

# **DYNAMIC ANALYSIS OF TARGETED STATE TAX INCENTIVES:**

## **THE CASE OF CARRIER CORPORATION IN INDIANA**

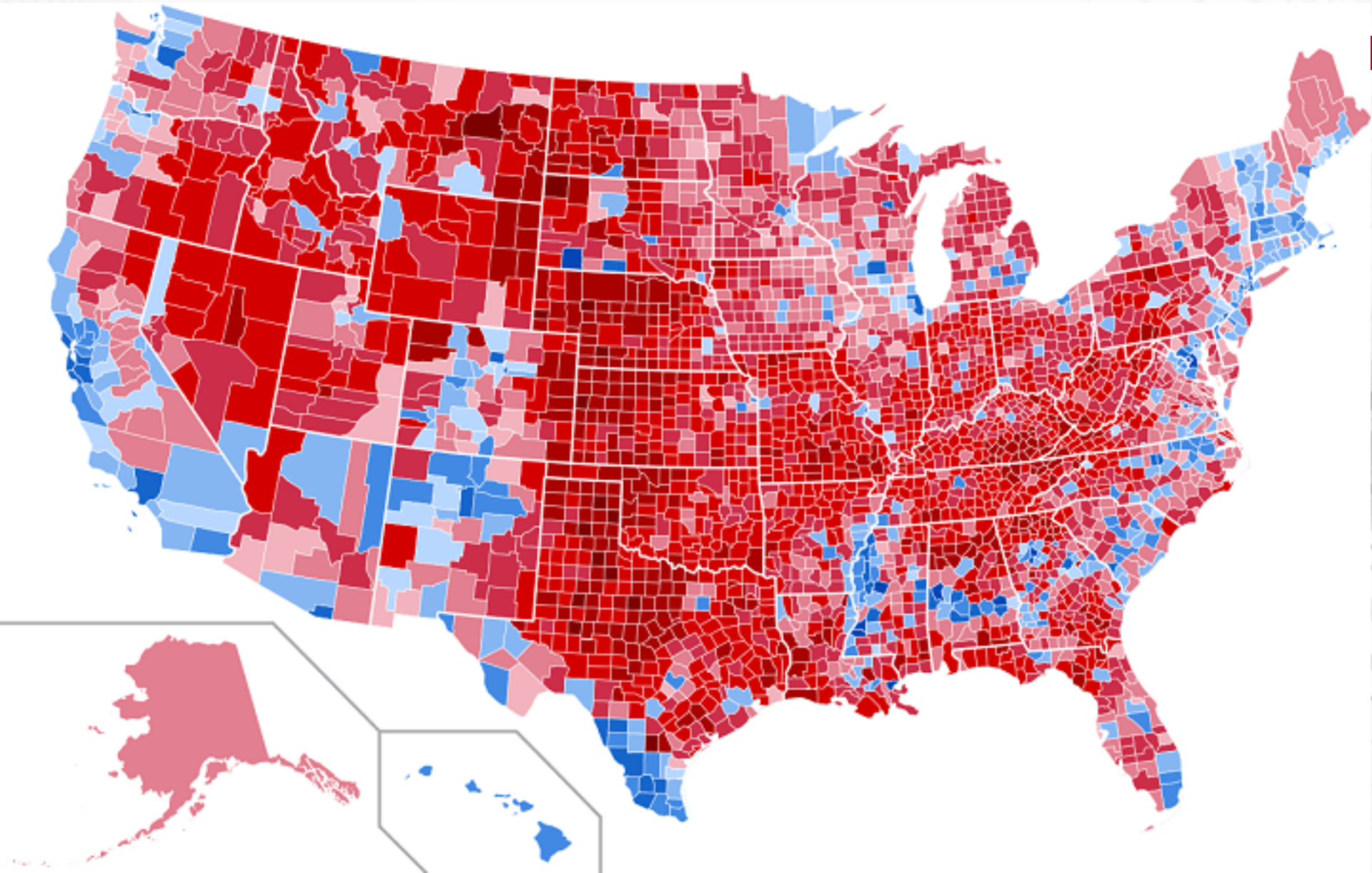
# A New Direction

- Donald J. Trump defies expectations by winning the White House
  - ▣ His victory was propelled by strong support in rural regions
  - ▣ His message resonated at time of slow economic growth and high inequality
- The president-elect had campaigned on:
  - ▣ Revising free trade deals
  - ▣ Deporting unauthorized immigrants
  - ▣ Substantial tax cuts and deregulation
  - ▣ Massive infrastructure investments



Photo: Michael Vadon/Wiki Commons

# A House Divided



# Trumponomics: Employment Potential



*Case for Trumponomics: Employment Potential*

*Economy is not at full employment; can add jobs without inflation*

- Case for Trumponomics based on geographic, industry differences
  - Economy is less than full employment:
    - \* Regional dimension: labor market capacity for interior, southern U.S.; non-metro areas
    - \* Industry dimension: labor market capacity in blue collar occupations, e.g. in manufacturing and transportation sector (full employment in professional occupations, metro/coastal regions)

Reverse Hysteresis Effect: Many of the 4% of workers that left the labor force will take jobs if available

Discouraged workers and unemployment for regions and industries

*what does **REMI** say? <sup>sm</sup>*

# Trade and Manufacturing Renaissance



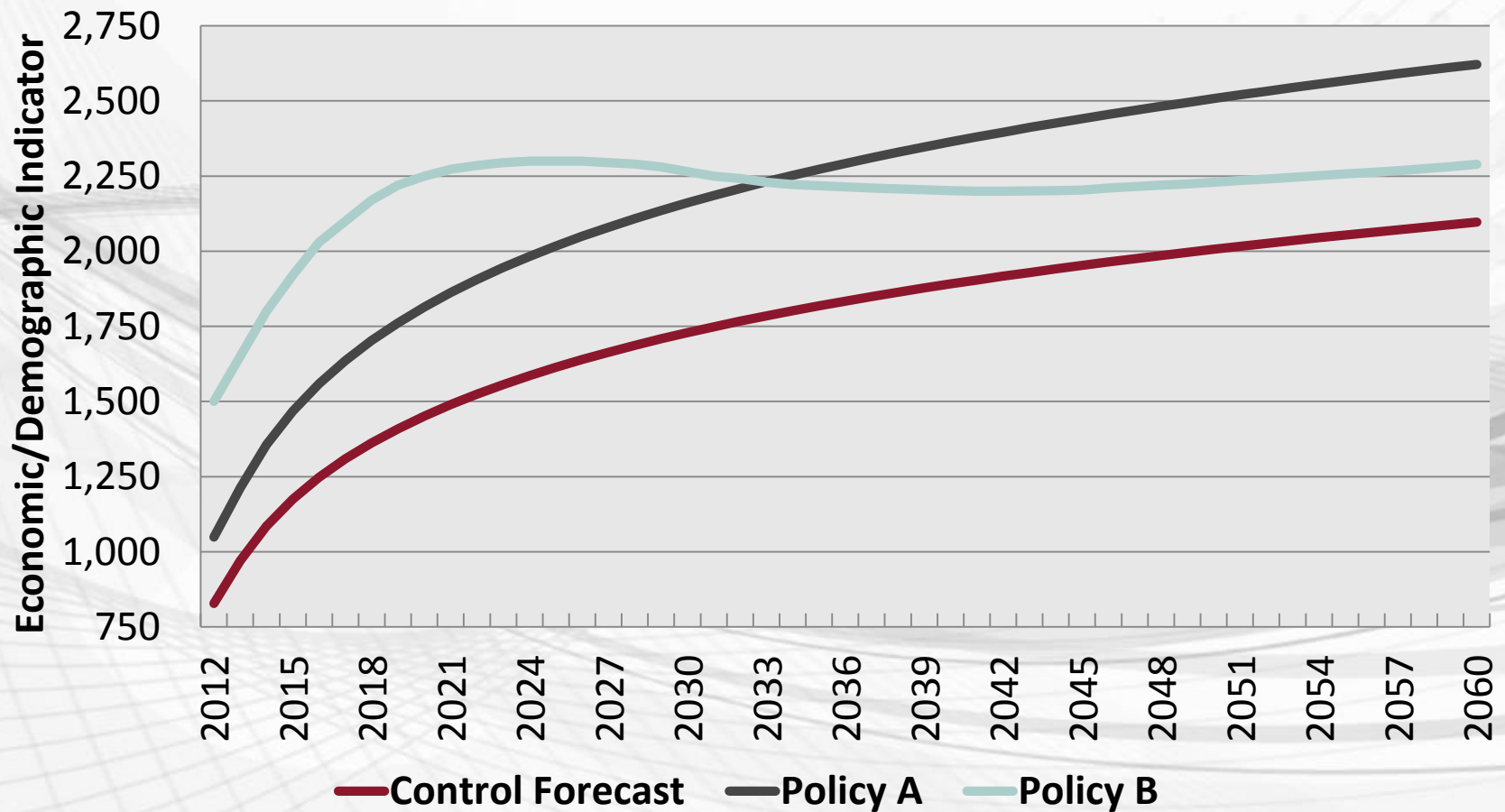
- Trade has winners and losers: consumers benefit, negative pressure for workers in manufacturing
  - Keeping manufacturing jobs in U.S. has direct and ripple effects to the economy
  - Example: Carrier Corporation
    - \$7 million in Indiana tax incentives, over 10 years
    - 1,000 jobs
- (based on initial numbers available to us)

# “The First Deal”



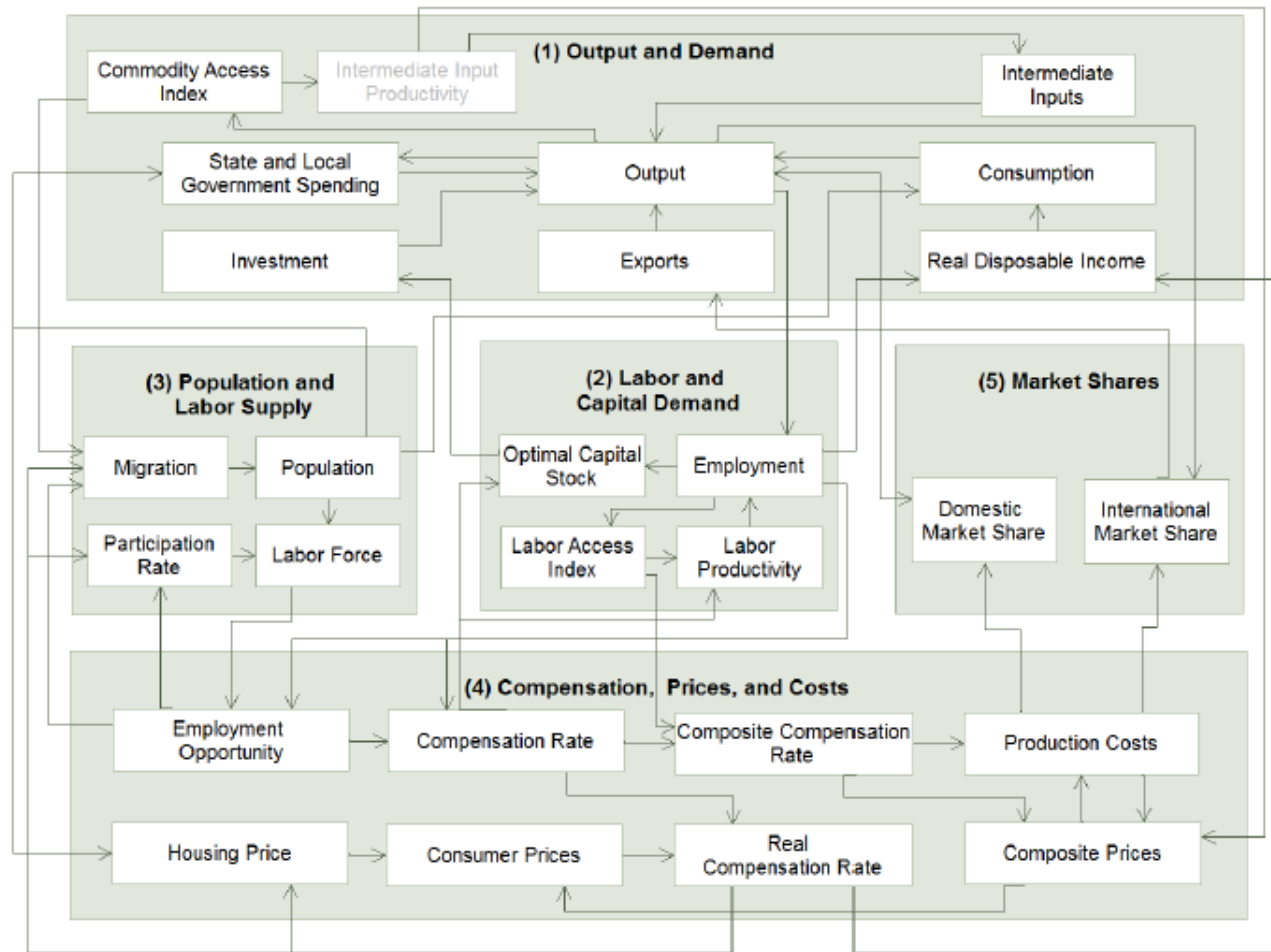
- United Technologies, Carrier parent company, will receive \$7 million (\$700,000 a year for 10 years) in tax incentives
- In exchange, Carrier keeps approximately 1,000 jobs in U.S. instead of sending them to Mexico (exact figures unclear)
- Trump claims a major victory; critics differ
  - "Big day on Thursday for Indiana and the great workers of that wonderful state. **We will keep our companies and jobs in the U.S.** Thanks Carrier." – Trump tweet
  - Trump “has signaled to every corporation in America that **they can threaten to offshore jobs in exchange for business-friendly tax benefits** and incentives.” – Sen. Bernie Sanders, Washington Post op-ed

# Framework



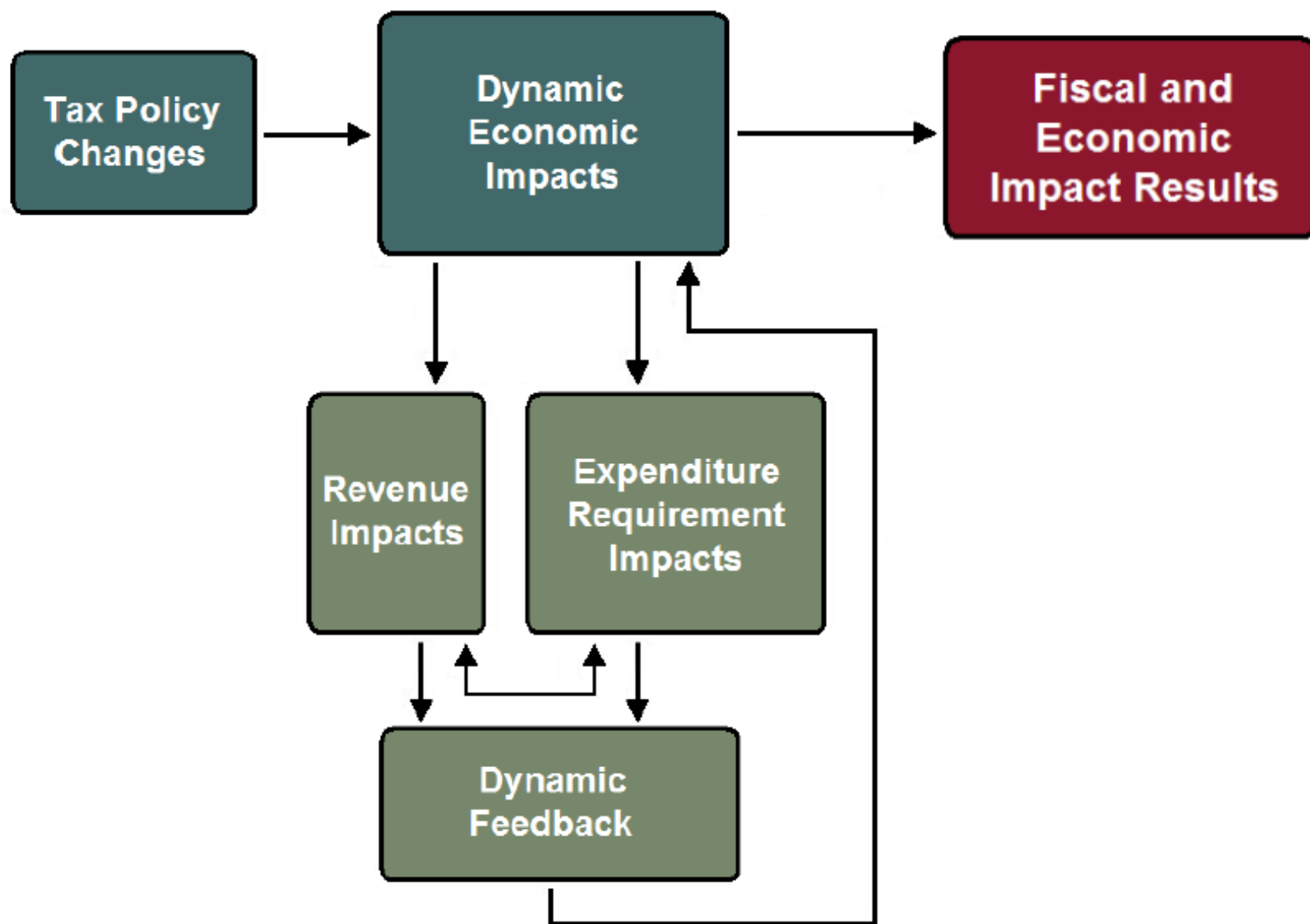
what does **REMI** say? <sup>sm</sup>

# Model Structure



what does REMI say? <sup>sm</sup>

# Tax-PI Model Structure Overview



# Tax-PI Project Highlights



**Washington: JLARC**  
Economic impact of  
aerospace industry  
tax credit

**California: Milken  
Institute** Economic  
impact of research  
& development tax  
credit

**Nevada:** Economic  
impact of tax  
incentives for Tesla

**Iowa: DOR** Economic  
impact of new jobs  
tax credit

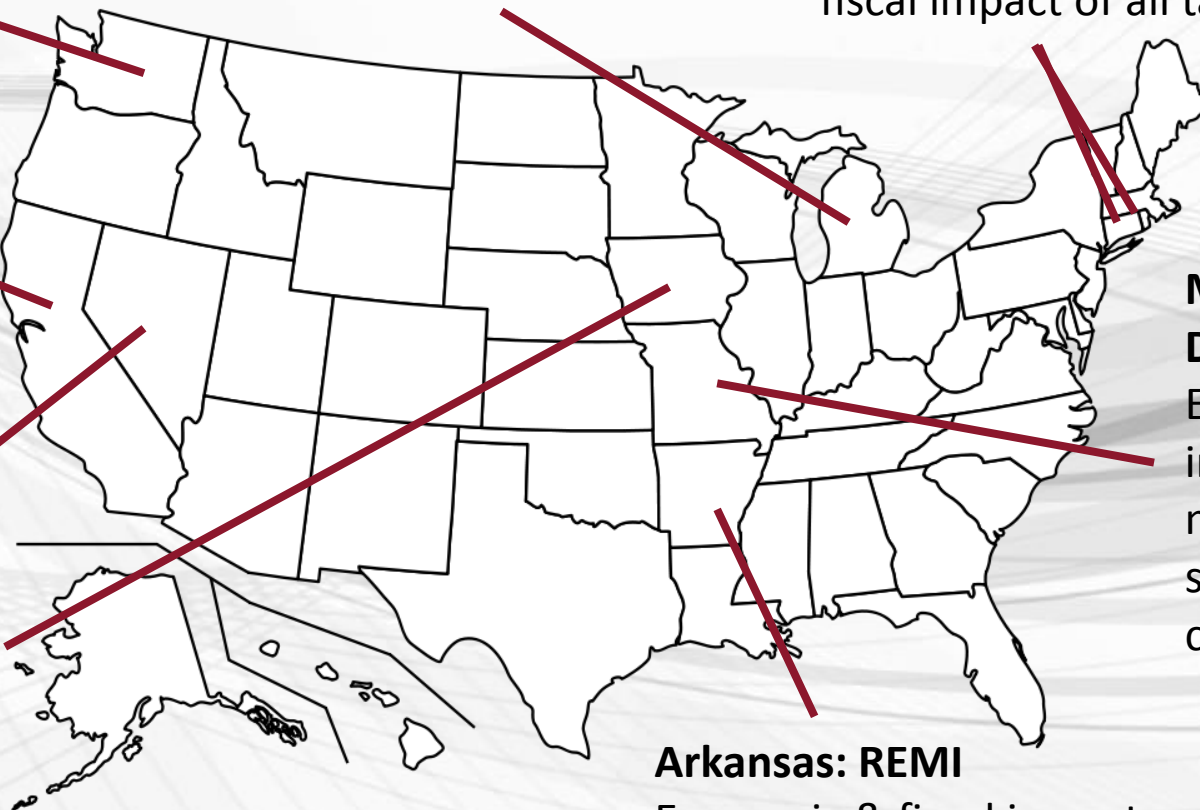
*what does **REMI** say? <sup>sm</sup>*

**Michigan: MEDC** Economic impact of  
Michigan Economic Growth Authority

**Connecticut & Rhode Island:**  
**DECD and DOR** Economic &  
fiscal impact of all tax incentives

**Missouri:**  
**DECD**  
Economic  
impact of  
new Rams  
stadium  
complex

**Arkansas: REMI**  
Economic & fiscal impact  
of Big River Steel project



# Economic & Fiscal Contribution



## Inputs

- +1,000 jobs in Indiana, 2017-2026, NAICS 3334, Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing
- -\$700,000 government spending (spread across the whole budget)

## Results

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>GDP (Nominal M)</b>	\$302	\$332	\$355	\$375	\$393	\$410	\$433	\$457	\$483	\$510
<b>Total Jobs</b>	2208	2380	2460	2484	2477	2453	2460	2470	2481	2496
<b>Direct Jobs</b>	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
<b>Intermediate demand Jobs</b>	605	619	622	619	613	606	613	623	633	644
<b>Consumption demand Jobs</b>	405	441	463	476	483	485	495	503	510	518
<b>Other Demand for Jobs</b>	97	157	172	162	138	108	89	71	58	47
<b>State and Local Jobs</b>	100	163	202	227	243	254	264	272	280	288
<b>Direct Fiscal Impact</b>	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000
<b>Dynamic Fiscal Impact (Nominal Thousands)</b>	\$8,064,612	\$17,365,641	\$19,557,410	\$21,280,655	\$22,690,985	\$23,890,340	\$25,154,513	\$26,589,231	\$28,042,102	\$29,532,248

# Net Economic Impact



- Even with incentive Carrier has indicated they still plan to move 1,100 jobs out of the state
- Simulation inputs include 1,100 direct loss in employment and 700,000 annual direct cut to government spending
- Simulation does not factor in \$16M investment at the facility
- Carrier indicated they would have saved 80% on labor costs. Given the \$700,000 incentive does not cover that, it may be the case that Carrier will have to raise prices. This simulation does not account for whether United Technologies will just take a loss or will raise prices.

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
GDP (Nominal M)	-304	-327	-343	-355	-364	-372	-385	-399	-412	-427
Total Jobs	-2458	-2646	-2734	-2759	-2750	-2722	-2728	-2739	-2750	-2766
Direct Jobs	-1100	-1100	-1100	-1100	-1100	-1100	-1100	-1100	-1100	-1100
Intermediate demand Jobs	-669	-684	-687	-684	-677	-668	-676	-687	-698	-709
Consumption demand Jobs	-451	-489	-514	-528	-535	-538	-547	-557	-565	-573
Other Demand for Jobs	-110	-176	-193	-181	-154	-119	-98	-78	-64	-53
State and Local Jobs	-128	-198	-240	-267	-285	-296	-306	-315	-324	-331
Direct Fiscal Impact	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000	-\$700,000
Dynamic Fiscal Impact (Nominal )	-\$8,946,569	-\$19,257,141	-\$21,676,018	-\$23,577,463	-\$25,131,787	-\$26,449,700	-\$27,830,351	-\$29,401,307	-\$31,006,001	-\$32,651,043

# Why did Carrier want to leave?



- Jim Cramer interview
  - ▣ “And I know that a better regulatory environment, a lower tax rate can eventually help UTC in the long run”  
– Greg Hayes, CEO United Technologies, Dec 5 interview
- Trump uses the “bully pulpit” to promote manufacturing jobs
- Ryan-Brady Tax Blueprint proposes “border adjustment” as fair trade initiative

# Simulation: Border Adjustment



- Simulation: increase import cost, decrease export costs
  - Adjusted direct export cost savings to equal import cost increase (revenue neutral)
    - Decrease export costs by 10%, increase import costs by the same dollar amount
    - Baseline exports (2015): \$1.67 trillion
    - Baseline imports (2015): \$2.18 trillion
    - 10% of exports: \$167 billion
    - $\$167 \text{ billion} / 2.18 \text{ trillion} = 7.64\%$
    - In 2015, export costs are decreased by 10% and import costs increased by 7.64%

# Left Unsettled



- Is this a good deal?
  - ▣ Is this the role of government?
  - ▣ Will Carrier remain profitable? Or even maintain those 1000 jobs?
  - ▣ Due to publicity will other firms now threaten offshoring?
    - \$700 per MFG job in Indiana = \$354M
- Is the incentive the main reason the company decided to stay?
- What makes a good tax incentive?

# Why “Regional” Analysis?



- **States need to be competitive - but are they getting a good deal?**
  - ▣ In isolation net fiscal impact is positive
  - ▣ 1,000 fewer people unemployed
  - ▣ State has control of economic conditions
  
- **Range of factors that contribute to economic growth**
  - ▣ Structural issues face manufacturing job market
  - ▣ National policy changes may better support domestic production



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