What doesn’t work in securities law:

blue sky laws and capital formation

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Question: Which security regulatory system is the least conducive to capital formation?

- Free Market: no regulation apart from commercial law rules enforcing contracts and prohibiting fraud
- Registration based system with mandating disclosure to reduce information asymmetry and agency problem (Stulz 1999; Shleifer and Wolfenzon 2002; La Porta, Lopez-De-Silanes and Shleifer 2006)
- Permission based system:
  - A) Blue sky law (BSL): requires a company to file information with a state regulator and receive his approval before selling securities, anti-fraud provision and investigation authority
  - B) "Fair Return" provision: permit sale of the securities only if "in his judgment [the offering] promises a fair return."

Pros and Cons and Relevance

- Pros: The early 20th century BSLs likely prevented some fraudulent offerings. BSLs should have increased investors' willingness to buy securities and reduced the cost of capital.
- Cons: They also likely prevented some non-fraudulent offerings because officials lacked the expertise and incentive to distinguish risk from fraud. They may also seek rents. The cost of capital would have increased, reducing both capital formation and investment opportunities.
- China & India still use permission based system
- non-SEC registered securities receive merit review under state BSLs (but front line in 1910s and 1920s)

Literature Review

- Mahoney (2001): Motive is to protect the banking sector from competition of securities brokers.
- Agrawal (2013): Yes, "the evidence is strongly supportive that investor protection law has a significant impact on corporate policy and performance." (publicly traded mining companies in the early 20th century)
- Brüggemann *et al.* (2018): Yes, OTC firms subject to stricter regulatory regimes and disclosure requirements have higher liquidity and lower crash risk. (10,000 OTC stocks from 2001 to 2010)
- La Porta, Lopez-De-Silanes and Shleifer (2006): Cross-country evidence indicate that mandatory disclosure and antifraud provisions are associated with more developed capital markets, but a regulator with enforcement powers is not.

Summary of Empirical Results

- We find that the earliest (and strictest) BSLs, adopted between 1911 and 1913, had a negative impact on capital. The impact is greater for the subset of early adopting states that gave the administering official the greatest discretion to approve or reject securities sales.
- We provide a case study of Kansas, the first state to adopt a BSL. We find that manufacturing capital in Kansas lagged substantially behind that of its synthetic twin over the three years following enactment of the statute.
- Other available measures are less conclusive, but consistently indicate negative effects.
- The paper contributes to the literature on the optimal design of securities regulation.
- The paper also contributes to a growing literature on the Progressive Era policy environment.

Progressive Era (1896–1917)

- Antitrust laws to promote competition (the Sherman Antitrust Act in 1890, splitting Standard oil in 1911).
- Consumer protection, New government roles and regulations, and new agencies to carry out those roles, such as the FDA.
- The banking system was transformed with the creation of the Federal Reserve System in 1913
- Corrupt and undemocratic political machines were also a target, but created more government agencies

Source: Wikipedia

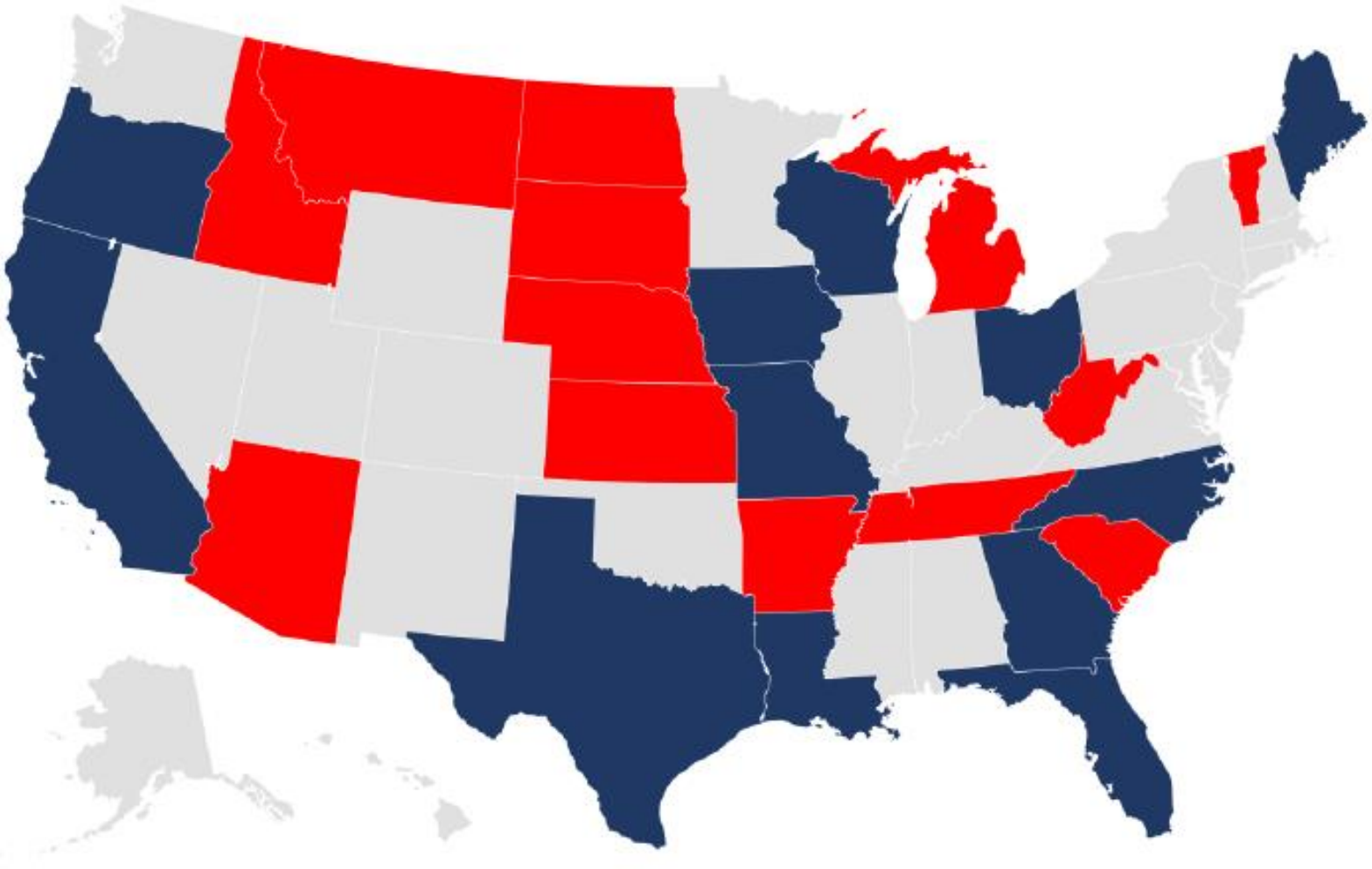
Institutional Background

- Rise of the US Economy and Capital Market
- Kansas launched the first Blue Sky Law: company must first filed information with the state's bank commissioner and received his approval to sell. The statute instructed the bank commissioner to permit sale of the securities only if "in his judgment [the offering] promises a fair return." (Mr. Dolley)
- Investment Bankers Association of America in 1912 that proposed a system of registration and regulator's power to stop fraudulent offerings, but did not require prior approval, but most adopted BSLs.
- First Wave: Twenty-four other states adopted BSLs by the end of 1913. Twelve of them followed the Kansas statute closely. Business challenged them in court.

Institutional Background (continued)

- In 1915, following the initial court decisions, several states amended their statutes to reduce the administrator's discretion, to exempt secondary trading and listed securities.
- The U.S. Supreme Court found the BSLs, including fair return statutes, constitutionally valid in a series of decisions in January 1917.
- After 1915, BSLs became less "radical".
- 1933 Securities Act adopted a registration-based systems.
- Sarbanes-Oxley Act of 2002 and the Dodd-Frank Act of 2010 contain numerous governance provisions.

F1: States that adopted a fair return BSL during the years 1911-13, shown in red, while other states that adopted a BSL during the same period are shown in blue



Data

- **Manufacturing Capital,** comprising fixed assets, inventory, and receivables.
  - Data aggregated at the state level beginning with the 1850 Census; 1899, 1904, 1909, 1914, 1919 (*Statistical Abstracts of the United States*)
- Agrawal (2013) uses data on authorized capital
- **New Incorporation**:13 states for the years 1908-1918, Evans (1948)
- **Business Failure**: quarterly data by Angel and Richardson (2024)
- **Dividends** as a % of Total Income, from IRS, 1917-1930
- **Covariates**: Railroad, Education spending, progressive index and average bank assets

Table 1: Descriptive Statistics

	Full sample (48 states)	Fair return statutes (13 states)	Early adopters (25 states)	Late adopters (23 states)
Year = 1909				
Population (thousands)	1878.40	1105.15**	1659.40	2116.44
	(1810.14)	(804.78)	(1178.21)	(2317.73)
Manufacturing capital/1000	171.63	107.60***	130.32**	216.53
population ($)	(123.59)	(61.04)	(75.03)	(149.81)
Average assets per bank ($	889.65	404.95***	499.43**	1313.80
thousands)	(1141.86)	(265.18)	(314.98)	(1521.89)
Progressive laws enacted (out of 9	2.81	2.38	2.64	3.00
possible)	(1.38)	(1.50)	(1.44)	(1.31)
Miles of railroad track per 100	11.19	8.27**	9.33*	13.22
square miles of land area	(7.10)	(4.51)	(5.15)	(8.40)
Educational spending per school-	16.90	16.61	15.35	18.57
aged population	(10.72)	(8.79)	(8.97)	(12.33)

Measurement of the Treatment Effect

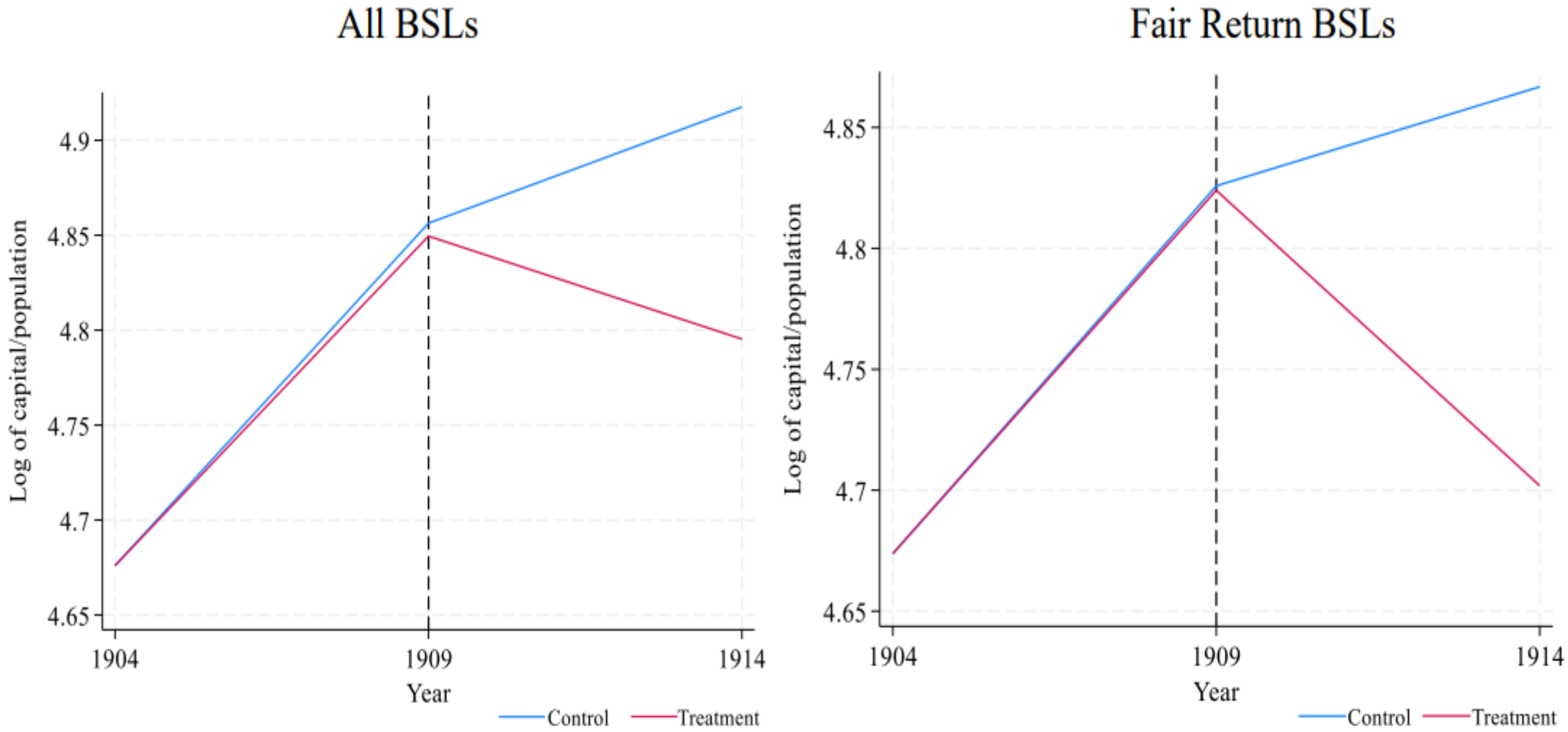
$$y_{it} = \alpha_1 + \alpha_2 State_i + \alpha_3 Year_t + \beta Treated_{it} + \gamma \boldsymbol{Cov_{it}} + \varepsilon_{it} \qquad (1)$$

$$y_{it} = \alpha_1 + \alpha_2 State_i + \alpha_3 Year_t + \beta Treated_{it} + \gamma \boldsymbol{Cov_{it}} + \zeta w_i d_0 t + \varepsilon_{it} \qquad (2)$$

Table 2. DiD: early *vs.* late adopters and fair return states *vs.* late adopters

Sample years: 1904, 1909 (pre-treatment); 1914 (post treatment)				
Outcome variable = Log of manufacturing capital/population				
	Treatment=BSL		Treatment=Fair return statute	
	Models			
	(1)	(2)	(3)	(4)
ATET	-0.040	-0.118**	-0.062	-0.164***
	(0.054)	(0.051)	(0.064)	(0.061)
State fixed effects?	Y	Y	Y	Y
Year fixed effects?	Y	Y	Y	Y
Other covariates?	N	Y	N	Y
Number of observations	144	144	111	111
Number of states	48	48	37	37

Figure 4. Conditional parallel trends assumption



Heterogeneous DiD of Callaway and Sant'Anna (2021)

$$y_{it} - y_{i0} = \alpha + \beta \boldsymbol{x_{it}} + \varepsilon_{it} \tag{3}$$

$$log\left(\frac{G_{ig}}{1-G_{ig}}\right) = \beta \boldsymbol{z}_{it} + \varepsilon_{it} \tag{4}$$

$$\widehat{ATET}_{gt} = \sum_i \left(\left[\frac{G_{ig}}{\sum_i G_{ig}/i} - \frac{\frac{\hat{p}_{gt} C_{gt}}{1-\hat{p}_{gt}}}{\sum_i \left\{ \frac{\hat{p}_{gt} C_{gt}}{1-\hat{p}_{gt}} \right\}/i} \right] \left[y_{ig} - y_{i,g-1} - \hat{y}_{it} \right] \right) \Big/ i \tag{5}$$

Table 3: Heterogeneous difference in differences results

Outcome variable: Log of manufacturing capital per 1,000 population		
Panel A: *Cohort-year treatment effects*		
	Estimate	Standard error
Early cohort		
1909	-0.073	0.069
1914	-0.160**	0.064
1919	-0.267*	0.142
Late cohort		
1909	0.024	0.069
1914	-0.088	0.084
1919	-0.010	0.073
Panel B: *Aggregate treatment effects*		
ATET for Early cohort	-0.214**	0.102
ATET for Late cohort	-0.010	0.073
N (observations)	192	
N (states)	48	

Table 4. Synthetic Kansas

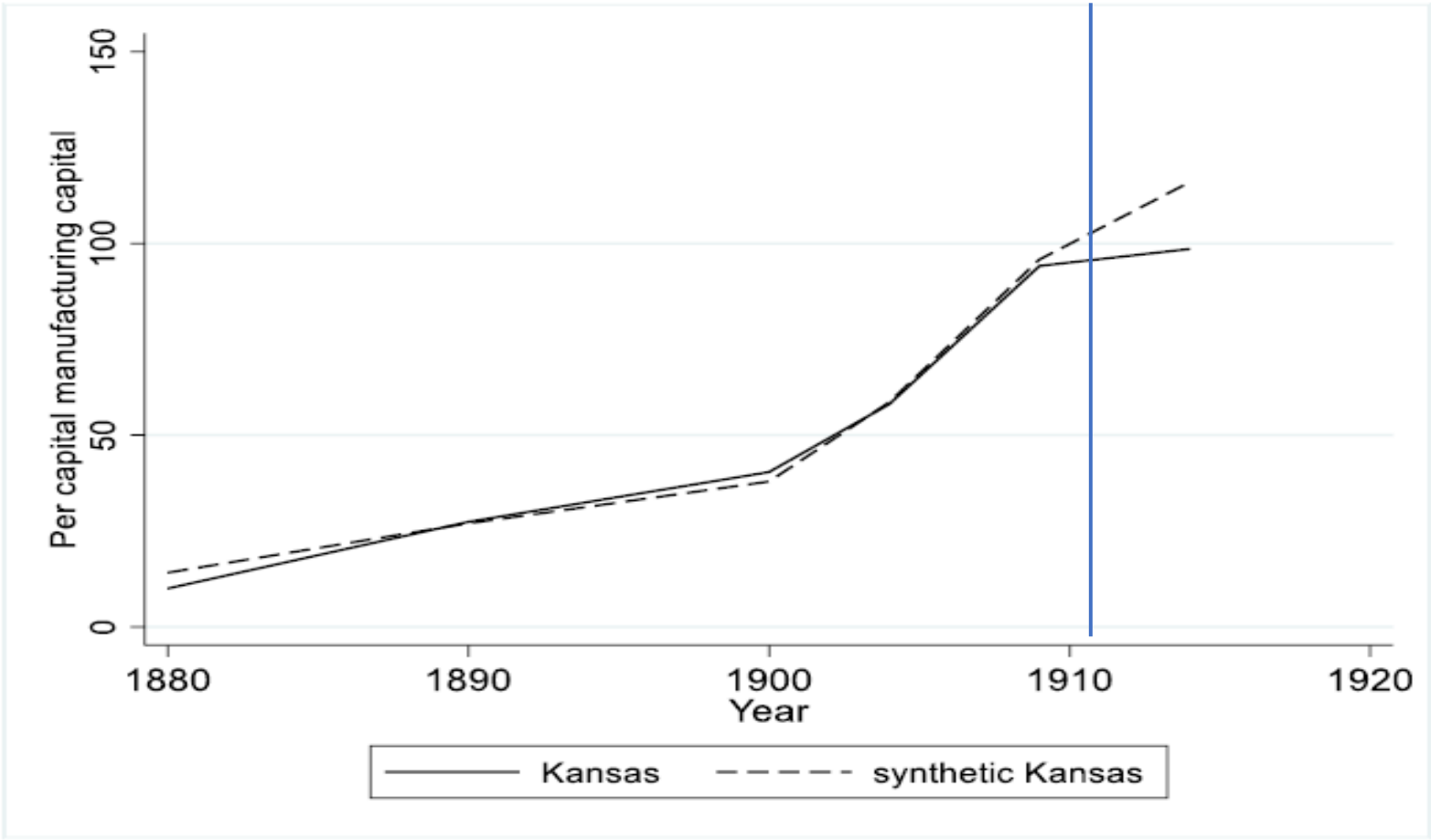
Panel A: *Control unit weights*

Control State	Weight
Indiana	0.2
Minnesota	0.1
Mississippi	0.5
Nevada	0.2

Panel B: *Predictor balance*

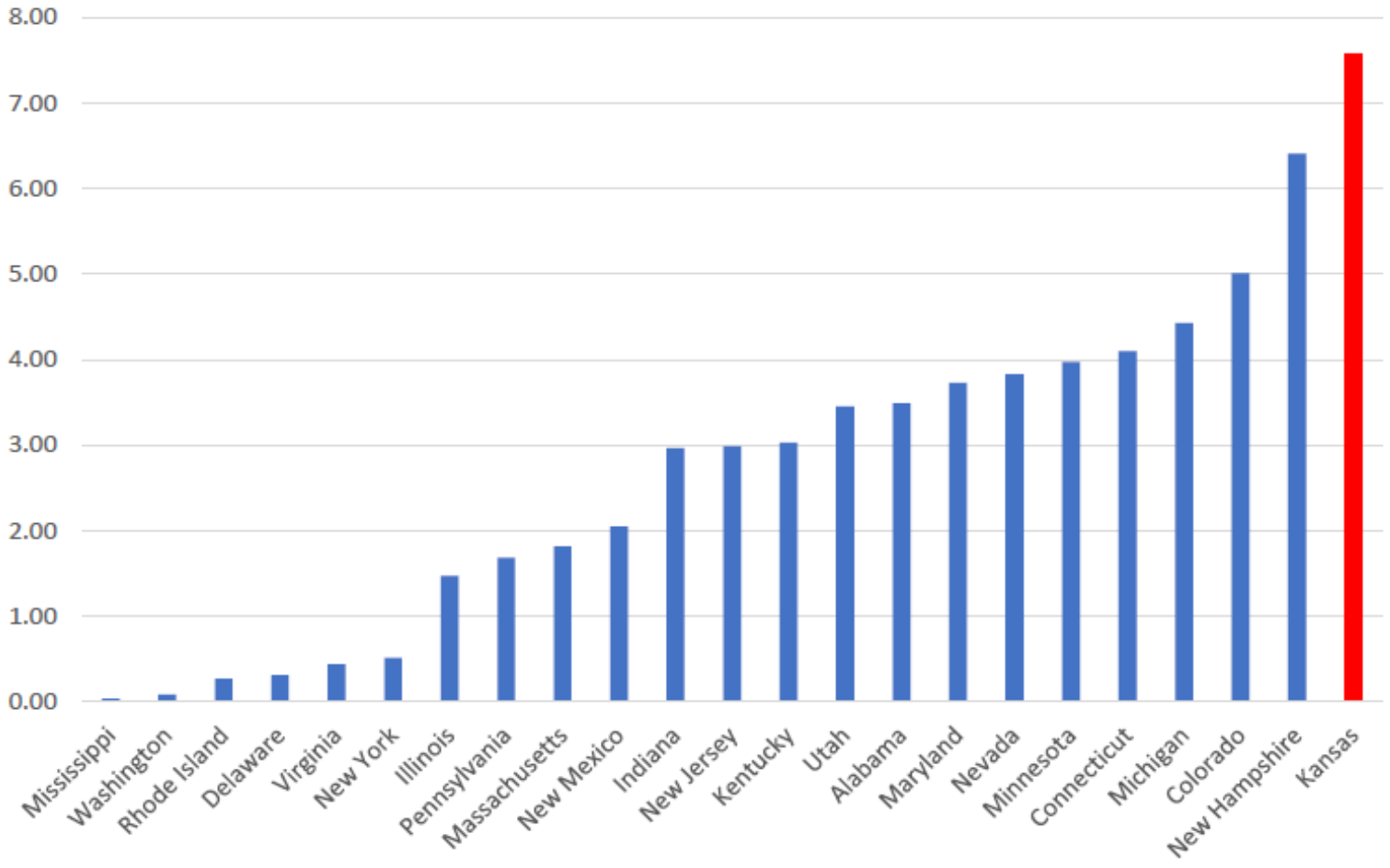
Variable	Kansas value	Synthetic Kansas value
Railroad miles per square mile of land area	9.41	7.30
Education expenditure per school-aged child	10.31	10.09
Per capita manufacturing capital in 1890	27.39	27.05
Per capita manufacturing capital in 1904	58.07	58.55
Root mean square prediction error		2.48

Figure 5: Per capital manufacturing capital growth in Kansas and synthetic Kansas



Placebo Study on reassigned date: effect negligible

Figure 5a: Ratio of post-treatment RMSPE to pre-treatment RMSPE for Kansas and control states



root mean squared prediction error (RMSPE)

Control States:
2.55 (1.80)
Kansas: 7.58
2.8σ

1/23 => 4.3%

Table 5. DiD results: New incorporations

Treatment = enactment of BSL		
	ATET	Standard error
All cohorts (1913, 1916, 1917) aggregated	-0.504**	0.214
1913 Cohort by year		
1909	-0.120***	0.035
1910	-0.096	0.066
1911	-0.093	0.094
1912	-0.039	0.030
1913	-0.152	0.238
1914	-0.487***	0.168
1915	-0.615***	0.192
1916	-0.570**	0.231
1917	-0.579*	0.330
1918	-0.745**	0.354
Number of observations	142	
Number of states	13	

Figure 6. New incorporations around the time of BSLs.

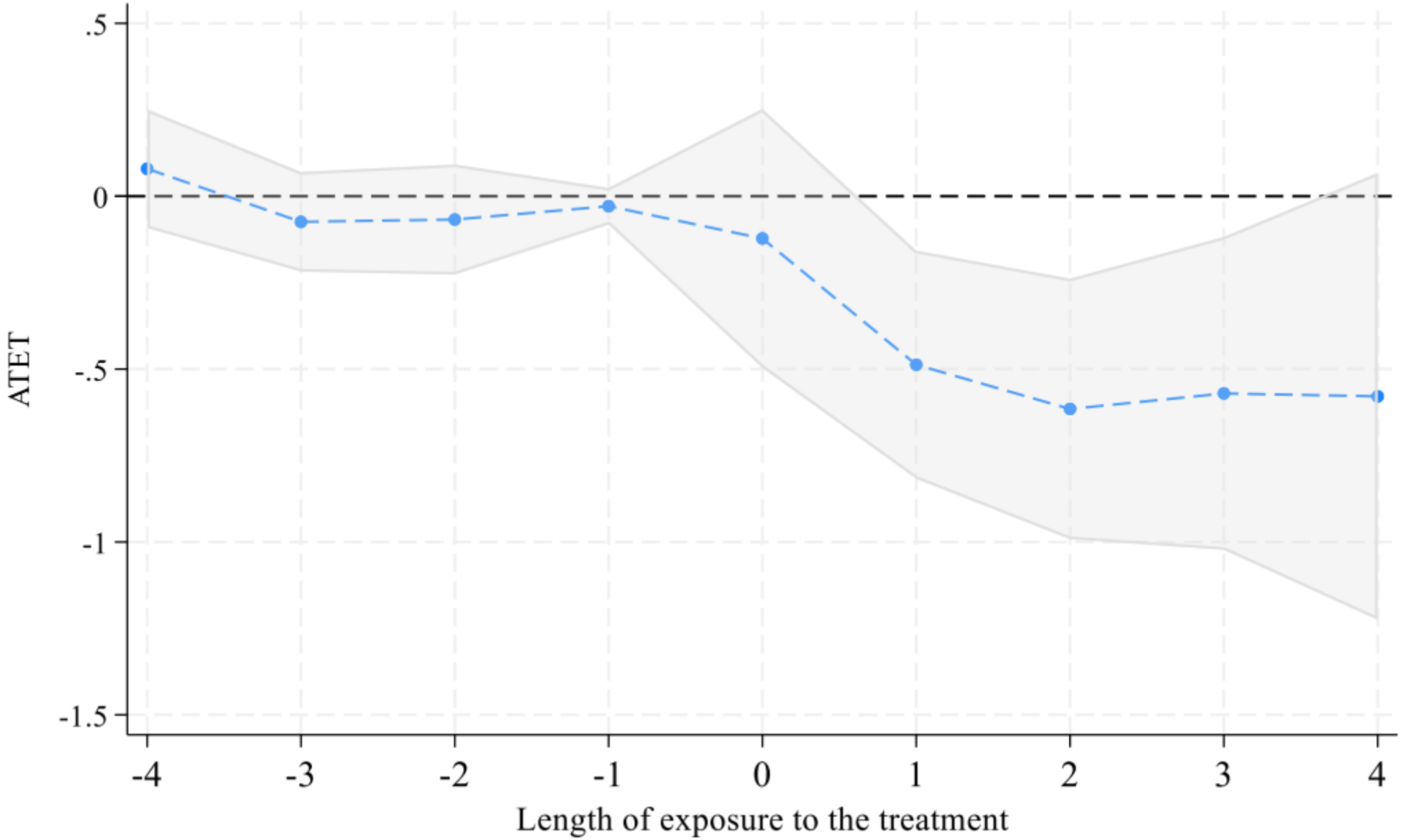
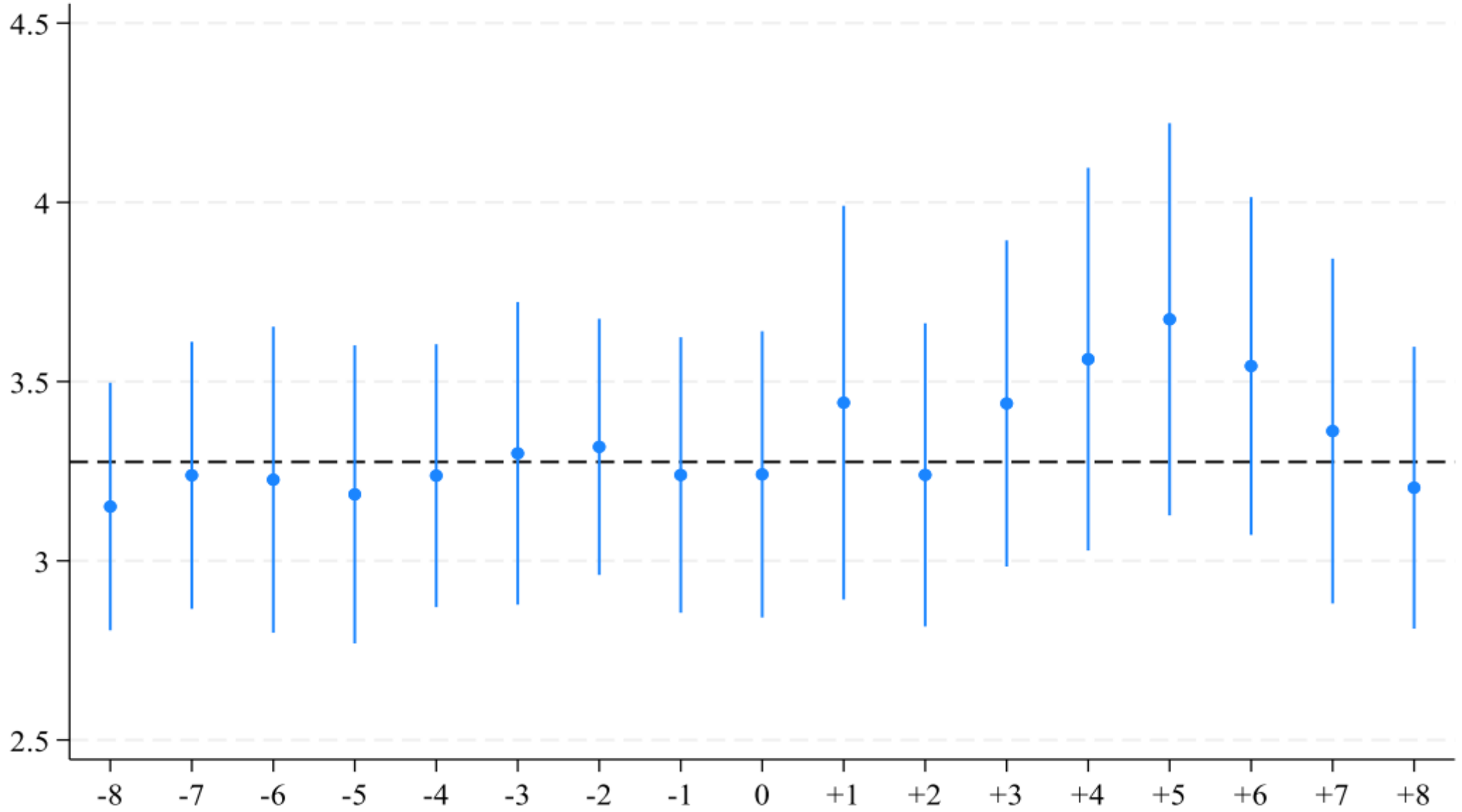


Figure 7. Event study: Commercial failures.



Dividends

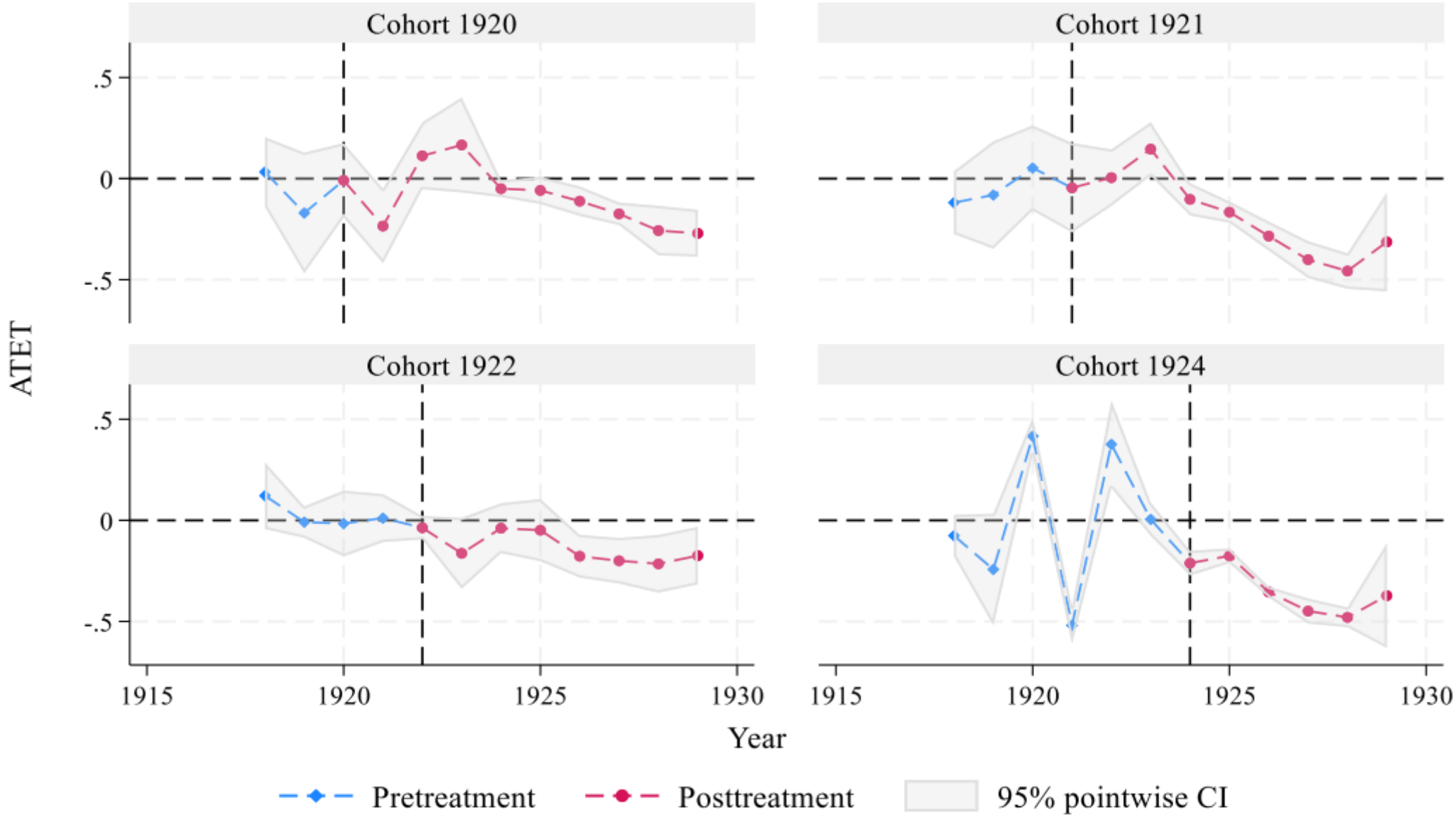
- More effective investor protection laws should increase dividend payouts (Shleifer and Wolfenzon 2002).
- Under the assumption that investors have a home-state bias, a beneficial BSL should increase dividends received by a state's investors.
- Increased investor confidence should shift savings away from lower-risk bank accounts and bonds to riskier stocks.
- If high-quality companies found it difficult to qualify stocks for sale under a state's BSL, fewer attractive equity investment opportunities available.

Table 6. DiD results: Dividends

Treatment = enforcement of BSL

Cohort: Year first enforced (number of states in cohort)	ATET	Standard error
1920 (n=4)	-0.089**	0.044
1921 (n=4)	-0.180***	0.027
1922 (n=4)	-0.132***	0.047
1924 (n=3)	-0.340***	0.038
All cohorts aggregated	-0.162***	0.027
Number of observations	234	
Number of states	18	

Figure 8. Dividends received by taxpayers around time of BSLs



Discussion

- La Porta, Lopez-De-Silanes & Shleifer (2006): Public enforcement can improve on private enforcement, if enforcer is *independent and focused.*
- BSL enforcer is neither: They would bear primary blame for investor losses, but not for general economic underperformance.
- BLS Impact may differ for listed *vs* new companies. It discourages new business formation.
- Modern BSLs (The Uniform Securities Act) has improved. Brüggemann et al. (2018)
- Registration-based systems may increase capital formation in China and India.
- Caution against extensive discretionary power by regulators.

Conclusion

- No evidence that BSLs during the progressive era promoted capital formation and some evidence that they have undermined it.
- “Fair Return” provision is probably the least conducive to capital formation.
- For the states that adopt BSLs in the first wave of 1911-1913, the (negative) effect grows from 1914 to 1919.
- Permission based system imposes cost on capital formation.
- While BSL may be inefficient, it may nonetheless be popular among progressive voters.