Banks, Fintech Disruptions, and Labor Consequences

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Abstract

I examine how traditional depository banks respond to increased competition from fintech firms. My identification strategy exploits the staggered adoption of the regulatory sandbox legislation in some US states. I first show that the adoption of regulatory sandboxes leads to 8% increase in the number of fintech startups. This rise in fintech firms leads banks to increase wages and employment. At the same time, banks close more branches. Together, my results suggest that banks boost recruitment and close costly branches in a bid to be more responsive to the potential disruptions from fintech firms.

Motivation

There is a rise in fintech firms

- The number of fintech firms that disrupt traditional ways of banking has been on the rise (Chen, Wu, and Yang, 2019).
- Traditional banks have lost market share to fintech firms, mainly because of complex regulatory requirements and costs (Buchak, Matvos, Piskorski, and Seru, 2018).
- Fintech firms bring about new automated technologies (Fuster, Plosser, Schnabl, and Vickery, 2019).

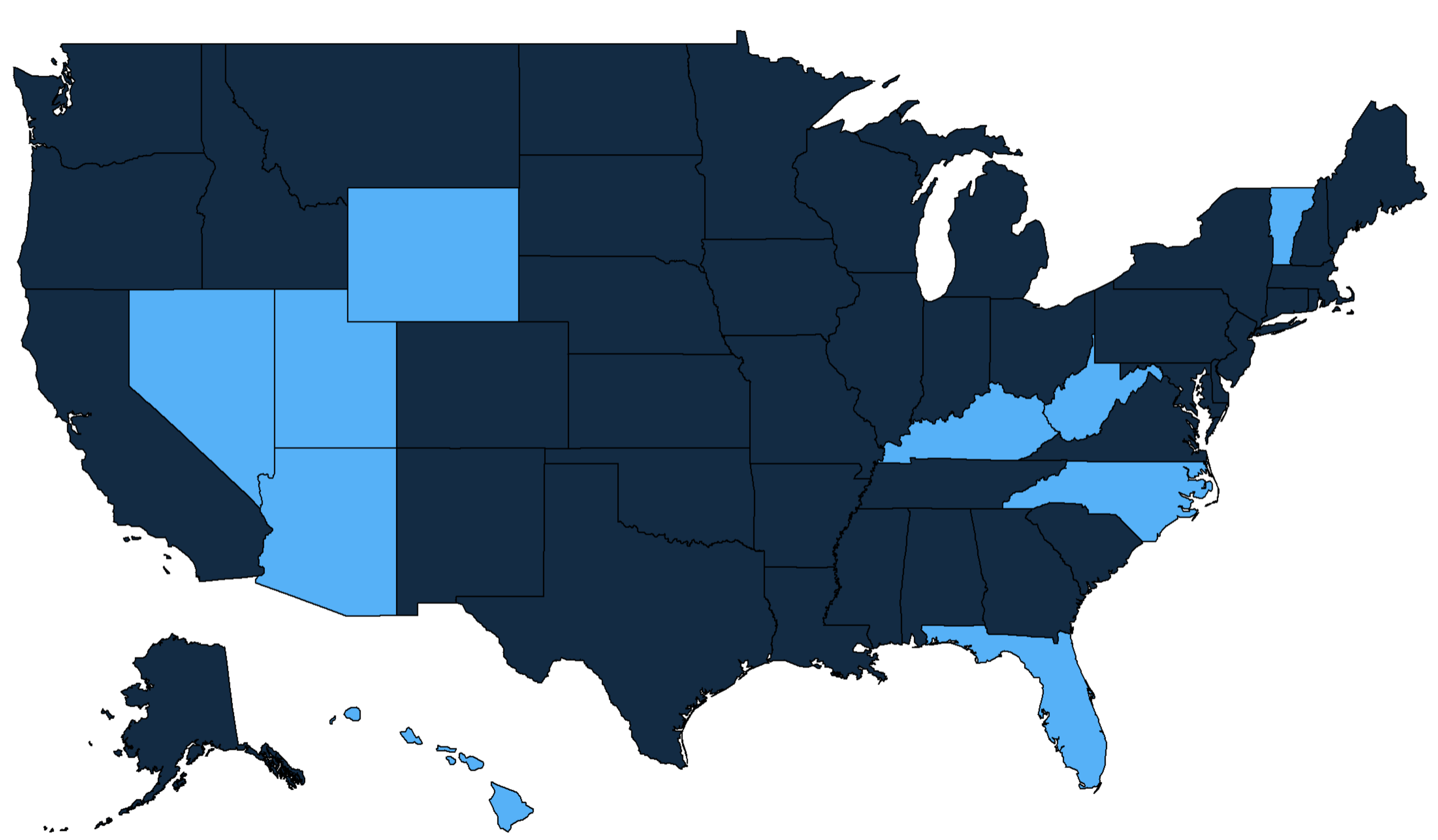
The impacts of fintech firms on banks are not fully understood

Institutional Background

Regulatory sandbox has become a trend all over the world

- Was first initiated in the UK in 2016
- Reduces barriers to entry for entrepreneurs including various regulatory burdens and associated costs
- Provides fintech startups with a safe and controlled environment to test their products and services
- Now present in more than 20 countries include the US, China, Australia and Canada.

States that Adopt Regulatory Sandbox



- 10 states have adopted regulatory sandbox legislation in the US

Institutional Background

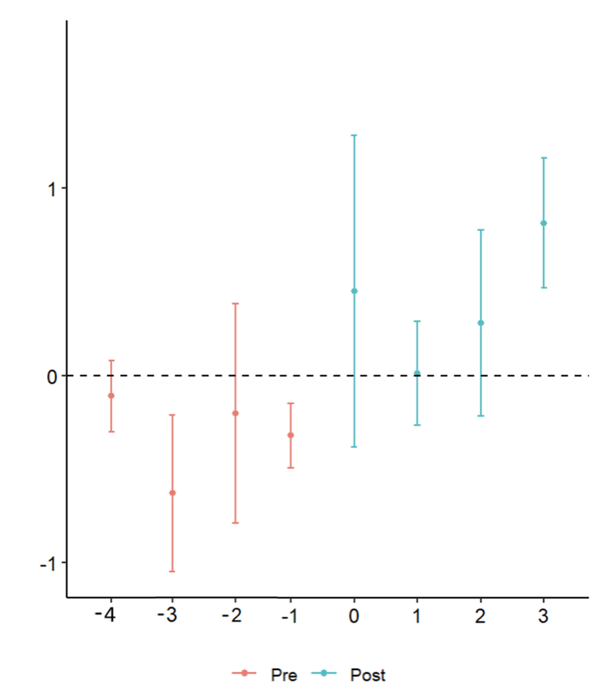
Tightening state-level fintech regulations

- Most significant state-by-state approach to regulating non-banks is licensing. A firm seeking a single state's license can expect to spend over $1 million and wait two years (McQuinn and Castro, 2016)
- Once licensed, non-banks are subject to oversight by the state's financial regulators: file annual financial reports, pay fees, and submit to regular examinations.
- Other specific state laws : usury laws, safety-and-soundness surety bonds ($1 mil)

Main benefits of joining US regulatory sandbox

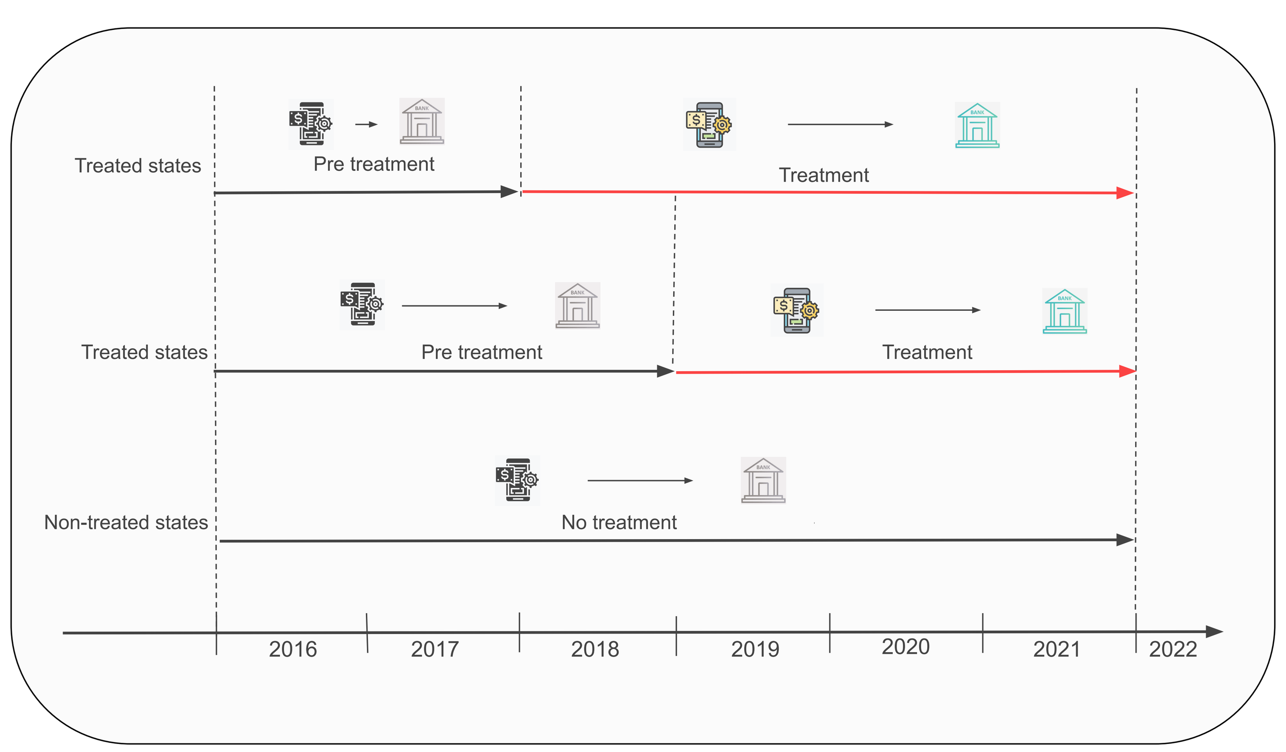
- Avoid state licenses and authorization and jumpstart their products and services

Fintech Startups Entry Coefficient Trend



- This figure shows the evolution of fintech entry (average effect by length of exposure) in treated states with regulatory sandbox legislation relative to control states without such laws.

Empirical Strategy



- Empirical strategy: employs the staggered adoption of sandbox among states

$$y_{st} = \delta Sandbox_{st} + \beta X_{st-1} + \sigma_s + \alpha_t + \epsilon_{st}.$$

- An omitted variable would need to not only be correlated with the staggered adoption of sandbox but also differentially affect companies
- Reverse causality: Early fintech startups are unlikely to lobby

Main Result on Fintech Firms

Number of fintech startups following sandbox adoption

Dep. Var. =	ln(1+ Entry) (1)
Sandbox	0.082* (1.75)
State controls	Yes
State FE	Yes
Year-quarter FE	Yes
No. of observations	1,200
Within R^2(%)	1.26

- Sandbox: An indicator equal to one if a state has adopted regulatory sandbox in or after a quarter
- Adoption of regulatory sandboxes leads to 8% average increase in the number of fintech startups

Main Results on Banks

Impact of increased fintech competition on bank employment and wages

Dep. Var. =	ln(Bank employment)		ln(Bank wages)	
	(1)	(2)	(3)	(4)
Sandbox	0.119* (1.72)	0.115* (1.68)	0.164** (2.29)	0.152** (2.30)
State controls	No	Yes	No	Yes
State FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
No. of observations	1,200	1,200	1,200	1,200
Within R^2(%)	1.9	1.3	1.26	1.3

- State-level bank employment and wages data from Quarterly Census of Employment and Wages (QCEW)
- Adoption of regulatory sandboxes leads to 11.5% and 15.2% increase in the average bank employment and bank wages respectively at the state-level.

All Results - Conclusions

- The passage of regulatory sandbox increases new entrants of fintech firms
- Increase in competition from fintech firms leads banks to significantly increase employment and wage at the state-level
- Banks reduce the number of branches following the increased competition from fintech firms
- Together, my results suggest that banks recruit more workers and close costly branches in a bid to be more responsive to the potential disruptions from fintech firms

References

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