Employment Impacts of the CHIPS Act

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Three Main Results

1. Large anticipation effects

2. Significant employment and wage effects in the semiconductor sector at the county level
   - based on DID, so relative effects
   - but given the research design and focus on semiconductor employment, they also reflect effects at the national level

3. Spillover effects on upstream sectors. But no aggregate employment or wage effects at the county level.

Main Reactions

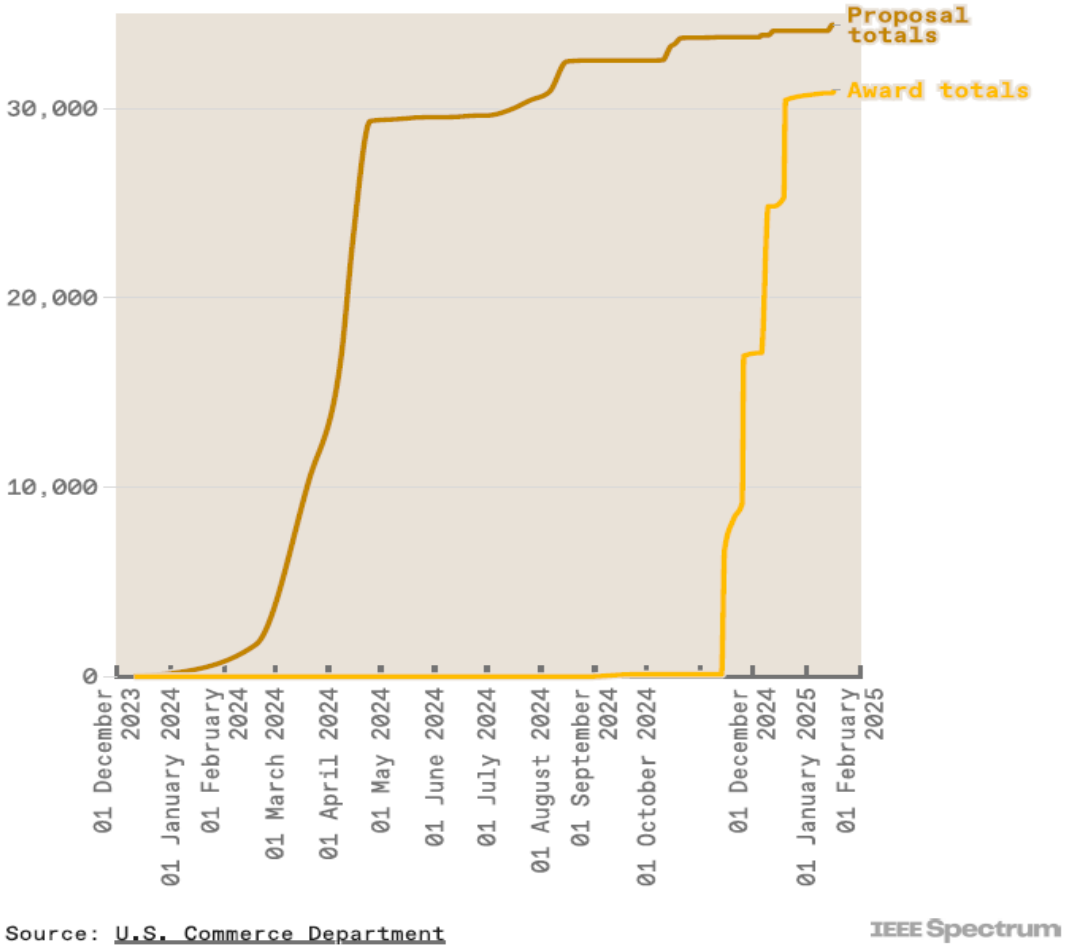
- Ongoing research project on a very interesting topic. More data and more results expected in the future.

- At this point, the paper can only document anticipation effects credibly. Interpretation?
  - No data on actual awards. Identification based on counties with semiconductor production facilities vs. counties without
  - Most awards were actually made AFTER the Nov. 2024 elections (see picture on next slide, from IEEE Spectrum).
  - Compare to Figure 3 of the paper → employment in semiconductors actually declines after Nov. 2024.
  - Possible interpretation:
    - CHIPS Act demonstrates government's commitment to support the sector (and without such support, US industry is not internationally competitive)
    - Existing production facilities scale up employment to demonstrate capacity to deliver chips and successfully bid for awards. But employment levels off afterwards.

- Effects short-lived? Long-run effects more interesting.

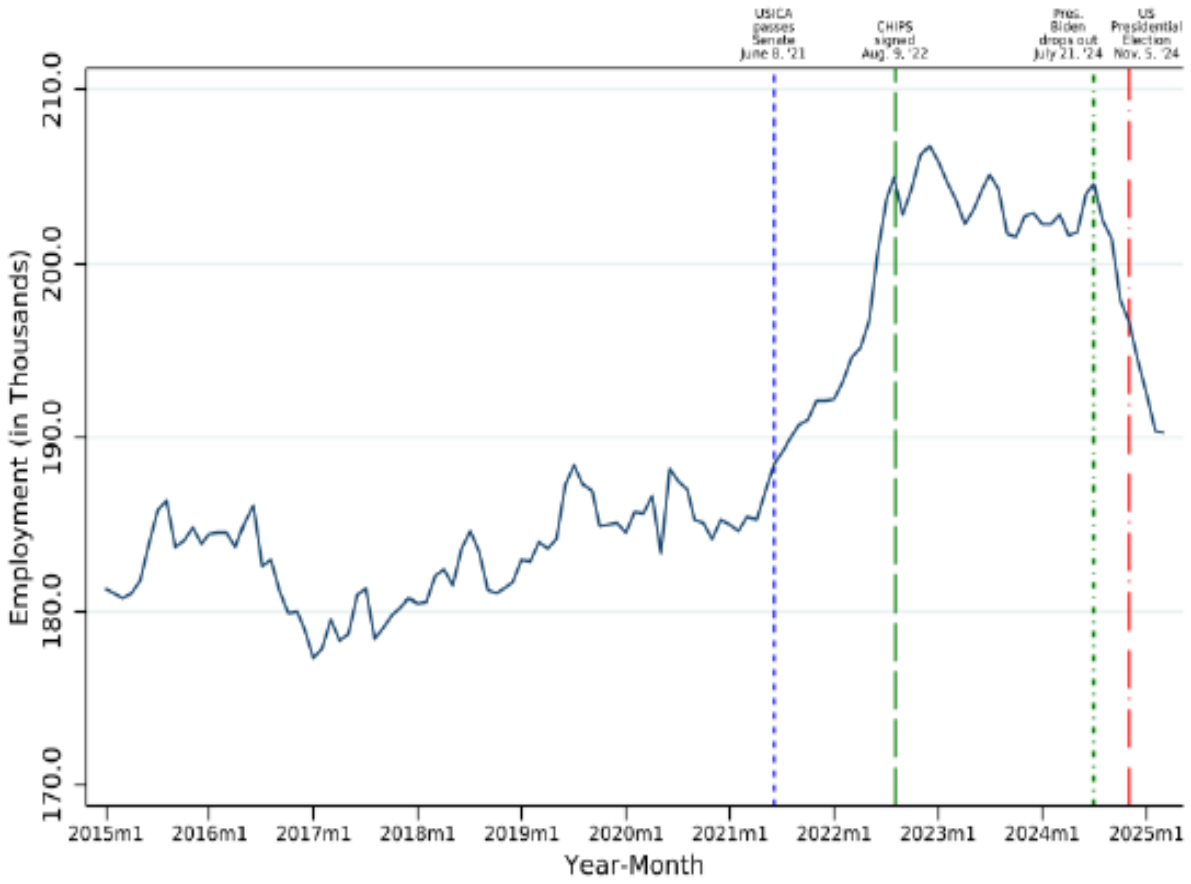
From IEEE Spectrum, Aug. 2025:

"After Donald Trump won the 2024 election, the CHIPS Office went into high gear, converting those proposed deals into awards. It agreed to more than $30 billion in the roughly two months before Trump took office."



From the paper:

FIGURE 3: EMPLOYMENT IN SEMICONDUCTOR INDUSTRY



Main Reactions (contd.)

- The CHIPS Act was never about employment

- Main goal of CHIPS: increase resilience and decrease dependency on geopolitically sensitive areas.
  - Focus on legacy and mainstream chips?
  - Or leading-edge chips? (impossible without prior experience in more mature categories)
  - Relevant to the issue of proper policy design

- BUT: Political economy considerations dictated mentioning of employment effects. Still, this does not mean that this is what subsequent policy evaluation should focus on

- What we would really like to know (in the short- and medium-run) is: Are these facilities producing chips? What generation? And at what cost?

But conditional on employment focus:

- Aggregate employment was never of interest. US economy near full employment → labor shortages in the post-COVID era.

- However, two employment-related aspects of interest:
  - Spatial inequality: Was employment created in counties that had been left behind?
  - Demand for "Good Jobs": Were the additional jobs "good" ones?

- Each of these aspects calls for a different empirical identification strategy. Authors very defensive about their focus on RELATIVE effects. But if the concern is "spatial inequality", they shouldn't be. It is relative effects we care about!

On CHIPS' Employment Effects and Spatial Inequality

- Both treatment and control groups are counties with high-tech. These are NOT the communities left behind.

- From the paper's Table 1:

	Control		Treated	
	Mean	S.D.	Mean	S.D.
Panel A: General County Characteristics				
Total Empl. (in thousands)	61.6	108.0	314.7	521.1
Manufacturing, as % of total emp	3.2	4.9	4.1	3.3
Empl. in Semiconductors	3.4	43.1	917.8	3668.8
Empl. in Semi. Materials/Equip.	10.4	78.4	152.8	646.0
Avg. Weekly Wage, all Industries	734.6	179.1	933.1	297.3
Unemployment Rate	5.8	1.9	5.3	1.2
Rural %	28.2	20.5	13.7	13.9

- Relative to the control group, the treatment group includes more "advantaged" counties: larger, more urban, higher weekly wages.

- Effect: Potential Increase in Spatial Inequality. However no aggregate employment effects (at the county level), so likely no effect on spatial inequality

On CHIPS' Employment Effects and Good Jobs

- Jobs in semiconductors are generally considered "good jobs" (high-skill; career progression; job security; higher wages; benefits)

- Paper documents (short-term) increase in employment in semiconductors. This raises two questions.

- First question: Who takes these new jobs? Engineers? Lawyers and accountants? Other skilled workers? Or low-skill service workers?

- Second question: Where did the additional employment come from?
  - Not from semiconductor employment in other counties (the control group)
  - But other possibilities:
    - Other countRies (see for instance labor flows from TSMC Taiwan to TSMC Arizona. Presumably small, but affect most skilled, highly compensated employees).
    - Other high-tech sectors within the same county
    - Other high-tech sectors from other counties
    - Ideal case: Non-employment or under-employment of skilled workers. Or fresh graduates.

On CHIPS' Employment Effects and Good Jobs (contd.)

- With micro data (i.e., employer-employee data) one can address these questions.

- In the meantime, focus on semiconductor employment as the dependent variable is limiting.

- Might want to consider employment in high-tech sectors or employment of high-skilled workers as alternatives in order to address potential negative spillovers on other sectors.

- In the short run, it is not easy to see how CHIPS could have increased employment of engineers and other high-skilled professionals without crowding out high-skilled employment in other sectors.

- But in the long run, may provide the right incentives to increase supply of needed skills and specialties.

To Conclude

- Employment effects not the most interesting aspect of the CHIPS act.
- Conditional on the employment focus, interesting question regards the kind of jobs that were created and the sources of the additional employment.
- Authors can potentially address this latter question with micro data (employer-employee data).
- Looking forward to reading future work.

THANK YOU!