

An Outlook for the Wisconsin Economy

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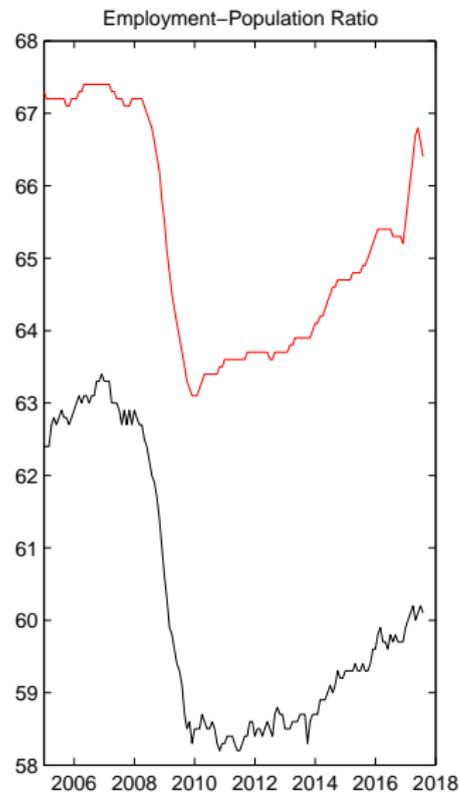
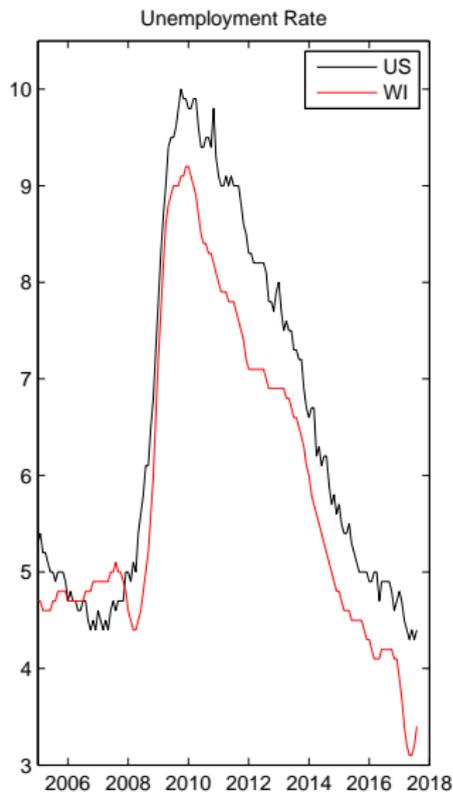
CROWE: Brief Introduction

- Center for Research on the Wisconsin Economy (CROWE) recently established in the Department of Economics at UW-Madison.
- The primary mission is to support and disseminate economic policy research, with particular focus on Wisconsin economy and state-level economic policy issues.
- In addition to me: full-time staff economist, fellows and affiliates in Department of Economics
- Recent research reports: The Impact of the Manufacturing and Agriculture Credit in Wisconsin
An Evaluation of the Economic Impact of the Foxconn Proposal
- Inaugural event on **October 26** with John Taylor

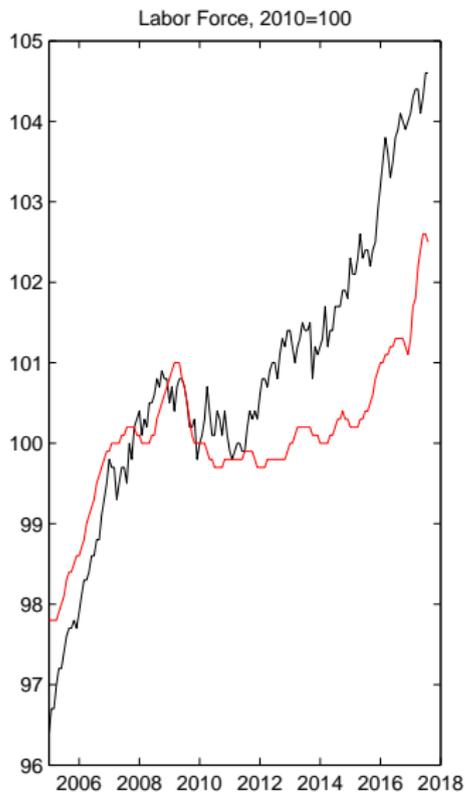
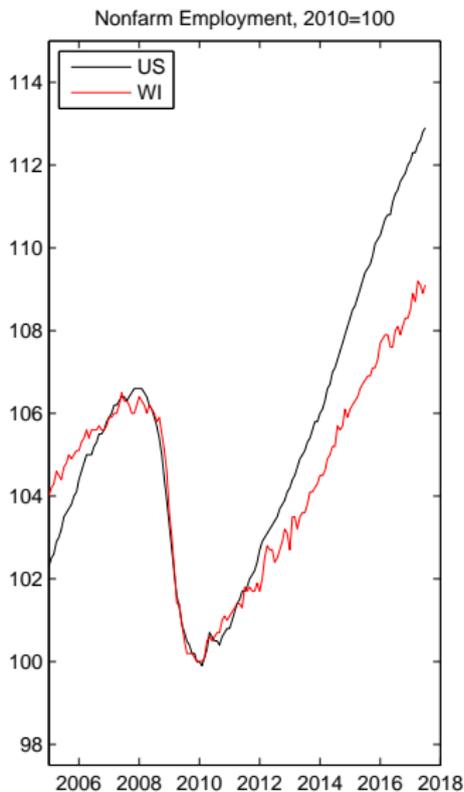
Outlook for the Wisconsin Economy

- Tight labor market: low unemployment, high employment-population ratio
- Labor force challenges: low population growth, aging workforce, net outmigration
- State economy has diversified but remains manufacturing-heavy, lacks vibrant urban center
- Biggest economic story: Foxconn. High fiscal costs but potential large gains
- Forecasts: slow and steady growth over next 2+ years

Unemployment and Employment-Population



Employment and Labor Force



Aging and Outmigration

Distribution of population, Census Bureau

| | <u>United States</u> | | | <u>Wisconsin</u> | | |
|-------------------|----------------------|-------------|-------------|------------------|-------------|-------------|
| | <u>1999</u> | <u>2010</u> | <u>2015</u> | <u>1999</u> | <u>2010</u> | <u>2015</u> |
| Under 20 | 28.7 | 26.9 | 25.6 | 28.8 | 26.4 | 25.1 |
| 20-44 | 37.0 | 33.6 | 33.4 | 36.2 | 32.2 | 31.6 |
| 45-54 | 13.1 | 14.5 | 13.4 | 13.3 | 15.3 | 13.9 |
| 55-65 | 8.6 | 11.9 | 12.7 | 8.6 | 12.4 | 13.8 |
| 65+ | 12.7 | 13.1 | 14.9 | 13.2 | 13.7 | 15.6 |
| Median Age | 35.5 | 37.2 | 37.8 | 36 | 38.5 | 39.2 |

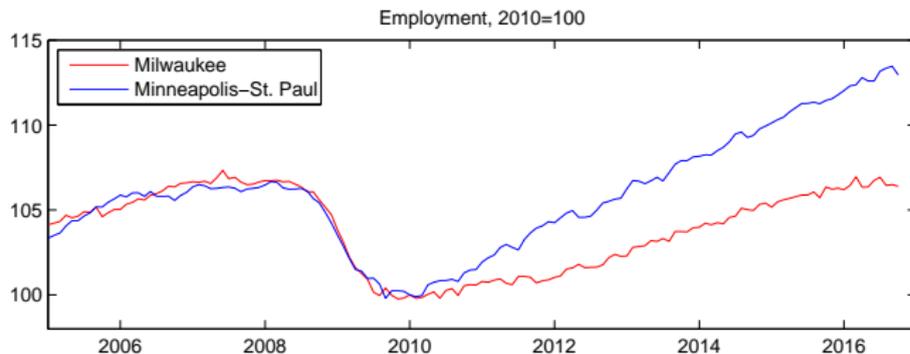
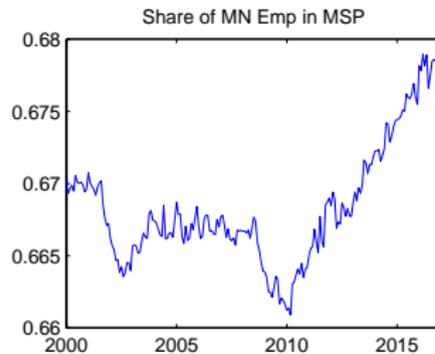
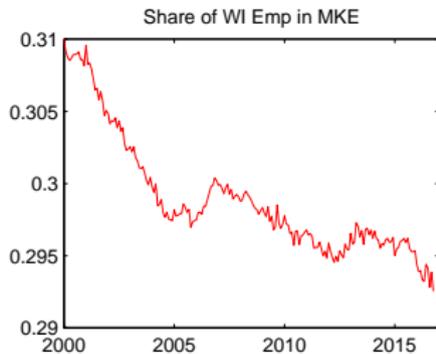
Net Migration (Exemptions)
IRS Data 2014-15

| <u>By Age</u> | <u>WI</u> |
|---------------|---------------|
| Total | -7,441 |
| Under 26 | -2,041 |
| 26-35 | -1,175 |
| 35-45 | -1,340 |
| 45-55 | -720 |
| 55-65 | -943 |
| 65+ | -1,222 |

Differences in Sector Shares and Growth

| Real GDP by State by Industry | United States | | Wisconsin | |
|------------------------------------|---------------|----------------|------------|----------------|
| | 2016 Share | 2011-16 Growth | 2016 Share | 2011-16 Growth |
| All industry total (billion) | \$ 16,259 | 10.5 | \$ 273 | 7.4 |
| Private industries | 88.0 | 12.3 | 89.1 | 8.9 |
| Construction | 4.0 | 19.7 | 3.9 | 21.8 |
| Manufacturing | 11.7 | 5.3 | 18.6 | 4.3 |
| Wholesale & Retail trade | 12.1 | 13.2 | 12.0 | 12.1 |
| Information | 5.5 | 23.2 | 3.8 | 24.5 |
| Finance and insurance | 6.3 | 4.3 | 7.0 | 11.0 |
| Real estate and rental and leasing | 13.5 | 11.2 | 12.5 | 2.9 |
| Professional, scientific services | 7.4 | 17.6 | 4.3 | 13.6 |
| Health care and social assistance | 7.5 | 14.5 | 8.8 | 8.4 |
| Government | 12.0 | -0.7 | 10.9 | -3.2 |

Urban Concentration: Wisconsin vs Minnesota



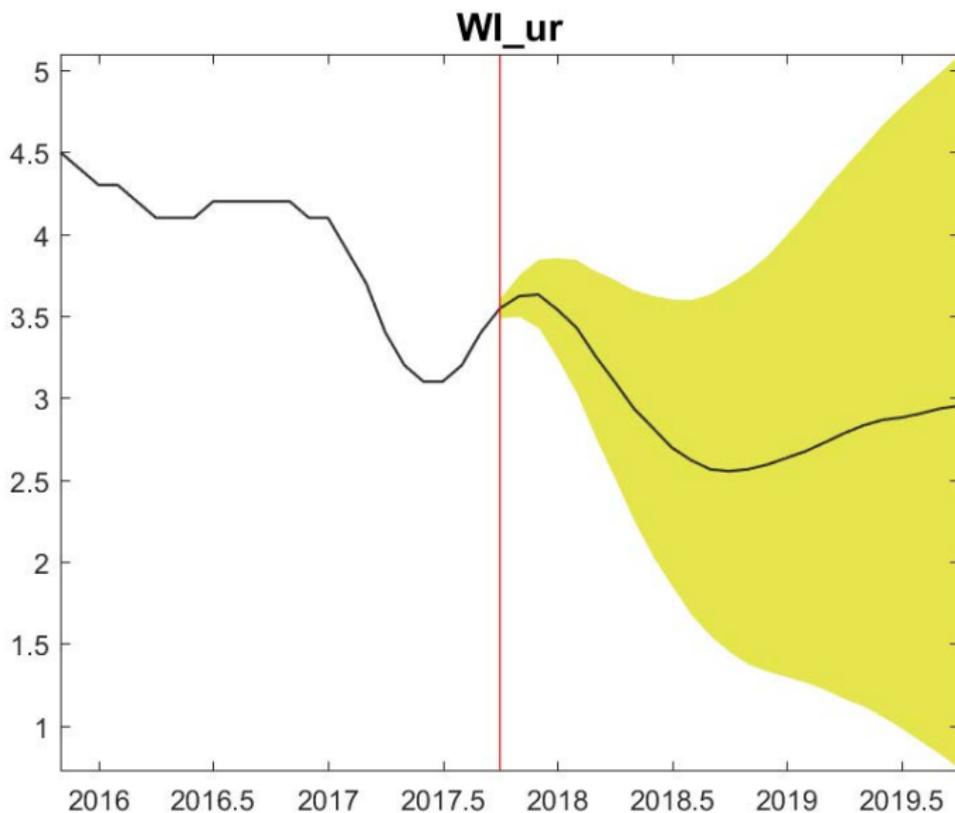
- Foxconn investment deal announced in July, legislation in September, contract ongoing, planned opening 2019-20.
- Planned investment of up to \$10 billion, initial employment of 3,000 increasing to up to 13,000
- State subsidies of \$2.85 billion over 15 years tied to scale: 15% of investment, 17% of payroll.
- At full operation, I estimated 32,000-39,000 total direct and indirect jobs including Foxconns supply chain and other induced activity
- Even if all output produced by Foxconn except direct labor income went out of state, cumulative multiplier of 3.9 on the states subsidy costs.
- Recent studies have shown large plant openings can have big spillovers on incumbent companies especially in productivity. But wide variation in outcomes.

- Recently at CROWE we have constructed an empirical model for the US and WI economies
- We adapt an approach that was used the Federal Reserve Bank of Minneapolis to forecast the U.S. economy.
- Our approach uses the relationships among 28 variables: 17 national and 11 at the state level. State-level variables depend on national but not vice versa.
- We estimate the model and then use it to project over the next two years.

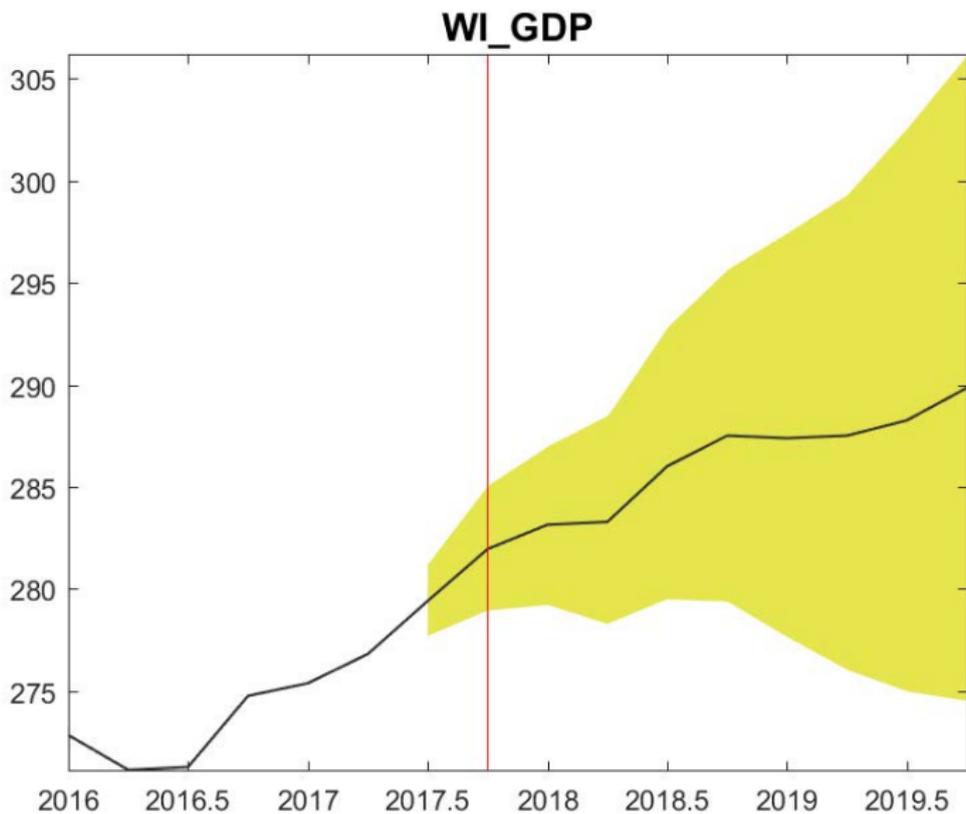
Forecast Summary

| <u>Month</u> | <u>Unemployment</u> | | <u>Employment</u> | | <u>Quarter</u> | <u>GDP</u> | |
|--------------|---------------------|-----------|-------------------|-----------|----------------|------------|------------|
| | <u>US</u> | <u>WI</u> | <u>US</u> | <u>WI</u> | | <u>US</u> | <u>WI</u> |
| 2016M12 | 4.7 | 4.1 | 2240 | 26.4 | 2016Q4 | 1.8 | 0.9 |
| 2017M4 | 4.4 | 3.2 | 2200 | 35.9 | 2017Q1 | 2.0 | <u>2.1</u> |
| 2017M6 | 4.4 | 3.1 | 2220 | 34.3 | | | |
| 2017M8 | 4.4 | 3.4 | 2100 | 19.0 | 2017Q2 | 2.2 | 3.0 |
| 2017M9 | 4.5 | 3.5 | 1781 | 21.3 | 2017Q3 | 2.2 | 2.6 |
| 2017M10 | 4.5 | 3.6 | 2113 | 20.8 | | | |
| 2017M11 | 4.5 | 3.6 | 2146 | 18.4 | | | |
| 2017M12 | 4.5 | 3.5 | 2505 | 17.6 | 2017Q4 | 2.2 | 2.8 |
| 2018M3 | 4.2 | 3.1 | 2658 | 15.8 | 2018Q1 | 2.4 | 2.3 |
| 2018M6 | 4.1 | 2.7 | 3165 | 26.4 | 2018Q2 | 2.3 | 2.4 |
| 2018M9 | 4.0 | 2.6 | 3466 | 42.1 | 2018Q3 | 2.1 | 2.0 |
| 2018M12 | 4.1 | 2.6 | 2852 | 37.6 | 2018Q4 | 1.8 | 1.5 |

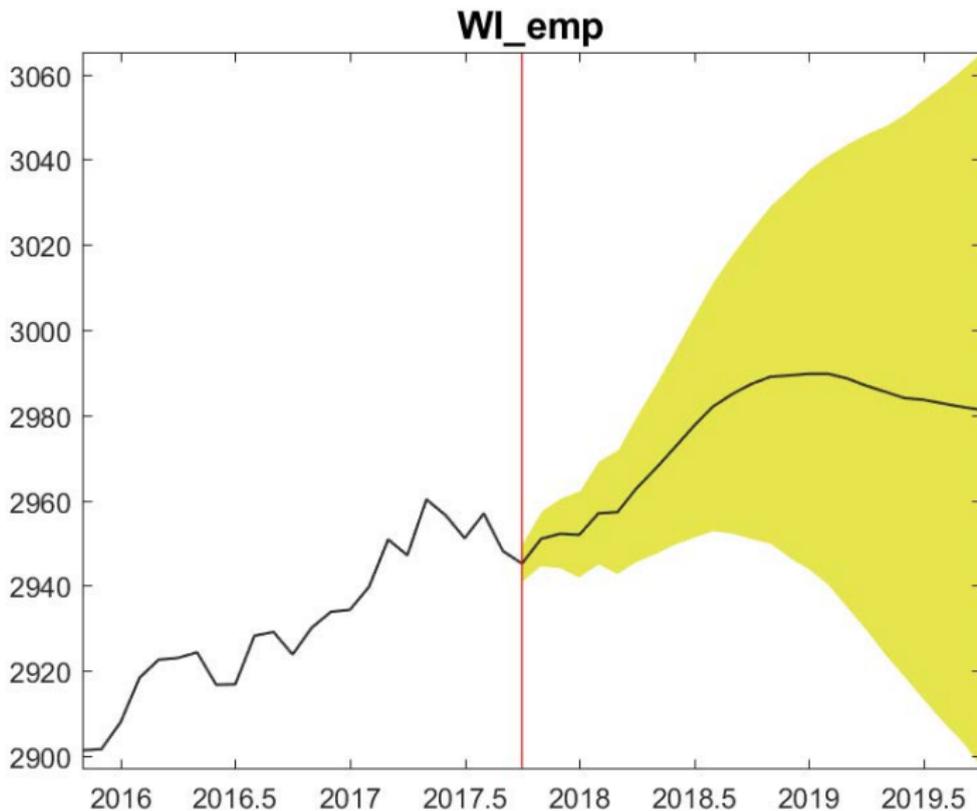
Wisconsin Forecast: Unemployment Rate



Wisconsin Forecast: GDP



Wisconsin Forecast: Employment



Wisconsin Forecast: Manufacturing Employment

