



Impact of OPT policy on international students' decisions to major in STEM Economics

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Motivation

- In 2016, Department of Homeland Security announced international STEM students can extend their Optional Training Program (OPT) by 2 years; this is in addition to the regular OPT time of 12 months.
- In response to this policy, universities are reclassifying their economics degrees to STEM degrees to allow their international graduates to benefit from the additional 2 years of work experience.

Research Question

- Since the extension of OPT policy, has the percentage of international students majoring in STEM economics increased?

Method

- A simple linear regression comparing pre vs post completion of STEM economics degree for domestic and international students is used.
- Dependent variable (Y): proportion of STEM economics students
- Independent variables:

International=

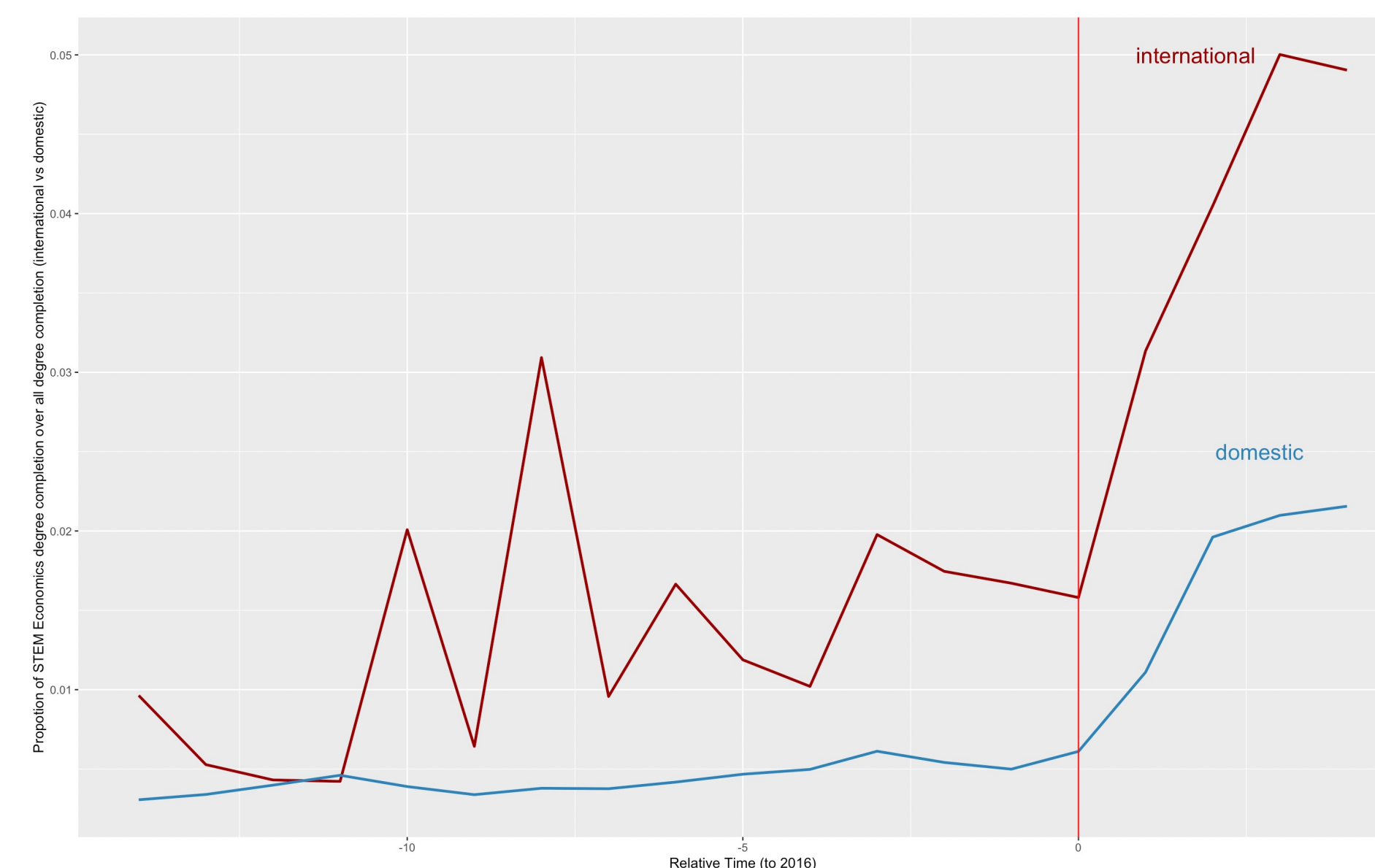
$$\begin{cases} 1, \text{international student STEM Economics degree completion} \\ 0, \text{domestic student STEM Economics degree completion} \end{cases}$$

$$\text{Treatment} = \begin{cases} 1, \text{if survey year} > 2016 \\ 0, \text{otherwise} \end{cases}$$

Data

- Student completion data by major- Integrated Postsecondary Education Data System (IPEDS)
- Sample of 127 universities were collected from 2002 to 2020.
- Variables of interest: degree completion for both domestic and international students

Event Study - difference in difference



Model

$$(Y)_{i,t,j} = \alpha * International_{i,t,j} + \beta * Treatment_{i,t} + \sum_j \sum_t \gamma_{j,t} * Treatment_i * International_{i,t,j} + \delta * timetrend_t + \epsilon_{i,t,j}$$

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Regression Results

DV: Proportion of STEM Economics students

	TotalEconCompletionProp
international	0.009*** (0.003)
treatment	0.004 (0.004)
time-trend	0.001*** (0.0003)
international*treatment	0.015*** (0.003)
Constant	-2.199*** (0.631)
Observations	1,306
R ²	0.179
Adjusted R ²	0.176
Residual Std. Error	0.031 (df = 1301)
F Statistic	70.870*** (df = 4; 1301)
Significance levels	* p<0.1; ** p<0.05; *** p<0.01

Conclusion

- 1 unit increase in the proportion of STEM economics students increases international STEM economics graduates by 0.9%.
- After the extension of OPT, percentage of international students completing STEM economics degree increased by 1.5% for each unit increase in Y.

Discussion and Future Research

- Adding more control variables, such as university characteristics and the year a university adopted STEM economics degree, would increase the adjusted R² in the model.
- It would be interesting to compare the labor outcomes of international students staying in the U.S. for 3 years vs 1 year.