Chinese Firms in the Trade War: Decoupling through Reshoring?

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Paper Presented at the Annual Meeting of the
International Political Economy Society
Pittsburgh, PA
27-28 October 2022

Research Question

How has the US-China trade war impacted Chinese investment?

- Chinese firms: where are they investing and why?
- Greenfield investment: up-to-date data available from Orbis

Determinants of Chinese Investment

- Economists emphasize the importance of trade costs or that of firm characteristics in influencing the decision to undertake FDI
- The international business literature focuses on the liability of foreignness that firms may incur when operating in a foreign country
- Dunning's OLI Framework Existing theories generally point to the importance of the characteristics of parent firm, those of the host country, and the dyadic relationship between the home and destination countries for shaping FDI

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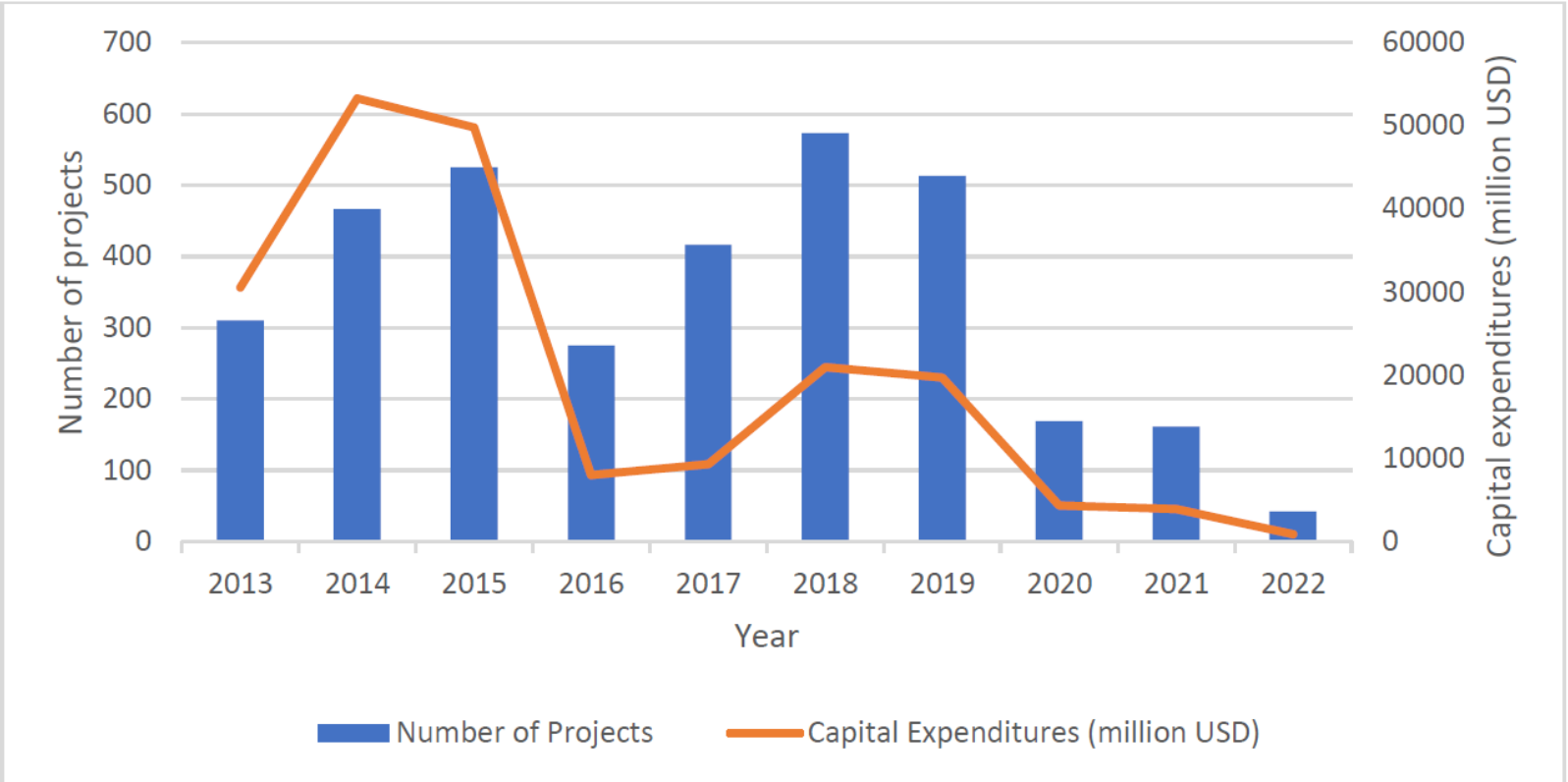
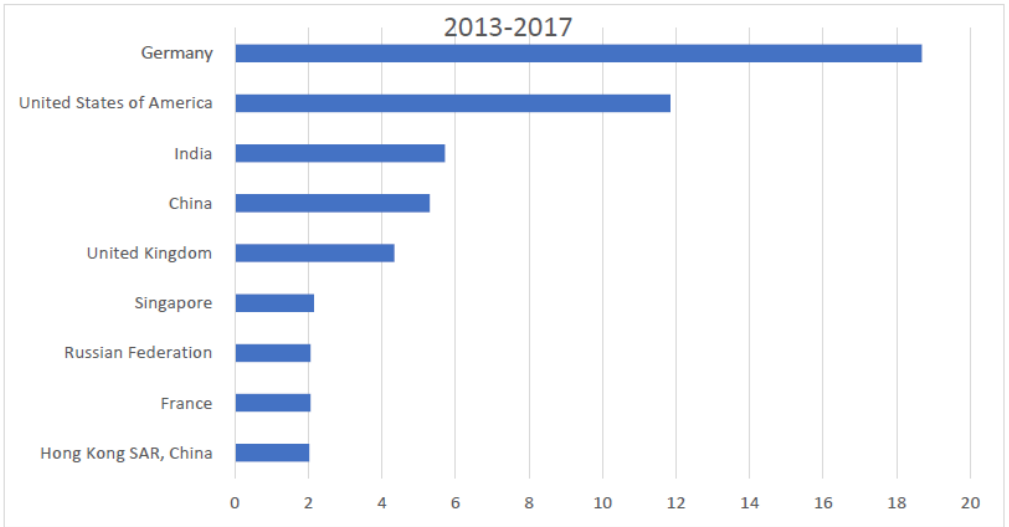
4. *Firm Ownership:* SOEs ares more likely to engage in outward foreign direct investment compared to non-state-owned enterprises since the beginning of the trade war in 2018.

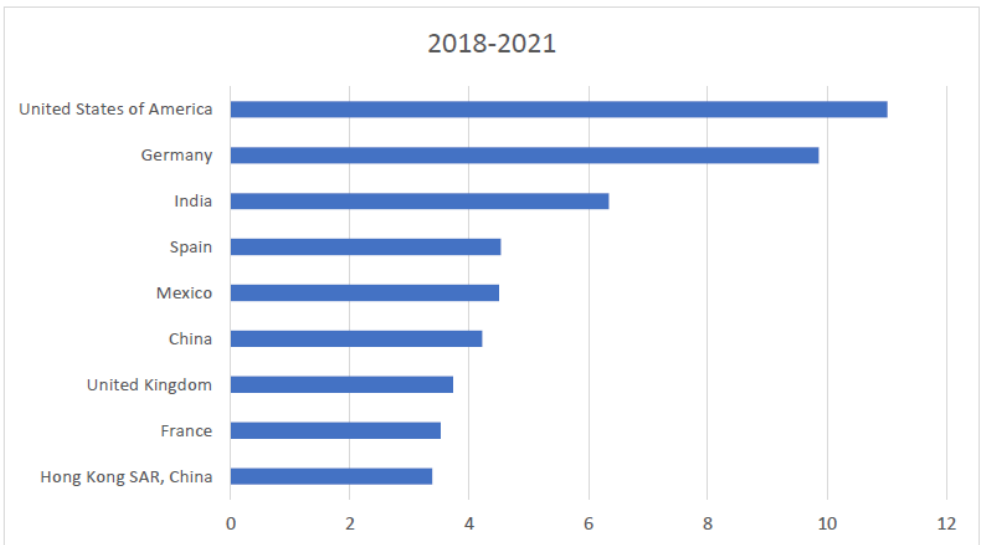
Figure 1: Chinese Greenfield FDI, 2013-2021



Source: Orbis Crossborder Investment Dataset.

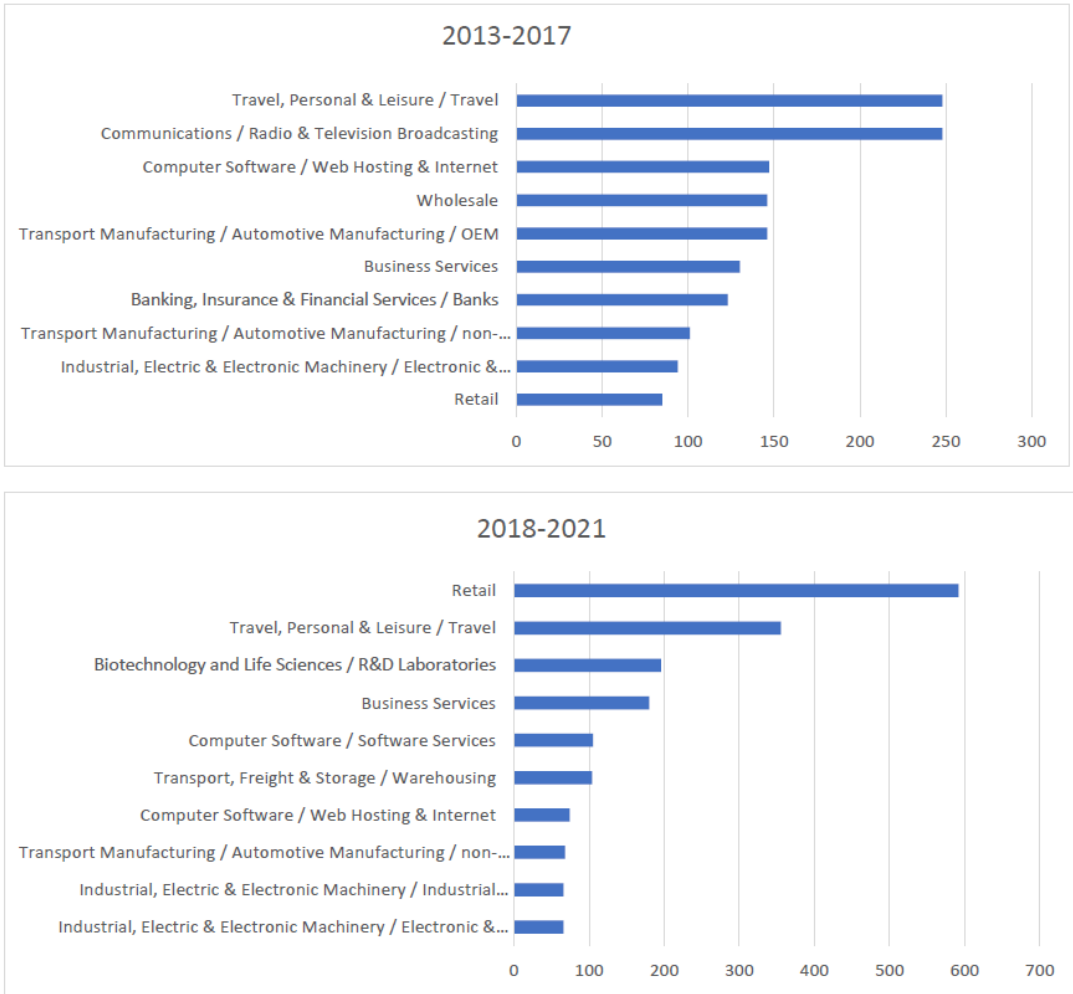
Figure 2: Top 10 Destinations of Chinese Greenfield Investment by Number of Projects, 2013-2021





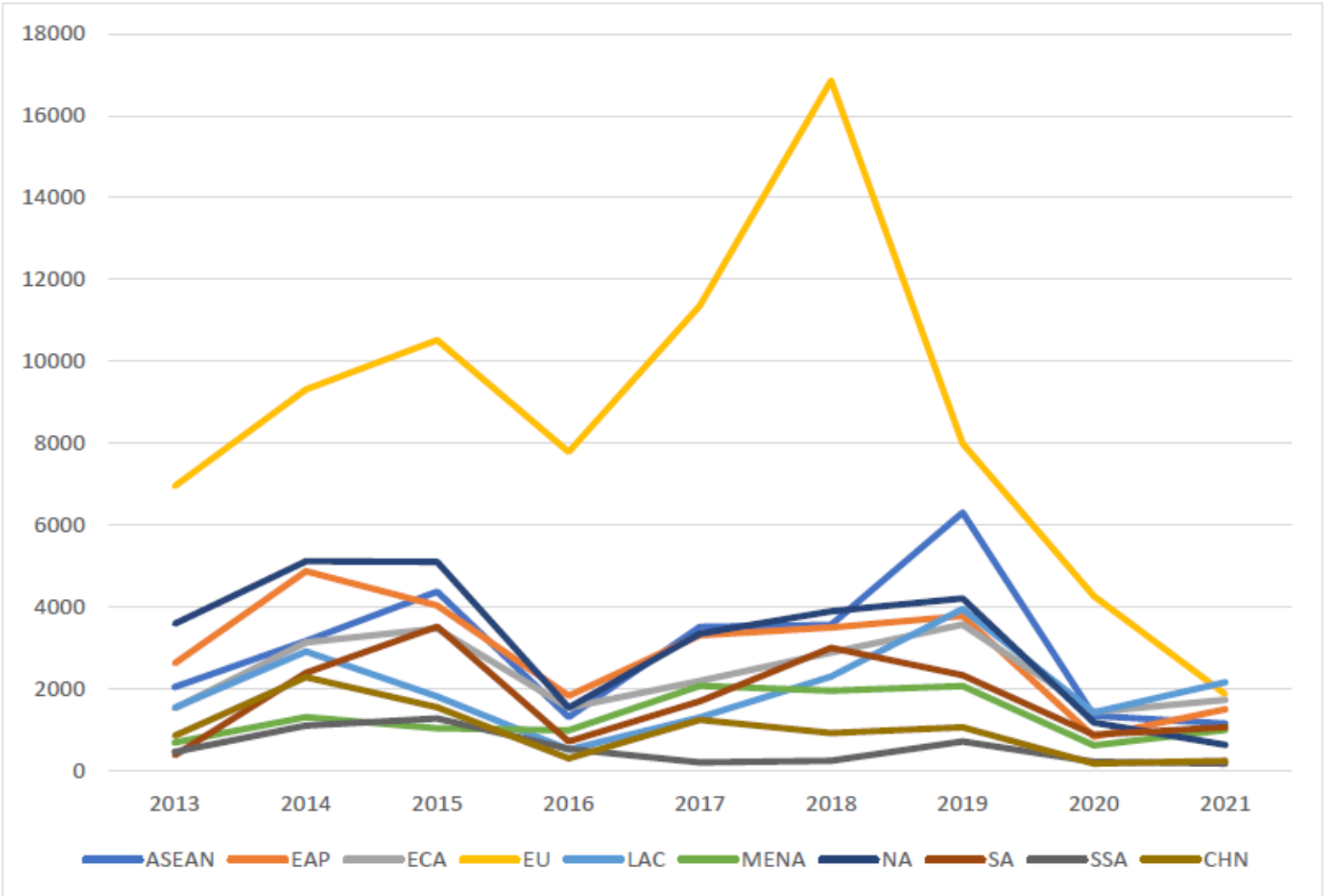
Source: Orbis Crossborder Investment Dataset.

Figure 3: Sectoral Composition of Chinese Greenfield Investment, by Number of Projects in Primary Investing Sector, 2013-2021



Source: Orbis Crossborder Investment Dataset.

Figure 4: Geographical Distribution of Chinese Greenfield Investment, 2013-2021



Source: Orbis Crossborder Investment Dataset.

Overview

- 4,217 greenfield investment projects made by 1,627 unique Chinese firms to 129 destination countries, 2013-2021
- Cross-sectional, time-series models with firm-destination market as the cross-section
- Outcome of interest: *invest* equals 1 if firm i has invested in country j in year t

Independent Variables of Interest

1. *Tariff Exposure = US Tariff * Export Share*
   - *US tariff*: equals 1 if firm's industry is subject to the Trump tariffs in a given year
   - *Export Share*: China's exports to the US in the given industry as a share of China's total exports in the given industry

2. *Ideal Point Distance*: political distance measured through UNGA voting records (Bailey, Strezhnev, and Voeten 2017)

3. *BRI Partner*: equals 1 if destination country has signed MOU or cooperation agreement with China (CFR)

4. *SOE*: equals 1 if firm is classified as state-owned (Orbis)

Control Variables

- Firm-level variables: Employees; Profit Margin
- Country-level variables: GDP; GDP per capita; Regime; Natural resource rents; FDI restrictiveness; COVID-19 cases
- Dyadic variables: BIT with China
- trade war years: pre-2018 or 2018 and later (*dichotomous*)
- Regional effects (*dichotomous* variables): ASEAN; East Asia and Pacific (EAP); EU; Middle East and North America (MENA); North America (NA); South Asia (SA); Sub-Sahara Africa (SSA)
- Interaction terms: trade war years (2018) with regions, independent variables of interest (*Political Distance, BRI Partner, SOE*)

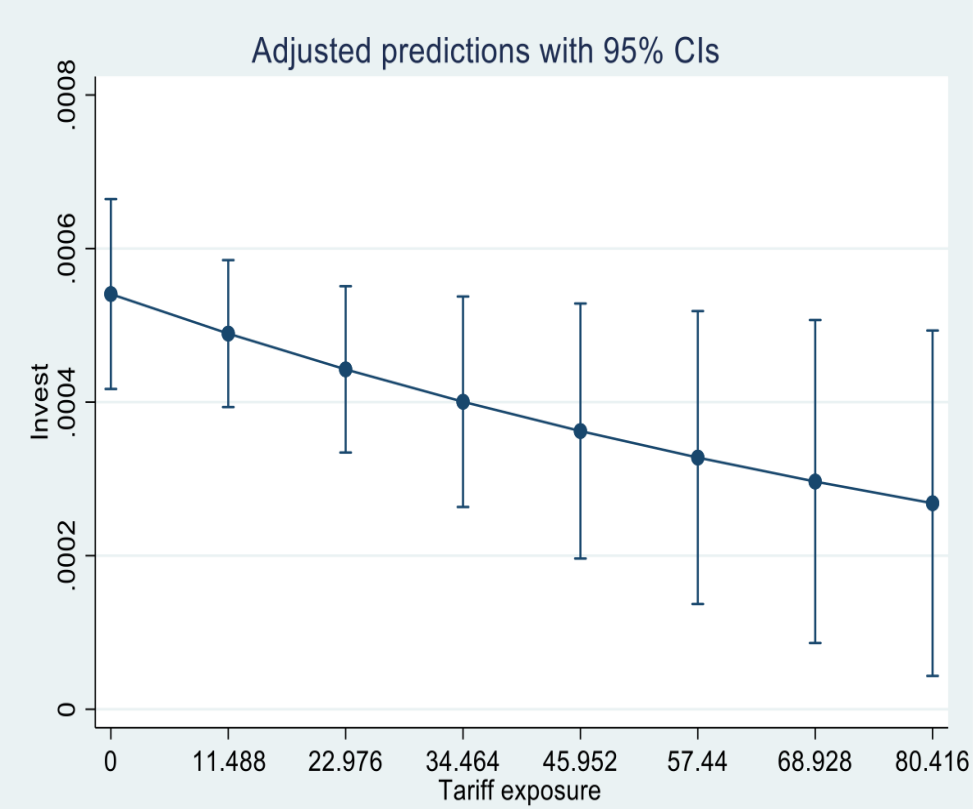
Table 1. Cross-Sectional Time-Series Logit Models of Greenfield FDI by Chinese Firms

Independent Variable	(1)	(2)	(3)	(4)
Tariff exposure	-0.00708	-0.00872	-0.00581	-0.0141**
	(-1.56)	(-1.47)	(-1.12)	(-2.03)
Employees	-0.0358	-0.0341	-0.0375	-0.0377
	(-1.00)	(-0.96)	(-0.93)	(-0.93)
Profit Margin	-0.0366	-0.0390	-0.0414	-0.0393
	(-0.93)	(-0.98)	(-0.93)	(-0.88)
GDP	-5.885**	-7.198**	-5.092	10.50
	(-2.19)	(-2.03)	(-1.02)	(-1.58)
GDP per capita	4.167	6.098	4.937	11.47
	(1.32)	(1.51)	(0.81)	(1.49)
Distance	-25.83***	-29.55**	9.980	19.35
	(-2.82)	(-2.41)	(1.10)	(1.50)
SOE	**0.118**	**0.196***	**0.118**	**0.208***
	(1.18)	**(1.75)**	**(1.06)**	**(1.72)**
Political Distance	**0.0815**	**0.146**	**-0.0177**	**-0.0564**
	(0.77)	**(1.35)**	**(-0.11)**	**(-0.36)**
BRI partner	**0.0673**	**-0.245**	**-0.119**	**-0.316**
	(0.29)	**(-0.75)**	**(-0.36)**	**(-0.71)**
BIT	-0.742	-0.550	-0.751	-0.145
	(-0.88)	(-0.65)	(-0.87)	(-0.17)
COVID-19 cases	-0.106***	-0.0800***	-0.125***	-0.108***
	(-5.59)	(-3.88)	(-5.88)	(-4.06)
Regime			-0.0566	0.0129
			(-0.33)	(0.07)
FDI restrictiveness			-9.312*	-2.195
			(-1.69)	(-0.36)
Natural resource rents			0.296*	0.353*
			(1.86)	(1.66)
2018 dummy		0.674**		0.794**
		(2.36)		(2.26)
SOE*2018		**-0.395**		**-0.592***
		(-1.63)		**(-1.91)**
Political Distance*2018		**-0.000706*****		**-0.00022**
		(-3.43)		**(-0.67)**
BRI partner*2018		**0.0615**		**-0.271**
		(0.22)		**(-0.49)**
Regime*2018				0.0191
				(0.29)

ASEAN	31.45**	37.25**	-10.33	-20.85
	(2.52)	(2.27)	(-1.11)	(-1.45)
East Asia and Pacific	-58.81***	-66.64**	20.68	39.69
	(-2.89)	(-2.45)	(1.12)	(1.54)
European Union	-18.19***	-21.23**	-9.923	-18.38*
	(-2.62)	(-2.33)	(-1.26)	(-1.81)
Middle East and North Africa	-7.064***	-6.042*	1.158	4.981
	(-2.69)	(-1.70)	(0.19)	(0.60)
North America	17.98**	21.55**	5.594	11.75*
	(2.48)	(2.24)	(1.07)	(1.74)
South Asia	-20.27***	-18.99**	24.09	49.58
	(-3.58)	(-2.31)	(0.96)	(1.53)
Sub-Sahara Africa	-10.24***	-8.153		
	(-2.77)	(-1.60)		
ASEAN*2018		0.533		0.898
		(0.99)		(1.31)
East Asia and Pacific*2018		-0.279		-0.607
		(-0.61)		(-1.20)
European Union*2018		-0.538*		-0.478
		(-1.91)		(-1.37)
Middle East and North Africa*2018		0.511.		1.081*
		(1.26)		(1.74)
North America*2018		-0.554		-0.986**
		(-1.51)		(-2.27)
South Asia*2018		-0.154		-0.147
		(-0.33)		(-0.24)
Sub-Saharan Africa*2018		-1.105		
		(-1.34)		
Constant	352.2***	401.8**		
	(2.73)	(2.31)		
N	361,264	361,264	188,420	188,420

Estimates generated using *xtlogit* in *Stata 17*
t-statistics in parentheses; * p $<$ .1, ** p $<$ 0.05, *** p $<$ 0.01

Predicted Probability of Firm Investment



Predicted probability of firm investment for each unit change in tariff exposure while holding all other variables at their mean based on the results in model (2) in Table 1. As Figure 1 shows, as the firm's tariff exposure increases from its minimum of 0 to the maximum of 81.72, the probability that the firm will invest in a destination country in a given year will decrease from 0.054% to 0.027%.

Robustness Checks

- Alternative measure of a firm's exposure to the Trump tariffs: weighted tariff exposure, calculated as the interaction between the average weighted tariffs of the destination country on the Chinese firm's industry in a given year and export share.
- Mixed effects regression model (Schunck 2013, Schunck and Perales 2017) to take account of the time-invariant independent variables of interest: *SOE, BRI Partner, and Political Distance*.

Table 2. Likelihood of Investment: Mixed Effects Regression Model

`Dependent Variable: *Likelihood of Investment*	(1)	(2)
Within-unit and Random effects:		
Tariff Exposure	0.0133	0.0158*
	(1.52)	(1.70)
SOE	0.270**	0.263**
	(2.20)	(2.03)
*SOE * 2018*	-0.510*	-0.665**
	(-1.84)	(-2.14)
BRI Partner	-0.0460	0.0263
	(-0.18)	(0.09)
*BRI Partner * 2018*	-0.400	-0.408
	(-0.78)	(-0.68)
Bilateral Investment Treaty	0.0931	0.459
	(0.45)	(1.51)
Political Distance	-0.170*	-0.315**
	(-1.71)	(-2.35)
*Political Distance * 2018*	-0.0419	-0.0492
	(-1.42)	(-1.56)
Number of Employees	0.129	0.272*
	(0.90)	(1.78)
Profit Margin	-0.164**	-0.155*
	(-2.13)	(-1.90)
GDP	-1.816	-3.809
	(-0.52)	(-0.73)
GDP per capita	3.226	5.203
	(0.77)	(0.82)
Distance	0.252	0.207
	(1.31)	(0.90)
Covid-19 Cases	-0.0634***	-0.0596***
	(-3.71)	(-3.18)
Regime	0.0354	-0.00661
	(0.92)	(-0.13)
*Regime * 2018*	0.0487	0.0564
	(0.78)	(0.79)
FDI Restrictiveness		-5.620***
		(-3.72)
Natural Resource Rents		0.198***
		(3.81)
ASEAN	1.777***	2.584***
	(4.72)	(5.16)
*ASEAN * 2018*	0.0615	0.506
	(0.08)	(0.59)

East Asia and the Pacific	-0.294	0.0124
	(-0.82)	(0.03)
*East Asia and the Pacific * 2018*	-0.352	-0.497
	(-0.79)	(-1.10)
European Union	1.162***	1.406***
	(6.33)	(6.88)
*European Union * 2018*	-0.793***	-0.838***
	(-3.01)	(-2.97)
North America	-1.128***	-1.075***
	(-3.36)	(-2.67)
*North America * 2018*	-0.748*	-0.800**
	(-1.94)	(-2.02)
South Asia	1.490***	1.671***
	(3.52)	(2.94)
*South Asia * 2018*	-0.608	-0.458
	(-1.08)	(-0.77)
Middle East and North Africa	0.605	1.671***
	(1.51)	(3.10)
*Middle East and North Africa * 2018*	0.712	-0.333
	(0.83)	(-0.24)
Sub-Saharan Africa	1.457***	
	(3.28)	
*Sub-Suharan Africa * 2018*	0.0246	
	(0.02)	
Between-unit effects		
Tariff Exposure	-0.0411***	-0.0388***
	(-4.52)	(-4.07)
Number of Employees	-0.0228	-0.0526
	(-0.56)	(-1.22)
Profit Margin	0.0604	0.0390
	(0.96)	(0.59)
GDP	1.121***	1.390***
	(19.44)	(17.40)
GDP per capita	0.381***	0.314**
	(4.10)	(2.31)
Covid-19 Cases	-0.0750*	-0.0212
	(-1.67)	(-0.46)
Constant	-43.11***	-48.15***
	(-14.88)	(-13.53)
N	444621	240285

Note: *t* statistics in parentheses; * $p < .1$, ** $p < 0.05$, *** $p < 0.01$

Conclusion

- Ongoing research illuminates understanding of the political economy of trade and investment in the context of the US-China trade
- Main findings:
  - Tariff exposure likely to dampen investment
  - Covid-19 cases associated with lower likelihood of investment
  - *SOE*, *Political Distance*, *BRI partnership* have only weakly shaped the likelihood of Chinese firms in their investment decisions since the onset of trade war

Future Research

- Variation across destination markets
- Industry heterogeneity
- Capital expenditures associated with investment projects
- Greater attention to domestic destinations and markets under 'Dual Circulation Strategy.'