To provide context for our annual economic forecast, we review changes in U.S. employment and output, with considerations for the manufacturing and housing industries.

We then provide the 2020 forecast and predict economic performance at the state and local levels.

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Ball State University
December 11, 2019
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Overview of the U.S. Economy

As 2019 draws to a close, the United States economy is experiencing slower growth in employment and output. This recovery is now in its 126th month, and unemployment rates are at or near record lows. Thus, the exhaustion of slack production capacity in capital and labor might be sufficient to moderate growth. However, at no time during the recovery did we observe sustained growth (two consecutive quarters) even within a half a percentage point of the 1947-2007 average. There are many plausible reasons for this, among them are a much lower than average capacity utilization and an unemployment rate that is moderated by a lower labor force participation rate. Both factors may contribute to a more sluggish, though very lengthy, recovery.

As of September 2019, at a peak of the current expansion, capacity utilization in the U.S. was 77.5 percent, beneath the 50-year average of 80.2 percent. The current level of capacity utilization remains well below the 2007, 2000, and 1990 levels, which marked the peak of previous business cycles. They were 81.1, 80.0, and 82.9 percent respectively.

In the same month, the labor force participation rate was 63.2 percent—a full point beneath the 50-year average and well beneath the rates in 2007 (66.0 percent), 2000 (67.0 percent) and 1990 (66.4 percent). Growth in the business cycle peaks preceding the three most recent recessions was enabled by a larger share of working adults and higher capacity utilization of private production facilities.

The lower rates of capacity utilization have been carefully examined by Schott and Wisniewski (2018). These Federal Reserve researchers attribute the lower rates to labor supply conditions among manufacturing firms and ruled out firm entry and exit, which might distort estimates. However, this puzzle remains vexing. We are deep into a recovery, and there remains obvious excess capacity in capital. See Figure 1.

It is from this lower level of capacity utilization that we examine the current forecast for the national, state, and local economies.

We begin where all current discussions of the economy commence, the current tariff levels. Figure 2 illustrates tariff rates (tax rates) on imported goods for the U.S. and world average. Notably, the imposition of tariffs in 2018Q3 represent a significant increase in U.S. rates. This is the largest tariff (tax) increase in more than 50 years.

Tariff Effects and Manufacturing

Tariffs levied under the current U.S. administration’s application of the Trade Promotion Act (Section 232 and 301) target manufactured goods with rates ranging from 10-25 percent on several hundred manufactured goods and inputs. Separate tariffs on solar panels, and some home appliances range from 30-50 percent. This led to annual tariff revenues for the United States of roughly $80 billion at an annualized rate.

Tariff increases are a small overall share of U.S. tax receipts but are levied on goods-producing sectors that both sell domestically and export. Thus, the shocks of the tariffs are small overall, but concentrated geographically domestically and within industrial sectors. Every discussion about recent economic developments and projections must include a review of tariff effects.

Though low as a share of U.S. tax revenues, the tariffs represent a relatively large tax rate on transportation equipment. In my estimate, the tariffs reflect a tax equivalent to 4.0-7.0 percent of total annual shipments of transportation equipment in 2018.

However, the geographic re-adjustment of supply chains (particularly those reaching into China) represents a far larger, though more transient, shock to manufacturing. It is from this we begin our analysis of future economic performance.

**Figure 1. U.S. Unemployment Rate and Capacity Utilization, 1967-2019**
Source: BLS & BEA via Federal Reserve Bank of St. Louis (FRED)

**Figure 2. U.S. and Average World Tariffs, 2002-2018**
Source: World Bank; author’s calculations for 2018 world rate
Among the features of this recovery are sustained employment growth in manufacturing. This is important to the Midwest, which continues to experience a heavy share of manufacturing employment. However, nationwide, even with the lengthy expansion of factory employment, the share of manufacturing jobs is in long-term decline. See Figure 3.

This matters as part of a forecast because the primary shock to the global economy is transmitted through trade in goods. In recent years, the declining share of manufacturing suggests a diminished effect of a manufacturing downturn on the overall domestic economy. To test this empirically, we estimate a model that incorporates the effects on total employment of a shock to labor demand in manufacturing.\(^1\) Given our long time period, this permits us to estimate the effect across three roughly equal, overlapping time periods (1939-1980, 1960-2000, and 1980-2019). From this we derive an impulse response function, which estimates the effect of a one-standard-deviation change in factory employment (174,000).

Figure 4 illustrates the declining impact of factory employment shocks on the overall level of employment. For example, in the early period, a 174,000 one-month change in manufacturing employment would have resulted in a nearly 300,000 change in total employment within five months. So, for example, the loss of 174,000 factory jobs would lead to a decline of nearly 280,000 nationally within one quarter after the job losses.

In the middle period, the impact of the same level of job losses would have declined to only 205,000 jobs, and since 1980, the loss of 174,000 factory jobs would have had a negligible total impact on the national economy, with the loss of only 28,000 additional jobs.

These results imply a much-diminished role of manufacturing employment levels on the overall health of the United States economy. In other words, while manufacturing production remains a large share of the United States economy, manufacturing employment exerts a more modest influence on overall economic activity than in earlier decades when it was a larger share of the economy.

Despite the more modest influence of manufacturing employment on national economic health, there is an unmistakable slowdown in economic activity related to manufacturing. As Figure 5 illustrates, the core economic indicators of real private investment, industrial production, and domestic auto sales all expanded in 2018Q4, and real private investment continued to expand in 2019Q1. By second and third quarter, we saw declines in all three indicators. Importantly, the 2018 Tax Cuts and Jobs Act (TCJA) was designed to spur real private, non-residential investment. Whatever effect could have been expected from that legislation was muted by a similarly large tax increase associated with the trade war.

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1. Formally, this is a vector error correction model, with 12 endogenous lags, and a single co-integrating equation, which assumes a quadratic trend.
Housing comprises an important share of aggregate household spending. We focus on new single-family dwellings in Figure 6. That series showed declines from 2017Q4 through 2019Q1. Over that time, period median home prices (both nominal and real) remained beneath the 2017 peak. It is highly likely that these changes accompanied monetary policy adjustments, which influenced long-term borrowing costs.

These adjustments to expected economic activity possess a policy dimension that we discussed in last year’s forecast. Recalling our 2019 economic forecast, we provided estimates of the TCJA estimated effects. These appear in Tables 1 and 3. These tariffs affect primarily consumer durables, while the Tax Cut and Jobs Act implicitly targeted business fixed investment. The estimates of the tariff costs in Table 2, combined with the TCJA benefits in Table 1, provide us with a range of impacts illustrated in Table 3.

The net effect of the TCJA and the tariffs appear to suggest an impact ranging from modestly negative to modestly positive across GDP and employment. Importantly, these estimates do not consider real costs associated with supply chain adjustments.

### Table 1. Estimated Effects of Tax Cuts and Jobs Act on U.S. GDP Growth

<table>
<thead>
<tr>
<th>Source</th>
<th>Estimates</th>
<th>2018-2020</th>
<th>2020-2025</th>
<th>2025 and Later</th>
</tr>
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<tr>
<td>Barro and Furman</td>
<td>…</td>
<td>…</td>
<td>0.2 – 1.0%</td>
<td></td>
</tr>
<tr>
<td>Congressional Budget Office</td>
<td>0.6%</td>
<td>0.7%</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>Hicks</td>
<td>0.4%</td>
<td>0.7%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>International Monetary Fund</td>
<td>0.8%</td>
<td>0.6%</td>
<td>…</td>
<td></td>
</tr>
<tr>
<td>Moody’s</td>
<td>0.4%</td>
<td>0.3%</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>Penn-Wharton Budget Model</td>
<td>…</td>
<td>0.6%</td>
<td>…</td>
<td></td>
</tr>
<tr>
<td>Tax Policy Center</td>
<td>0.7%</td>
<td>0.5%</td>
<td>0%</td>
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</table>

### Table 2. The Estimated Cost of New Tariffs

<table>
<thead>
<tr>
<th>Section</th>
<th>List 1</th>
<th>List 2</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariff</td>
<td>Value of Affected Imports ($Billion)</td>
<td>Add. Cost Burden ($Billion)</td>
<td>Value of Affected Imports ($Billion)</td>
</tr>
<tr>
<td>Sect. 232, Steel</td>
<td>$23.40</td>
<td>25%</td>
<td>$5.80</td>
</tr>
<tr>
<td>Sect. 232, Aluminum</td>
<td>$16.60</td>
<td>10%</td>
<td>$1.70</td>
</tr>
<tr>
<td>Sect. 301, Pt 1</td>
<td>$32.30</td>
<td>25%</td>
<td>$8.10</td>
</tr>
<tr>
<td>Sect. 301, Pt 2</td>
<td>$13.70</td>
<td>25%</td>
<td>$3.40</td>
</tr>
<tr>
<td>Sect. 301, Pt 3</td>
<td>$159.30</td>
<td>25%</td>
<td>$39.30</td>
</tr>
<tr>
<td>Total</td>
<td>$245.30</td>
<td>–</td>
<td>$58.80</td>
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### Table 3. Net Effects of Trade War and the Tax Cuts and Jobs Act

<table>
<thead>
<tr>
<th>Source</th>
<th>TCJA</th>
<th>Tariffs</th>
<th>Net Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Growth</td>
<td>0.4% to 0.7%</td>
<td>-0.59%</td>
<td>-0.19 to 0.11</td>
</tr>
<tr>
<td>GDP ($Billion)</td>
<td>$100.56 to $175.99</td>
<td>-$148.33</td>
<td>-$48 to $28</td>
</tr>
<tr>
<td>Employment</td>
<td>310,000 to 542,000</td>
<td>-459,000</td>
<td>-149,000 to 83,000</td>
</tr>
</tbody>
</table>
Economic Indicator: RV Shipments

Our 2019 forecast also included a discussion of recreational vehicle shipments as a sign of lagging demand for consumer durables. In last year’s forecast we highlighted the likely decline of shipments in 2019, given the rapid fall off in shipments in the second half of 2018. We were correct; RV shipments in 2018 were 4.0 percent beneath 2017 shipments. As of October 2019, they appear to be headed to a 15 to 18 percent decline for the year, and the RV Industry Association is forecasting a decline in 2020.

Figure 7 illustrates the concern. No two-year declines in RV sales have not accompanied a general business cycle. The general de-linking of manufacturing and total employment argues that this time might be different, but experience argues against that position on any matter.

Finally, the role of monetary policy matters. As we observed in Figure 6, there appears to be a continued transmission of monetary policy through the housing market that has not yet extended to consumer durables (non-housing) and such specific items as automobiles and recreational vehicles. Likewise, we observe no apparent monetary impact on business fixed investment.

This offers the concern that monetary policy exhibits a much smaller aggregate effect on economic activity than in times past. See Figure 8. As with the earlier analysis of total and manufacturing employment, we estimate the impulse response of a one standard deviation change in monetary policy. We report this over two time periods; monthly 1959-2000 and 2000-2019. The earlier period illustrates strong capacity for counter-cyclical monetary policy, while the more recent period suggests no clear effect.

The lengthy period of accommodative monetary policy since 2000 may explain this, but theory is mixed on the capacity of zero lower bound or negative real rates to influence real output changes in the short run.
Forecasts for the U.S. and Midwest

We formulate projections of the aggregate U.S. and Midwest economy as outlined in Hicks (2008). We employ two different projections. The first is of a continued 50 basis points reduction in the Federal Reserve policy rates, occurring in the first half of 2020 (Table 4). The second holds monetary policy constant (Table 5). It is useful to consider alternative monetary policies within this context regarding their effect on market rates.

Under both scenarios, we project significant slowing of the domestic economy and Midwest economy through 2020. We anticipate GDP growth nationally to remain very sluggish, and in the Midwest to slow dramatically.

Employment growth in several Midwestern states turned negative in 2019Q1. We anticipate that decline in total and manufacturing employment, displayed in Figure 9, will continue through the first half of 2020.

We anticipate declines in aggregate and manufacturing employment to continue through 2020Q2, which would result in five quarters of negative employment growth in Indiana. See Figure 9.

Further challenging Indiana’s medium-term and short-term prospect is the divergence of job quality and composition. We observe continued growth in demand for high-skilled and low-skilled employment, but declines for medium-skilled workers. See Figure 10.

Table 4. Scenario I: Federal Reserve Easing of 50 Basis Points
Source: Author’s calculations using FRED

<table>
<thead>
<tr>
<th>Quarter</th>
<th>USA</th>
<th>IN</th>
<th>OH</th>
<th>MI</th>
<th>WI</th>
<th>IL</th>
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<tr>
<td>2020Q1</td>
<td>1.9%</td>
<td>1.6%</td>
<td>1.9%</td>
<td>1.1%</td>
<td>1.6%</td>
<td>1.6%</td>
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<tr>
<td>2020Q2</td>
<td>1.8%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.1%</td>
<td>2.3%</td>
<td>2.3%</td>
</tr>
<tr>
<td>2020Q3</td>
<td>1.7%</td>
<td>1.5%</td>
<td>1.4%</td>
<td>0.9%</td>
<td>1.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2020Q4</td>
<td>1.7%</td>
<td>1.4%</td>
<td>1.6%</td>
<td>1.1%</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>2021Q1</td>
<td>1.6%</td>
<td>1.5%</td>
<td>1.9%</td>
<td>1.7%</td>
<td>1.2%</td>
<td>1.2%</td>
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<tr>
<td>2021Q2</td>
<td>1.7%</td>
<td>1.4%</td>
<td>1.1%</td>
<td>1.0%</td>
<td>1.8%</td>
<td>1.8%</td>
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<tr>
<td>2021Q3</td>
<td>1.7%</td>
<td>1.5%</td>
<td>0.8%</td>
<td>1.5%</td>
<td>1.2%</td>
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<tr>
<td>2021Q4</td>
<td>1.7%</td>
<td>1.5%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.4%</td>
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</table>

Table 5. Scenario II: No Monetary Easing
Source: Author’s calculations using FRED

<table>
<thead>
<tr>
<th>Quarter</th>
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<th>OH</th>
<th>MI</th>
<th>WI</th>
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<tr>
<td>2020Q1</td>
<td>0.9%</td>
<td>1.8%</td>
<td>1.1%</td>
<td>1.6%</td>
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<tr>
<td>2020Q2</td>
<td>1.4%</td>
<td>1.3%</td>
<td>1.9%</td>
<td>2.1%</td>
<td>2.1%</td>
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<tr>
<td>2020Q3</td>
<td>1.6%</td>
<td>0.9%</td>
<td>-0.2%</td>
<td>1.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2020Q4</td>
<td>1.5%</td>
<td>1.1%</td>
<td>2.7%</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td>2021Q1</td>
<td>0.5%</td>
<td>1.6%</td>
<td>1.6%</td>
<td>1.2%</td>
<td>1.2%</td>
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<tr>
<td>2021Q2</td>
<td>0.9%</td>
<td>1.6%</td>
<td>1.7%</td>
<td>1.8%</td>
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<tr>
<td>2021Q3</td>
<td>1.7%</td>
<td>1.9%</td>
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<td>1.2%</td>
<td>1.2%</td>
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<tr>
<td>2021Q4</td>
<td>1.5%</td>
<td>2.0%</td>
<td>3.0%</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Figure 9. Indiana Manufacturing Employment vs. Total Employment, 2018Q1-2019Q3
Source: Bureau of Labor Statistics

Figure 10. Change in Indiana Employment Distribution by Skill Level, 1997-2007 and 2007-2017
Source: Bureau of Labor Statistics
This divergence is more pronounced in Indiana than nationally. Viewing cumulative employment growth since the start of the Great Recession, cumulative job growth nationally has been almost wholly towards college graduates. See Figure 11.

In contrast, Indiana experienced very little expansion in college graduates, and the majority of total jobs created over the past decade have been for workers with less than a high school diploma. See Figure 12.

The long-term effects of employment composition shifts of this magnitude should be obvious. This recovery leaves Indiana with a less well-educated labor force, more volatile labor markets, and lower pay for lower-skilled employment.

**Economic Conditions in East Central Indiana**

The east central Indiana region (ECI) will continue experience declining demand for workers without a college degree. Future employment distribution within the region will be more bi-modal than in most other urban locations. ECI faces a lower risk of export penetration, but a higher risk from automation-related employment losses than the nation as a whole. Recent, large-scale employers, such as call centers, are likely to see employment declines, and technology will reduce some types of skilled employment. This will occur in both service and goods-producing sectors by mid-century (~2050).

The absence of agglomeration effects means that employment in ECI will be less easily obtained, and provide fewer wage benefits than in larger urban areas. The absence of a thick labor market means that employment risk is higher, and opportunities for spousal hires lower in ECI than in larger urban places. Relatively lower wages result in fewer endogenous amenities and places greater strain on the fiscal environment. The future contains two very challenging outcomes for ECI.

First, growing bifurcation of labor markets pushes a larger share of households to urban places. This increases the wage premium and amenity mix for all households in urban places. In contrast, places like ECI will experience the opposite mix. The one exception will be within the communities that can access urban labor markets (e.g. the western edge of ECI accessing the Indianapolis metropolitan area).

However, the huge excess supply of housing in ECI reduces the price of existing homes. This is a leading attraction for low-income households who are overwhelmingly low-skilled as well. Thus, the spatial equilibrating forces tend to move low-skilled households outside of urban labor markets. In the absence of a broadly different policy intervention, this dynamic will continue for several decades.

In summary, the great period of stagnation for ECI extended from the late 1950s until about 2000. A period of economic decline is now nearing its second decade. Population decline will continue for at least two more generations. The forces that generate lower standards of living, lower levels of employment, and more bifurcated labor markets are likely to affect ECI more than most places in the United States.

The decline in this region is not a trend in the sense that it emanates from some previous pattern of human behavior. Rather it represents the response of households and businesses to conditions that have been largely self-imposed on this region. Dramatically lower levels of educational attainment across the region, home vacancy rates that are approaching those of Detroit, and low-quality public services have been a feature of this region for decades. Their importance in migration decisions for households and businesses is far greater than in times past, and these facts suggest a lengthy period of decline for most of the region will continue.
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