The Impact of the H-1B Cap Exemption on High-skilled Labor Markets

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INSTITUTIONAL BACKGROUND
- There are competing views among researchers and policy makers on whether the US government should assign more visas to allow foreign high-skilled workers to stay in the US labor market; or make the current immigration policy stricter with the argument that immigrants displace native US workers (Borjas and Doran 2012, Moser et al. 2014 and Kerr and Lincoln, 2010).
- For newly graduated foreign-born professionals including all academic degree holders, the H-1B visa program has become possibly the only path to legally enter into the US labor market.
- The American Competitiveness in the Twenty-first Century Act (AC 21) was signed into law in October, 2000 (Congress, 2000). It had one key provision to exempt the numerical cap for H-1B applicants who are employed by higher educational institutions, nonprofit research organizations, and government research organizations.
- As a result, AC 21 potentially affects the job preferences of non-citizen college graduates seeking to stay in the United States after graduation. Choosing a career in an uncapped H-1B qualified entity means to circumvent the risk of facing the fiercely competitive H-1B application process and possibly avoiding potential losses due to a visa rejection.

MOTIVATION
- In the existing literature, a crucial challenge for detecting the effect of high-skilled immigrants on domestic workers relies on overcoming the endogeneity of the behavior of immigrants in the job market.
- Also, the past literature focuses on the impact of immigration policy on natives without much attention on the potential effects on high skilled foreign labor.
- An evaluation of the effect from the external policy change of AC21 on job market preferences of high-skilled immigrants not only fills the literature gap by concentrating on foreign-born individuals, but also paves the way to accurately identify the impact of foreign workers on domestic workers in the future study.

DATA
- Licensed data from Survey of Earned Doctorate (SED)
- Repeated cross sectional data from 1995 to 2006
- It covers the population of Ph.D. graduates who may have been affected by the implementation of AC 21.
- The last year of analyzed data is 2006; this is done in order to construct a clean identification and to rule out potential confounding factors generated from the Great Recession which began in 2007.

EMPIRICAL STRATEGY
- Difference-in-Difference:
  - We leverage individual level variation in the visa status to identify the effects of AC 21 on job placement.
  - \( Y_{it} = \gamma + \alpha D + \beta X_{it} + \delta D_{it} + \epsilon_{it} \)
  - where \( Y_{it} \) is a binary indicator equal to 1 if individual \( i \) with foreign nationality \( f \) obtained his Ph.D. degree in year \( t \) and worked in academia after graduation.
  - The parameters \( \alpha, \beta, \delta \) are nationality, major and year fixed effects, capturing all the unobserved variation in the outcome variable, citizenship, major and year.
  - \( D_{it} \) is our primary measure for the treatment variable, and it is equal to 1 for foreign PhDs who graduated after the adoption of AC 21.
  - Baseline model is also extended to various specifications including the major-specific linear trends, field-by-year fixed effects and individual characteristics.

RESULTS
- Empirical Results:
  - Academia
    - Table 1: Treatment Effect of AC 21 on Job Placement in Academia
    - Table 2: Treatment Effect of AC 21 on Job Placement in Industry
  - Industry
    - Table 3: Dynamic Difference-in-Difference Estimation (Cheng and Hoekstra, 2013):

ROBUSTNESS
- Inference: Besides clustering the standard errors at the doctoral field level, we implement two additional strategies.
  - One is multi-way clustering the year and field level in the spirit of Cameron et al. (2011), which are shown in the brackets of Table 2 and 3.
  - The other is constructing p-values using the bootstrap t-procedure suggested by Cameron et al. (2008). The p-values with 999 replications are in Table A1.
- Placebo Experiments
- Falsification Test
  - We further check whether PhD graduates who are exogenous to this policy intervention also change their job type preference after its implementation.

CONCLUSION
- Our findings indicate that by reducing the potential risk in the process of the H-1B petition, AC 21 causes foreign PhD graduates to be 5% more likely to start a career in academia and 4% less likely to work in industry.
- Our point estimates are robust to the inclusion of various controls including individual level characteristics, differing trends in majors and idiosyncratic shocks on academic fields over time.
- A falsification test on post-doctoral participation and placebo experiments based on pre-period data further support the estimated results, excluding other possible external changes in the labor market.

REFERENCE