Muncie Forecast 2017

Dagney Faulk, Ph.D.

Director of Research, Center for Business and Economic Research, Ball State University

Nathanial Law

Graduate Assistant, Center for Business and Economic Research, Ball State University

The Muncie-area economy showed several positive changes over the past year. The unemployment rate decreased over the course of the year, even as the labor force reached pre-recession levels. Nonfarm employment increased, as did the number of residential building permits. Residential sales were strong, and shortages of inventory in the \$125,000 to \$250,000 range are likely to spur new construction in the coming year. Corresponding to improvement in Muncie's employment situation, the number and amount of food stamps issued decreased substantially during 2016.

Media reports substantiate the improving economic situation. There is increased activity in the downtown Muncie area. With the opening of the new Marriot Courtyard downtown, convention business rose during 2016. Media reports show an increasing number of conventions linked to the new downtown hotel, with at least a dozen new conventions and events scheduled through the summer of

2017.¹

Other downtown news included funding in the form of a \$1 million loan from the city to jump-start construction on a maker hub (renamed GearBox and then Madjax Maker Force) on the east side of downtown in the former Cintas/Midwest Towel facility.² The maker hub is meant to be a space for art, cultural activities and professional services to be accessible in one space.

In the retail sector, the opening of a new supermarket, Fresh Thyme Farmers Market, was announced and is expected to create 80 jobs in the coming year.³ On the downside, two sports stores (MC Sports and Dunham's Sports) announced they are closing. Increased competition from Dick's Sporting Goods (which opened in 2014) was cited as one reason for the stores' closing.⁴ Also, the Marsh warehouse in Yorktown closing in September affected about 72 workers.⁵

In manufacturing, Brevini Wind, which opened in 2010 to much fanfare, ceased operation late summer—affecting about 20 employees. The Brevini USA subsidiary of the group's power transmission unit will continue operation in the same industrial park, employing more than 40 workers.⁶ Ardagh, an international glass and metal company, announced that it would move its headquarters from Muncie to Fishers, affecting about 200 office workers.⁷

This article includes the most current data available on various measures of economic activity from public sources for the Muncie MSA (Delaware County) to analyze changes over the past year. A summary of the labor market forecast for the Muncie area is included in the conclusion.

Labor markets

The unemployment rate fell over the year, decreasing from 5.9 percent in January

to 4.9 percent in September. This rate is slightly higher than one year ago (4.7 percent in September 2015), as people entered the labor force in greater numbers. Delaware County's unemployment rate remains higher than Indiana's rate of 4.2 percent (not seasonally adjusted) during September 2016.

The labor force in the Muncie MSA grew by 948 (1.7 percent) since September 2015, while the number of unemployed workers grew by 156 (6.1 percent) over the year (see **Table 1**). The labor force is on par with the pre-recession peak of approximately 55,750, while employment has surpassed the pre-recession peak of approximately 52,500 jobs.

Table 1: Labor force and unemployment in the Muncie metro

Year	Month	Labor force	Unemployment	Unemployment rate
2015	September	54,811	2,558	4.7
	October	55,379	2,712	4.9
	November	55,249	2,885	5.2
	December	55,064	2,920	5.3
2016	January	55,310	3,257	5.9
	February	55,693	3,464	6.2
	March	55,776	3,499	6.3
	April	56,073	3,149	5.6
	May	55,046	2,858	5.2
	June	55,781	3,194	5.7
	July	55,796	2,909	5.2
	August	55,155	3,064	5.6
	September	55,759	2,714	4.9

Note: Data are not seasonally adjusted.

Source: U.S. Bureau of Labor Statistics

We use the monthly average of employment for the first three quarters of the year to examine changes in industry employment in the Muncie MSA. Nonfarm employment increased in 2016, adding over 650 jobs (1.3 percent) compared to

the previous year (see **Table 2**). Nonfarm employment is still more than 1,000 jobs lower than pre-recession levels, but has increased over the past couple of years. Manufacturing jobs increased by over 200 jobs during 2016, and private service sector employment increased by more than 600. Government employment decreased, driven primarily by losses in the education sector, as did employment in trade, transportation and utilities.

Table 2: Year-to-date Muncie MSA employment

Industry	2012	2013	2014	2015	2016
Total nonfarm	50,400	50,233	49,456	50,533	50,533
Total private	37,400	37,467	37,011	37,556	37,556
Goods-producing	5,644	5,578	5,644	5,667	5,667
Manufacturing	4,133	4,178	4,178	4,211	4,313
Private service-providing	31,756	31,889	31,367	31,889	31,889
Trade, transportation and utilities	8,900	8,811	8,867	8,933	8,933
Information	311	300	300	300	300
Financial activities	2,511	2,489	2,422	2,411	2,411
Private educational and health services	9,200	8,767	8,356	8,311	8,311
Leisure and hospitality	4,911	4,978	4,956	5,100	5,100
Other services	1,744	1,811	1,900	1,956	1,956
Private service-producing—residual	4,138	4,713	4,538	4,878*	4,878*
Government (includes public schools and hospitals)	13,000	12,767	12,444	12,978	12,978

*Estimated using available data

Note: All data are January through September averages.

Source: U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development

Average weekly wages in Delaware County in the first quarter of 2016 decreased from \$725 to \$693 (-4.4 percent) after five years of continuous growth (see **Table 3**). However, 2016 is still the third-highest year for average weekly wages for the metro area since 2001, with 2014 and 2015 being the only higher years (\$705 and \$725, respectively). However, wages in the Muncie MSA continue to

be consistently lower than the state average, which only decreased -0.5 percent this past year (from \$857 to \$853).

Slightly less than half of the industry sectors (eight out of 18) experienced wage gains in 2016, ranging from 0.4 percent to 9.6 percent. Only the information sector (9.6 percent) surpassed 5 percent growth. Meanwhile, 10 sectors saw average weekly wages decline in 2016, ranging from -0.4 percent to -10.3 percent. Five of these sectors saw declines of 5 percent or more: management of companies and enterprises (-10.3 percent), finance and insurance (-8.5 percent), administration, support, waste management and remediation services (-7.7 percent), transportation and warehousing (-5.7 percent), and wholesale trade (-5.6 percent). The decrease in average weekly wages is likely due to businesses hiring workers with less experience as the job market has tightened.

Table 3: Average weekly wages in Muncie MSA

Industry	2012 Q1	2013 Q1	2014 Q1
Total	\$661	\$682	\$705
Management of companies and enterprises	\$1,888	\$1,807	\$2,072
Wholesale trade	\$910	\$886	\$966
Construction	\$730	\$709	\$711
Public administration	\$728	\$731	\$665
Real estate and rental and leasing	\$657	\$697	\$652
Other services (except public administration)	\$426	\$431	\$439
Arts, entertainment and recreation	\$244	\$263	\$260
Accommodation and food services	\$236	\$231	\$232
Health care and social services	\$700	\$762	\$776
Manufacturing	\$883	\$888	\$887
Transportation and warehousing	\$788	\$803	\$807
Administrative, support, waste management and remediation	\$438	\$440	\$455
Retail trade	\$424	\$436	\$446
Finance and insurance	\$835	\$892	\$960

Professional, scientific and technical services	\$766	\$812	\$840
Educational services	\$811	\$798	\$852
Utilities	\$1,396	\$1,538	\$1,800
Information	\$715	\$755	\$768

Source: U.S. Bureau of Labor Statistics and Indiana Department of Workforce Development

Housing

Building permit activity remains well below pre-recession levels, but increased substantially during 2016. There were 16 new residential building permits issued during 2016—the highest since 2011, which had 33 new permits (see **Table 4**). Single-family construction made up the majority of those new permits. We expect building activity in the single-family submarket to increase over the next year.

Table 4: City of Muncie year-to-date residential building permits

Year	Total	Single-Family	Multifamily
2006	22	19	3
2007	35	28	7
2008	25	23	2
2009	6	6	0
2010	6	5	1
2011	33	29	4
2012	0	0	0
2013	10	10	0
2014	14	13	1
2015	3	3	0
2016	16	15	1

Note: Each year is based on January through August totals for building permits issued within Muncie city limits. Data were unavailable for permits issued in Yorktown or unincorporated areas of Delaware County.

Source: U.S. Census Bureau

Consistent with national trends, residential sales increased and the average days

on the market decreased (see **Table 5**). Average and median sale prices decreased slightly during 2016, likely due to low listing inventory in the \$125,000 to \$250,000 price range driving sales to lower price categories.⁸

Table 5: Year-to-date residential real estate sales in Delaware County

	2012	2013	2014	2015	2016
Units sold	713	826	717	882	910
Average days on market	134	144	103	84	75*
Average sale price	\$92,213	\$85,592	\$94,839	\$106,225	\$103,090*
Median sale price	\$79,900	\$72,905	\$80,000	\$88,000	\$87,900*

*These 2016 statistics are calculated for January through June 2016. All other statistics are calculated for January through September.
Source: Kathy Smith with the Mid-Eastern Indiana Association of Realtors (MEIAR)

Social safety net

Amidst increases in employment in the metro area, the dollar amount of food stamps issued decreased for the third year in a row after five consecutive years of increase (see **Table 6**). Households in Delaware County received approximately \$1.97 million per month in food stamps in 2016 (based on a January through August average). This is a 17.2 percent decrease since 2015 and the smallest amount issued since 2009. The number of food stamp recipients decreased to 16,204 (-13.3 percent), which is the lowest since 2009. Meanwhile, the number of households receiving food stamps decreased to 7,828 (-15.7 percent), which is the lowest since 2010. The dark spot is that average wages are not increasing in most industry sectors.

Table 6: Food stamp recipients in Delaware County

Delaware County	Total food stamps issued (<i>monthly average</i>)	Number of food st
2009	\$1,885,016	
2010	\$2,260,433	
2011	\$2,504,694	

2012	\$2,653,532
2013	\$2,740,242
2014	\$2,463,746
2015	\$2,382,671
2016	\$1,973,066

Note: Each year is based on January through August monthly averages. Dollar amounts are not adjusted for inflation.
Source: STATS Indiana, using Family and Social Services Administration data

Outlook

In the coming year, we expect a small gain in employment (0.7 percent growth) and income growth (3.7 percent increase).⁹ We also expect the unemployment rate to remain in the 5 percent range as people continue to enter the labor force looking for jobs.

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7. K. Roysdon, "Ardagh to Move HQ, 200 Jobs Out of Muncie," *The Star Press*, June 2, 2016.
8. Kathy Smith, "Quarterly Real Estate Market Update, Third Quarter 2016."
9. Forecast comes from the [Indiana University Center for Econometric Model Research](#), as of September 2016.

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Richmond forecast 2017

Litao Zhong, Ph.D.

Director of the Business and Economic Research Center and Assistant Professor of Economics and Finance, School of Business and Economics, Indiana University East

Economic activity continued to expand in the Richmond region¹ throughout 2016. Strong expansion was seen in the size of the Wayne County labor force, and local unemployment rates remained low. Most businesses kept adding jobs, wage growth inched up in several industries, and housing prices and turnover held the line. The 2017 outlook is optimistic based on the most recent survey of the business community, though uncertainties in domestic and global markets could hamper our region's growth.

Measures of economic activity

The local labor force displayed fairly strong expansion in both Wayne County and the Richmond region (see **Figure 1** and **Figure 2**). The labor force includes employed workers and workers who are unemployed but are actively looking for work. Compared to August 2015, the size of the labor force increased by 2.5 percent in Wayne County and 3.1 percent in the region in August 2016.

Figure 1: Wayne County's labor force and unemployment rate



Note: Data are not seasonally adjusted.

Source: Local Area Unemployment Statistics (LAUS) from the U.S. Bureau of Labor Statistics

Figure 2: Regional labor force and unemployment rate



Note: Data are not seasonally adjusted.

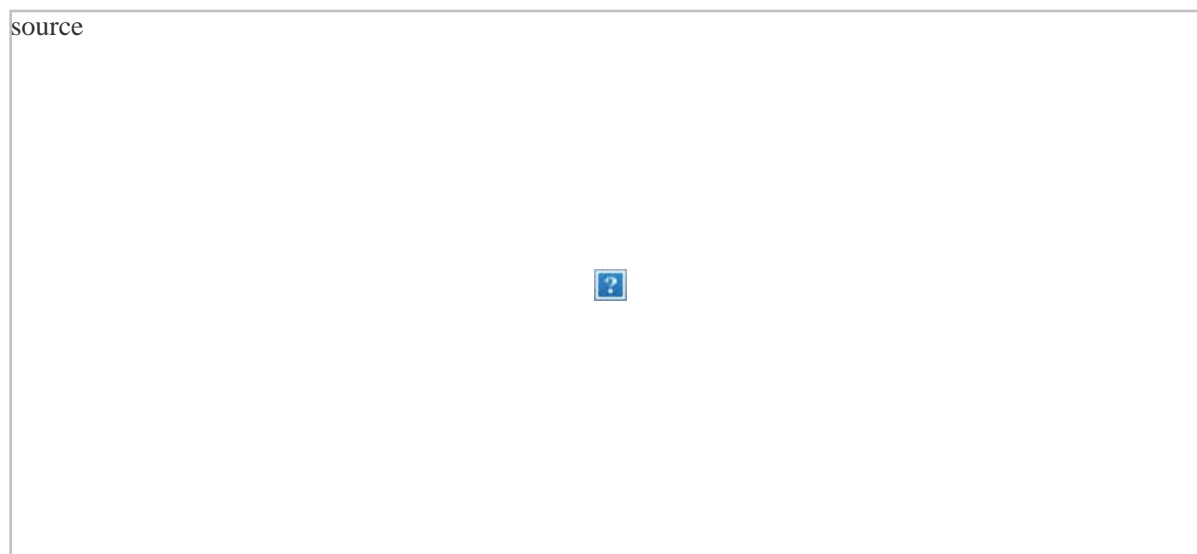
Source: Local Area Unemployment Statistics (LAUS) from the U.S. Bureau of Labor Statistics

On average, there were 369 more people in Wayne County and 1,609 more people in the region willing to work in the first eight months of 2016 compared to the prior year. While people either newly joined or returned to the labor market, the unemployment rate remained low at around 5 percent throughout most of the year, except in February and March. In August, the unemployment rate was 5.1 percent in Wayne County and 4.9 percent in the region.

Unemployment rates in Wayne County and the region have been significantly and persistently higher than the Indiana and national unemployment rates since the Great Recession. After a long and shallow recovery, as seen in **Figure 3**, the unemployment rate gap between our region and the overall state and national

unemployment rates has finally closed. These employment trends have been typical for Indiana's rural counties. The overall Indiana unemployment rate more closely tracks U.S. unemployment due to Indianapolis's more diversified economy, its superior performance and more rapid recovery from the recession.

Figure 3: Unemployment rate comparison, January 2000 to August 2016



Note: Data are not seasonally adjusted.

Source: Local Area Unemployment Statistics (LAUS) from the U.S. Bureau of Labor Statistics

Table 1 shows changes in employment by industry. As of 2016's first quarter, 29,738 people were employed in nonfarm sectors in Wayne County and 57,577 in the region, which resulted in a net change of 158 jobs and 657 jobs, respectively, compared with one year earlier.

Table 1: Employment by industry

	Wayne County		Region	
	2016 Q1	One-year change	2016 Q1	One-ye
Total Nonfarm	29,738	158	57,577	
Total private	25,354	257	47,347	
Goods-producing	6,410	45	13,514	
Manufacturing	5,556	44	11,272	
Private service-providing	18,944	212	33,833	
Trade, transportation and utilities	5,441	-9	10,173	

Information	212	-12	449
Financial activities	1,046	-7	1,858
Professional and business services	2,476	62	4,409
Private educational and health services	5,955	63	9,982
Leisure and hospitality	3,151	59	5,596
Other services	664	56	1,365
Government	4,384	-98	10,230

Note: Union County's information industry data are not disclosed.

Source: Quarterly Census of Employment and Wages from the U.S. Bureau of Labor Statistics

For Wayne County, the major job gains appeared in private educational and health services (+63 jobs), professional and business services (+62 jobs), leisure and hospitality (+59 jobs), other services (+56 jobs), and manufacturing (+44 jobs). The major job losses were concentrated in government (-94 jobs), along with smaller losses in information (-12 jobs), trade, transportation and utilities (-9 jobs), financial activities (-7 jobs).

At the regional level, leisure and hospitality (+225 jobs), professional and business services (+211 jobs), manufacturing (+184 jobs), trade, transportation and utilities (+128 jobs), and other services (+86 jobs) contributed the most new jobs in the region. Unfortunately, the region also lost some jobs in private educational and health services (-159 jobs), financial activities (-88 jobs), and information (-41 jobs).

Changes in average weekly wages were mixed over the last year. In the first quarter of 2016, average weekly wages for total nonfarm employment grew by 1.2 percent to \$675 in Wayne County, but diminished slightly by 0.4 percent in the region for the same period (see **Table 2**). Both local wage averages outperformed state average wage data, which decreased by 0.5 percent.

Table 2: Average weekly wages

	Wayne County		Region	
	2016 Q1	One-year change	2016 Q1	One-year change
Total nonfarm	\$675	1.2%	\$632	
Total private	\$676	1.2%	\$628	
Goods-producing	\$844	-4.3%	\$823	
Manufacturing	\$869	-1.5%	\$853	
Private service-providing	\$619	2.3%	\$534	
Trade, transportation and utilities	\$575	1.2%	\$570	
Information	\$698	0.1%	\$580	
Financial activities	\$866	-1.1%	\$729	
Professional and business services	\$693	1.2%	\$594	
Private educational and health services	\$787	4.2%	\$581	
Leisure and hospitality	\$274	6.2%	\$248	
Other services	\$431	1.2%	\$473	
Government	\$813	-4.2%	\$747	

Note: Union County's information industry data are not disclosed. The regional data are calculated by averaging the average weekly wage data for the five counties in the region.

Source: Quarterly Census of Employment and Wages from the U.S. Bureau of Labor Statistics

There were a few sectors that still enjoyed sizeable wage increases in Wayne County. For instance, wages in the leisure and hospitality sector increased 6.2 percent on average, which may be attributed to the minimum wage hike during the year, followed by private educational and health services at 4.2 percent. In contrast, however, government (-4.2 percent), manufacturing (-1.5 percent) and financial activities (-1.1 percent) saw average wages fall slightly.

Regional average wages increased most in the trade, transportation and utilities sector (3.9 percent). The most significant wage losses in the region were in the manufacturing sector at -4.8 percent, followed by information at -2.5 percent.

Housing markets continue to recover in Indiana, with more sales and higher median sales prices (see **Table 3**). But the situation in our region is uneven.

Wayne County had only two more houses sold in the same period of this year compared with last year. However, the median sales price was up by a robust 9.6 percent. In the region overall, 966 houses were sold, an increase of only 1 percent, and the median price inched up by 0.7 percent. Notably within the region, Fayette and Union counties actually experienced a further drop in sales, though only Randolph County experienced a lower median sales price.

Table 3: Year-to-date housing market update

	Closed sales			Median price		
	2015	2016	Change	2015	2016	Change
Statewide	54,227	58,332	7.6%	\$134,000	\$139,200	3.9%
Fayette	109	84	-22.9%	\$58,500	\$75,200	28.5%
Henry	230	249	8.3%	\$69,900	\$73,000	4.4%
Randolph	105	125	19.0%	\$66,000	\$63,450	-3.9%
Union	11	5	-54.5%	\$52,250	\$60,000	14.8%
Wayne	501	503	0.4%	\$82,000	\$89,900	9.6%
Region	956	966	1.0%	\$79,450	\$80,000	0.7%

Note: Year-to-date data reflect January through August data.

Source: Indiana Real Estate Market Report by the Indiana Association of Realtors, except Wayne County's data and the region's median price data, which were provided by Better Homes and Gardens/First Realty Group

Outlook

Overall, Wayne County and the Richmond region continue recovery and economic expansion. This growth momentum is reflected in data we've reviewed, but also in the results of the recent 2016 East-Central Indiana Business Survey. This survey was conducted by the IU East Business and Economic Research Center in September 2016 in Fayette, Henry and Wayne counties. Business owners and managers were asked to provide an opinion of various aspects of business performance and the financial environment for 2016, along with their expectations for 2017.

A majority (57 percent) of participants reported their production/business activity increased from the prior year; about one-third (32 percent) hired more employees, and about half of businesses continued to employ the same number of workers as last year. More than one-third (36 percent) increased investment spending in 2016, and 55 percent maintained investment spending at about the same level as in 2015. In terms of enterprise profitability, 41 percent of participants indicated an increase, 42 reported profits about the same, and only 18 percent realized lower profits. However, more than two-thirds (69 percent) experienced higher costs of doing business (see **Table 4**).

Table 4: Compared to the same period last year, how has each of the following changed for your business/company?

Answer options	Has increased significantly	Has increased slightly	Has
Production/business activity	17.1%	40.0%	
Number of employees	9.4%	22.6%	
Capital investment	12.6%	23.3%	
Cost of doing business	12.5%	56.7%	
Profitability	5.7%	34.9%	

Source: The 2016 East-Central Indiana Business Survey, conducted by IU East Business and Economic Research Center, September 2016

When asked about their expectations for 2017's business operations (see **Table 5**), a clear majority (66 percent) of business owners or managers expect to see growth in production/business activity. Most (66 percent) expressed a preference for avoiding changing their firm's employment level, but still 28 percent of businesses report they expect to create new positions. Year-over-year increases in capital investment are planned by 39 percent of responding enterprises, and more than half (54 percent) expect to hold investment spending steady at approximately last year's level. Positively, more than half (54 percent) of businesses anticipate higher profits over the coming year, with a further 40

percent expecting profits to hold steady, and only 7 percent of respondents foresee decreased profits. Again, most participants (63 percent) expressed concern about the cost of doing business increasing in the region next year.

Table 5: How do you anticipate each of the following will change next year for your business/company as compared with this year?

Answer options	Will increase significantly	Will increase slightly	Will re
Production/business activity	15.2%	50.5%	
Number of employees	2.8%	25.5%	
Capital investment	10.6%	28.9%	
Cost of doing business	12.3%	50.9%	
Profitability	8.5%	45.3%	

Source: The 2016 East-Central Indiana Business Survey, conducted by IU East Business and Economic Research Center, September 2016

Finally, when asked their opinion of 2017's business and economic conditions in the region, nearly half of participants (49.1 percent) expressed optimism, and 38.7 percent felt conditions would remain about the same (see **Table 6**). Only about 12 percent of them projected declining business conditions for next year.

Table 6: How do you project the overall business and economic conditions in 2017 in your area?

Answer options	Response percent	Response count
Strongly optimistic	8.5%	9
Moderately optimistic	40.6%	43
About the same	38.7%	41
Moderately pessimistic	10.4%	11
Strongly pessimistic	1.9%	2
Total		106

Source: The 2016 East-Central Indiana Business Survey, conducted by IU East Business and Economic Research Center, September 2016

In summary, Wayne County and the Richmond region are likely to continue their

recovery next year. However, this growth path could easily be diverted by the political and economic uncertainties in domestic and global markets. Concerns about such uncertainty dominated the recent Group of 20 Leading Economies (G20) summit of finance ministers and central bankers. “The uncertainties and risks facing the world economy have increased as some major economies have entered the general-election season,” said China’s finance minister, Lou Jiwei, this year’s chairman of the G20.²

The U.S. economy has grown 2.1 percent annually since 2009—the slowest growth of any expansion since World War II. Many economists were once optimistic that growth would accelerate following the 2007-2009 recession, but now most forecast that the economy will continue to grow at a slow pace in coming years.³ In the *Wall Street Journal’s* monthly survey from October 7 to 11, the most recent at the time of this writing, 59 academic, business and financial economists put the likelihood of the next recession occurring in the next four years at nearly 60 percent.⁴

Considering all global, domestic and local factors, we anticipate business activity will continue expanding moderately in Wayne County and the Richmond region over the coming year. Local unemployment will remain in the 5 to 6 percent range, and most industrial and trade sectors will have relatively small increases in labor demand. Wage increases will generally be small to moderate in general, but selected sectors may offer stronger wage growth. The local housing market is expected to hold steady in terms of both price and sales volume, though these outcomes can still be impacted by local labor market trends and potential increases in interest rates by the Federal Reserve next year.

Notes

1. The Richmond region includes five east-central Indiana counties: Fayette, Henry, Randolph, Union and Wayne.

2. Ian Talley, "Political Uncertainty Weighs on Growth," *Wall Street Journal*, October 10, 2016, A2.
3. Josh Zumbrun, "History Suggests Odds on Recession," *Wall Street Journal*, October 14, 2016, A2.
4. Ibid.

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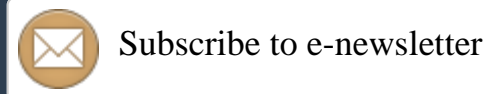
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South Bend and Elkhart forecast 2017

Hong Zhuang, Ph.D.

Director of the Bureau of Business and Economic Research and Associate Professor of Economics, Judd Leighton
School of Business and Economics, Indiana University South Bend

The South Bend-Mishawaka Metropolitan Statistical Area (MSA) and Elkhart-Goshen MSA in 2016 saw mild economic growth, good expansions in the labor force, moderate gains in employment, slightly higher unemployment rates, modest growth in wages and continuous recovery in the housing market.

Real metropolitan GDP

The joint economy of the South Bend-Mishawaka and Elkhart-Goshen MSAs continued to grow in 2015.¹ The total real metropolitan gross domestic product (RGDP) was \$563 million higher in 2015 than in 2014, a rise of 2.3 percent.² The combined region has now surpassed its pre-recession real GDP level from 2007 by \$768 million.

Specifically, the Elkhart-Goshen MSA outperformed the South-Bend-Mishawaka MSA by gaining \$454 million in its real GDP, a 3.7 percent output growth rate. The South Bend-Mishawaka MSA grew only 0.9 percent in its aggregate

production, adding an additional \$109 million. It is worth noticing that aggregate production in the South Bend-Mishawaka MSA still fell \$337 million short of its pre-recession 2007 level. Furthermore, both areas experienced slower economic growth in 2015 with an average rate of 2.3 percent, whereas the growth rate was 3.7 percent in 2014.

Labor force and employment

The labor market in the combined region saw sizable growth from August 2015 to August 2016, adding 6,281 workers to the local labor force (see **Figure 1**).³ In August 2016, the combined labor force was 264,724 workers, on par with the June 2007 pre-recession level of 264,700 workers. The increase in the labor force indicates that more people started actively searching for jobs.

Payroll employment in the two MSAs continued gaining ground: Total employment for the combined region went up from 247,580 workers in August 2015 to 252,825 workers by August 2016. In particular, added employment in the South Bend-Mishawaka MSA was the major driving force, gaining 4,659 workers; the Elkhart-Goshen MSA only added 586 new jobs. The growth rate of employment in the South Bend-Mishawaka MSA at 3.2 percent was beyond the national average growth rate of employment at 1.7 percent, yet lagged behind the state average of 3.6 percent. The Elkhart-Goshen MSA's employment growth rate of 0.6 percent lagged both the national and state averages in 2016.

Figure 1: Labor force and employment in the Elkhart-Goshen and South Bend-Mishawaka MSAs combined, January 1990 to August 2016

graph



Note: Data are not seasonally adjusted.

Source: STATS Indiana, using U.S. Bureau of Labor Statistics data

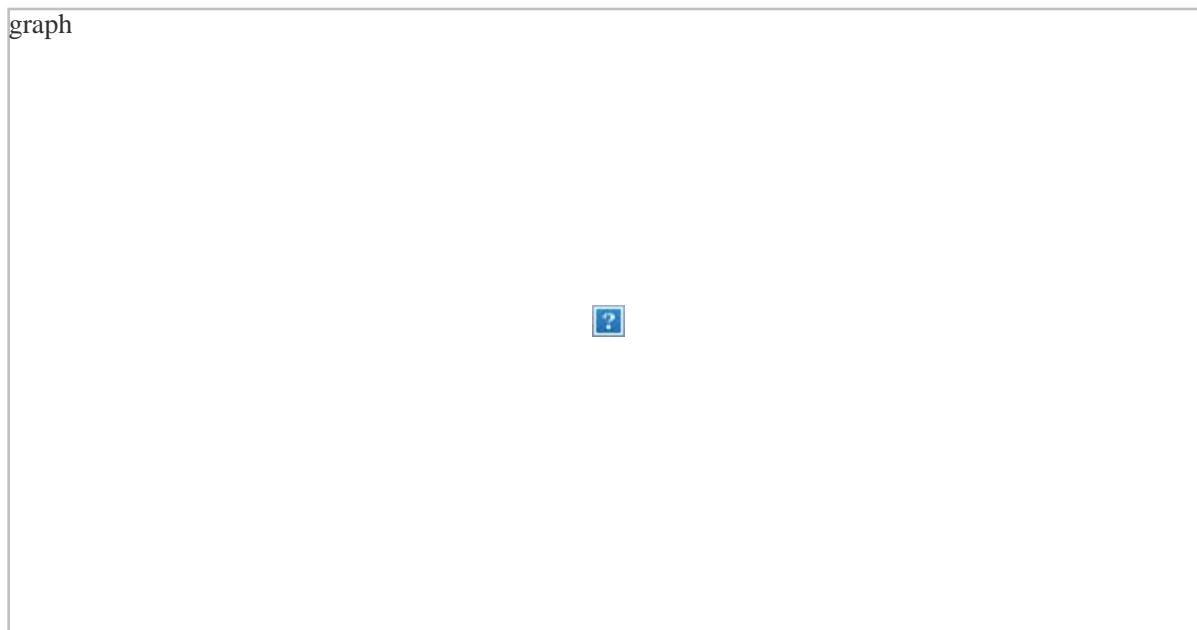
Unemployment

With increased employment and a growing labor force, the unemployment rates in both MSAs fluctuated during the year. The jobless rate in the Elkhart-Goshen MSA was 4.0 percent in August 2016, up 0.4 percentage points from 3.6 percent in August 2015. The South Bend-Mishawaka MSA's unemployment rate tipped up 0.2 percentage points from 4.6 percent in August 2015 to 4.8 percent in August 2016.

Figure 2 illustrates the unemployment rates in the Elkhart-Goshen and South Bend-Mishawaka MSAs since January 1990. For both areas, the unemployment rates were down to pre-recession levels by the end of the period. By looking at the year-over-year unemployment rate, the Elkhart-Goshen MSA still outperformed the U.S. and Indiana averages between 2015 and 2016. The national average unemployment rate declined from 5.2 percent in August 2015 to 5 percent in August 2016, while the state average unemployment rate rose from 4.5 percent to 4.6 percent during the same time period. The South Bend-

Mishawaka area was a bit above the state average unemployment rate but below the national average.

Figure 2: Unemployment rate in the Elkhart-Goshen and South Bend-Mishawaka MSAs, January 1990 to August 2016



Note: Data are not seasonally adjusted.
 Source: STATS Indiana, using U.S. Bureau of Labor Statistics data

Employment by industry

Table 1 shows employment data by industry and by metro area in August 2016 and the year-over-year changes from August 2015. According to the Current Employment Statistics (CES) data, 265,600 people were employed in the nonfarm sectors in both areas as of August 2016. However, the year-over-year comparison on employment data indicates a much slower pace in job creation for the combined economy in 2016 relative to 2015. For example, the nonfarm sectors in both metro areas only added 300 new jobs in total from August 2015 to August 2016, whereas the job gains were 6,500 from August 2014 to August 2015.

Table 1: Employment by industry and metro area, August 2016

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Industry	Elkhart-Goshen	
	Employment	Change since August 2015
Total nonfarm	126,300	-2,300
Natural resources, mining and construction	3,500	100
Manufacturing	57,000	-3,900
Trade, transportation and utilities	19,300	200
Information	500	-100
Financial activities	2,700	0
Professional and business services	10,700	400
Private educational and health services	12,300	600
Leisure and hospitality	8,200	400
Other services	3,900	100
Government (includes public schools and hospitals)	8,200	-200

Source: STATS Indiana, using Current Employment Statistics data

Industries in the combined MSAs experiencing job growth between 2015 and 2016 include natural resources, mining and construction; trade, transportation and utilities; financial activities; professional and business services; private educational and health services; leisure and hospitality; and other services. Meanwhile, manufacturing employment saw the largest reduction, down 3,900 jobs from August 2015. The government sector followed by losing 200 jobs, and the information sector cut 100 jobs between 2015 and 2016.

The regional breakdown reveals imbalanced nonfarm sector employment in the two MSAs. On one hand, the year-over-year statistics indicate the first employment decline (-2,300) in the nonfarm sector of the Elkhart-Goshen area in seven years. The job loss in manufacturing was the major cause, declining by 3,900 jobs between August 2015 and August 2016. In addition, government saw a loss of 200 jobs. Sectors that experienced job growth in the Elkhart-Goshen MSA included natural resources, mining and construction (+100 jobs); trade,

transportation and utilities (+200 jobs); professional and business services (+400 jobs); private educational and health services (+600 jobs); leisure and hospitality (+400 jobs); and other services (+100 jobs).

On the other hand, total nonfarm employment continued to grow in the South Bend-Mishawaka MSA, adding 2,600 jobs between August 2015 and August 2016. The major driving force of job growth in the South Bend-Mishawaka MSA was observed in the service-producing industries. For example, private education and health services once again contributed the most to the local labor market by adding 2,900 jobs; trade, transportation and utilities created 1,000 jobs; leisure and hospitality came in third place, adding 300 jobs. Other sectors experiencing job growth between 2015 and 2016 included natural resources, mining and construction (+100 jobs); financial activities (+100 jobs); and professional and business services (+200 jobs). However, the job losses in manufacturing (-1,200 jobs), information (-100 jobs), and government (-700 jobs) offset part of the strong job growth in South Bend-Mishawaka.

Local wages and hours worked

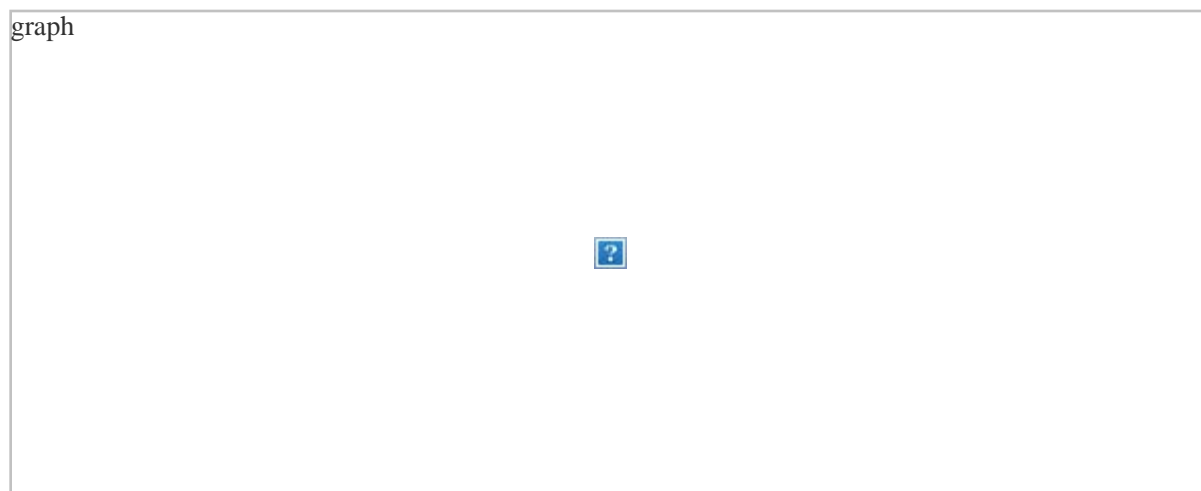
Average weekly wages increased in both areas over the past 12 months. The average weekly wage in the Elkhart-Goshen MSA was \$797 in August 2016—8.3 percent higher than in August 2015; meanwhile, the South Bend-Mishawaka MSA's average weekly wage was \$787 in August 2016—up 0.7 percent from August 2015. From August 2015 to August 2016, average weekly hours scaled up 3.1 percent to 37.1 hours in the Elkhart-Goshen MSA, whereas the average weekly hours declined slightly by 0.9 percent to 34.7 hours in the South Bend-Mishawaka area.

Housing

Residential construction, measured by the number of single-family building permits issued in St. Joseph County, continued to remain strong in 2016 (current data for Cass and Elkhart counties are not available). In total, 117 permits were issued from January 2016 to August 2016, up 6.4 percent from the same time period in 2015 (see **Figure 3**). However, St. Joseph County's housing market still has a lot of recovering to do in order to reach its pre-recession level (e.g., 368 permits were issued in the first eight months of 2005).

Recent housing market data released by the Indiana Association of Realtors indicated positive signs in the local housing market.⁴ The year-over-year inventory of homes for sale fell 26.1 percent, while closed sales increased 2 percent in August 2016. The median sales price went up 1.2 percent in August 2016 compared to one year ago. Overall, the above statistics suggest a tighter housing market in St. Joseph County with greater demand and an insufficient supply of houses driving up the housing prices.

Figure 3: Single-family residential building permits in St. Joseph County, January 2005 to August 2016



Source: St. Joseph County Building Department

Forecast

With a general prediction of modest growth in the U.S. economy in the upcoming

year, stronger consumer and business spending will help boost the local Elkhart-Goshen and South Bend-Mishawaka economies. Real metropolitan GDP is forecasted to grow at tepid rates in 2017 in both areas, and the South Bend-Mishawaka MSA might take the lead in economic growth.

More residents are expected to join the labor force actively looking for jobs; meanwhile, employment will continue to grow in both metropolitan areas. Unemployment rates will most likely remain stable at around 4 percent for the Elkhart-Goshen MSA and 4.6 to 4.8 percent for the South Bend-Mishawaka MSA (with seasonal fluctuations throughout the year). Because current unemployment rates are very close to the natural unemployment rates, additional workers joining the labor force will create barriers for the unemployment rate to further decline.⁵

The employment decline in the manufacturing sector of Elkhart-Goshen in 2016 could be temporary, and this sector is likely to hire more workers in the next year. The most job growth in South Bend-Mishawaka is predicted to occur in private educational and health services.

Income growth for 2017 is forecasted in both MSAs, but at milder rates. As the employment level is close to full employment, wages are expected to grow in the next year.

Gains in employment, income and wages will provide the foundation for continued recovery in the housing market. Thus, the demand for single-family houses is expected to continue to grow. Accompanied by the lower inventory of homes for sale and lagging new housing construction, the median sales price will rise. The interest rate is predicted to remain at a lower level in the upcoming year, which will help keep mortgage costs down and aid further recovery in the

housing market.

Notes

1. The data on metropolitan gross domestic product are from the U.S. Bureau of Economic Analysis. The latest data available at the time of this writing were for 2015.
2. In 2015, real metropolitan GDP in Elkhart-Goshen and South Bend-Mishawaka combined was \$25.215 billion.
3. Access these labor force and employment data on STATS Indiana at www.stats.indiana.edu/laus/laus_view3.html.
4. Indiana Association of Realtors, "Indiana Housing Market Update," August 2016 (accessed via STATS Indiana).
5. The average unemployment rate was 3.9 percent in Elkhart-Goshen in the first eight months of 2016, which is below the lowest unemployment rate, 4.3 percent, observed in 2004 during the last expansion in 2001-2007. The average unemployment rate in South Bend-Mishawaka was 4.8 percent in the period over January-August 2016, while the lowest unemployment rate observed was 4.6 percent in 2001 during the last expansion.

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Terre Haute forecast 2017

Kevin Christ, Ph.D.

Associate Professor of Economics, Rose-Hulman Institute of Technology

Robert Guell, Ph.D.

Professor of Economics, Indiana State University

The Terre Haute regional labor force grew by about 2,400 (a 3.2 percent increase) between August 2015 and August 2016. Since the area's population has been in decline since 2010, we suspect this growth in the labor force mostly represents people who have finally decided to re-enter the job market, a shift that mirrors national and state trends. As employment experienced similar growth, the seasonally adjusted unemployment rate fell slightly over this period from 5.9 percent to 5.6 percent (see **Figure 1**).

Figure 1: Seasonally adjusted unemployment rates, January 2005 to August 2016

graph



Source: Authors' calculations, using U.S. Bureau of Labor Statistics data

The Terre Haute region is not alone in experiencing population loss. Among 17 small metropolitan areas in Ohio, Indiana and Illinois,¹ only six experienced population growth between 2010 and 2015, and most of those were home to either a tier 1 research university or a state government. Among the remaining group—those that are not home to a state government or a tier 1 research university, Terre Haute's labor force still lags that of comparable metropolitan areas (see **Figure 2**).

Figure 2: Size of labor force since 2010

graph



Note: Data are not seasonally adjusted.

Source: Authors' calculations, using U.S. Bureau of Labor Statistics local area data

Large research universities are great engines of economic growth. Lacking that, Terre Haute must look to other potential sources of growth. We think a natural starting point is to examine those sectors that traditionally have driven economic and job growth in the region, which are (in no particular order) retail, health care, higher education, prisons and manufacturing. In each case, we feel the prospects for significant contributions toward helping the region out of its present stagnation are fairly limited.

Retail

While the new Meijer store on the east side of town is a bright spot for the retail sector and the Highway 46 corridor, it may be merely cannibalizing retail grocery sales from other east-side outlets rather than drawing in significant new business. The economic literature on the impact of new Wal-Marts is instructive. As is the case with this Meijer, local substitution effects tend to dominate when new retail outlets are constructed, but there are significantly positive effects as well. Since Wal-Mart came to the IN-46/I-70 interchange in 2005, one strip mall and several

retail shops (located in the out lots between Wal-Mart and IN-46) have been constructed. Meijer's opening across IN-46 has added momentum to this effect.

New eateries around town, especially on the south-side Highway 41 corridor are also bright spots, but may represent little more than a shuffling of previous restaurant spending. In any event, employment in the local retail and restaurant sectors has fallen by about 4 percent since 2005, and has barely changed since 2011. In addition, prime new retail space in the downtown area continues to be vacant.

The single largest concern for regional retail centers like Terre Haute (which heavily rely on local sales) is that web retailers are not finished gobbling up market share.

Health care

In the health care sector, the enormous capital expenditures by Union Hospital (and its merged physician's group, UAP) on the north side of town are now in the past. Moreover, there seem to be few prospects for significant new spending in this sector. The regional population, though aging, is also declining. Furthermore, while statewide employment in the sector has increased by about 25 percent, in the Terre Haute region it has increased by only 3 percent (about 200 new jobs) since 2005.

Higher education

In higher education, enrollment at Indiana State University (ISU) dipped slightly this past fall after rising by more than 30 percent in the previous eight years. While ISU's strategic plan calls for further growth in the student population, those plans come bundled with institutional commitments to do more with less.

The demographic headwinds are substantial. The areas from which Indiana State University draws its students (Vigo and surrounding counties, as well as the Gary and Indianapolis public schools) are projecting declines in high school graduates. Furthermore, the modification of a scholarship program offered by a foreign government that at one time had placed nearly 800 students at ISU, will likely reduce full-out-of-state-tuition-paying students by 700 or more. So although the university's strategic plan calls for an increase of 2,500 students, the university's leadership is looking at short- and intermediate-term reductions in—and re-compositions of—its faculty.

To the east, Rose-Hulman has neither seen nor projects enrollment growth, so the prospects for significant economic impact from the east-side campus are also small.

Prisons

With regard to the federal prison complex on the south side of town, the federal prison population declined by a little over 2 percent in 2014. This marked a reversal of a long upward trend, and if new thinking regarding the social wisdom of long-term incarceration of drug-related criminals takes hold, there is likely to be an acceleration of this trend. The Obama administration's instructions to federal prosecutors, if followed, will reduce the federal prison population by an additional 4 percent. Therefore, the likelihood of significant new employment opportunities at the prison seems limited.

Manufacturing

In the manufacturing sector, unfortunately, the biggest news in 2016 was the belated recognition that Nantworks would not be bringing life (and jobs) back to the abandoned Pfizer facility on the south side of town. In addition, Kellogg

recently announced plans to close its east-side snack-foods facility in 2017. Overall, employment in the local manufacturing sector has decreased by about 9 percent since 2005, mirroring national trends as higher productivity in manufacturing and international competition reduce overall employment levels in manufacturing.

Overall outlook

Summing up the foregoing observations about static conditions in those areas that have traditionally been the area's engines for economic growth, it is difficult to see where significant new jobs and business activity will arise in the near term.

In past outlooks, we have suggested that area leadership needs to think more broadly in terms of economic growth in order to lure a game-changing relocation or expansion to the area that might further diversify the local economic base. We understand that such new entries into an area economy are once-in-a-generation events, but it seems that Terre Haute has been waiting for such news for more than a generation now. Meanwhile, brain drain is sapping economic vitality from the area.

Against this backdrop, ongoing public disagreements over fiscal mismanagement in city government and questions about the quality of primary education in the area continue to introduce negative factors for any company that might consider relocation to the area. We believe that companies looking at areas for relocation prefer governments that work efficiently and schools that provide well-educated and highly motivated citizens. At the present time, it would seem that Terre Haute needs improvement on both fronts. Lacking these things, the outlook continues to be one of stagnation and slow decline.

Notes

1. Defined here as a metropolitan area with a 2010 population between 100,000 and 250,000.

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