Migrant Networks and Trade: The Vietnamese Boat People as a Natural Experiment

Christopher Parsons[1] Pierre-Louis Vézina[2]

[1]University of Oxford

[2]University of Birmingham

King's College
13 February 2015

Motivation

- Why do we care about the pro-trade effect of migrants?
  - Information frictions hinder trade (Chaney, 2011; Allen, 2012)
  - Migrants' contacts and knowledge of home-country markets and institutions lower such frictions (Greif, 1993; Rauch, 2001)
  - $\Rightarrow$ Migrants may help countries realize gains from trade
  - Implications for immigration policy

Motivation

- What do we know about the pro-trade effect of migrants?
  - Meta-analysis of 45 studies (Genc et al., 2011)
  - A 10% rise in immigrants is associated with a 1.5% rise in bilateral trade

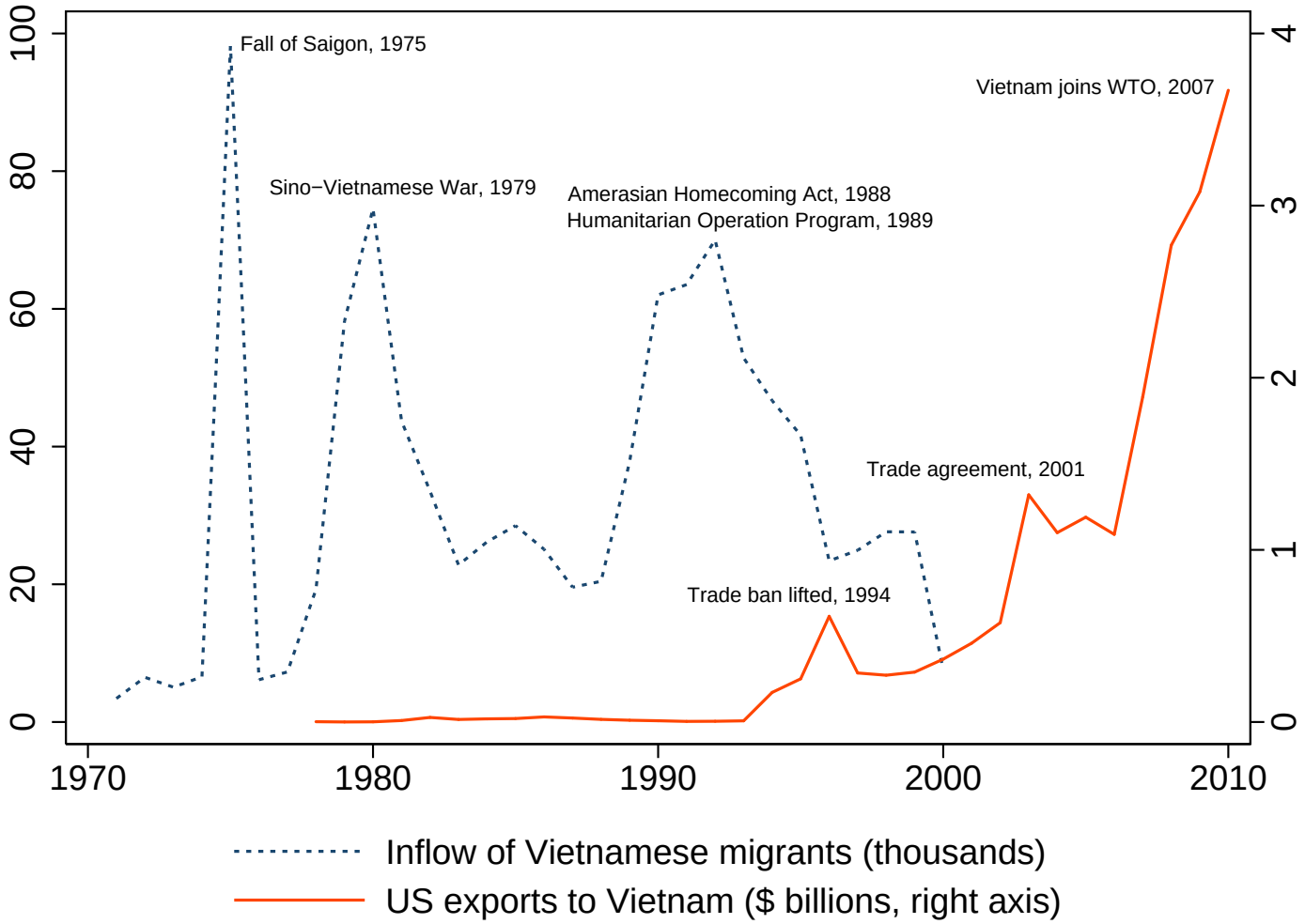
Motivation

- "*It is difficult to draw causal inference from these results, since immigration may be correlated with unobserved factors that also affect trade, such as the trading partners' cultural similarity or bilateral economic policies*" (Hanson, 2010)

What we do

- This paper provides evidence from a natural experiment
- We draw upon a unique period in human history, i.e. the exodus of the Vietnamese Boat People to the US
  - A large influx of migrants to the US
  - A quasi-experimental distribution across US States
  - Concurrently with a lasting trade embargo
- An ideal natural experiment to establish a causal link from immigration to trade

What we do


Fall of Saigon, 1975
Sino−Vietnamese War, 1979
Amerasian Homecoming Act, 1988
Humanitarian Operation Program, 1989
Trade ban lifted, 1994
Trade agreement, 2001
Vietnam joins WTO, 2007
0
20
40
60
80
100
0
1
2
3
4
1970
1980
1990
2000
2010
Inflow of Vietnamese migrants (thousands)
US exports to Vietnam ($ billions, right axis)

The natural experiment

- Fall of Saigon to (Communist) North Vietnam in 1975
- Fear of death, 're-education camps', and agricultural collectives
- Hundreds of thousands of refugees flee South Vietnam

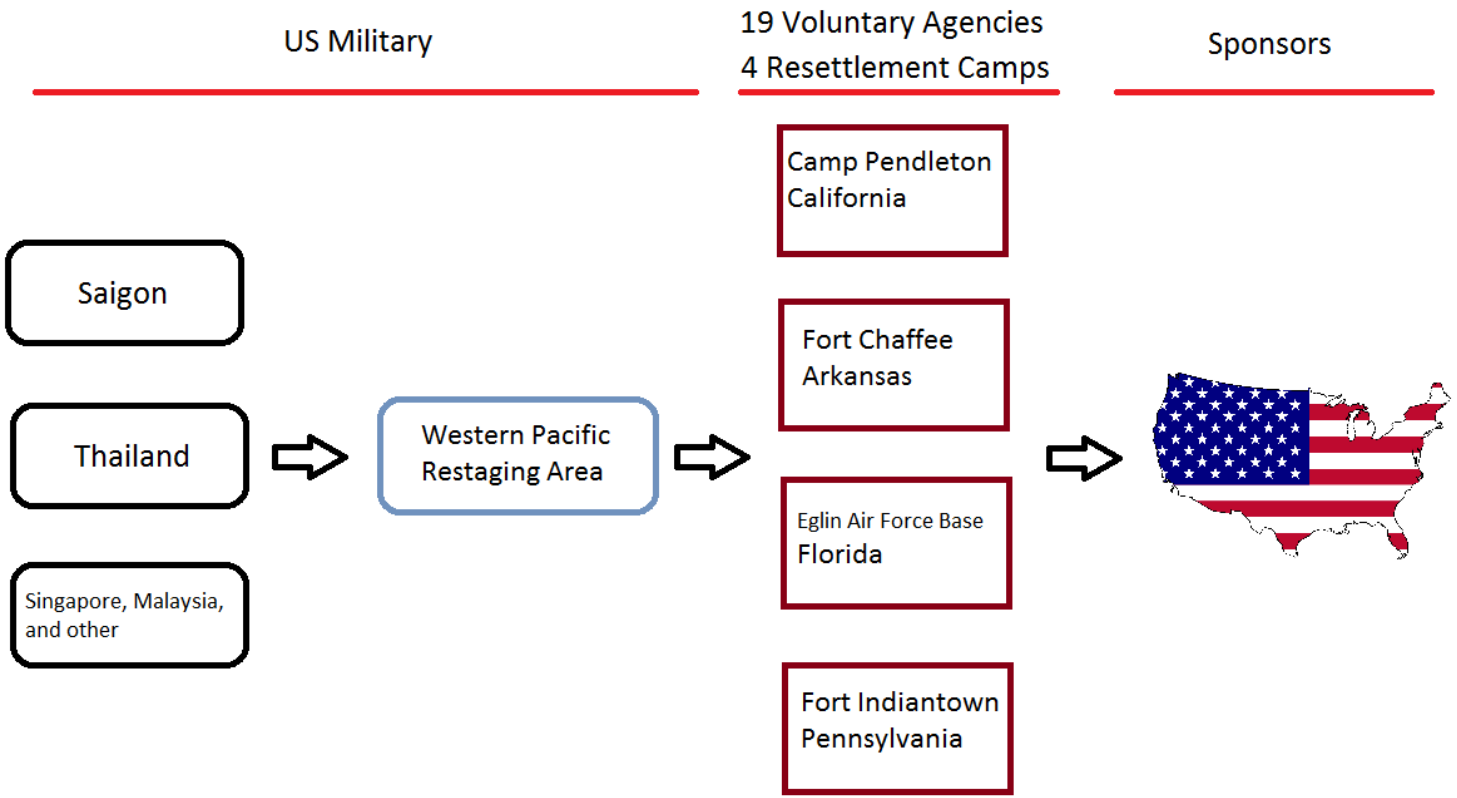
The natural experiment



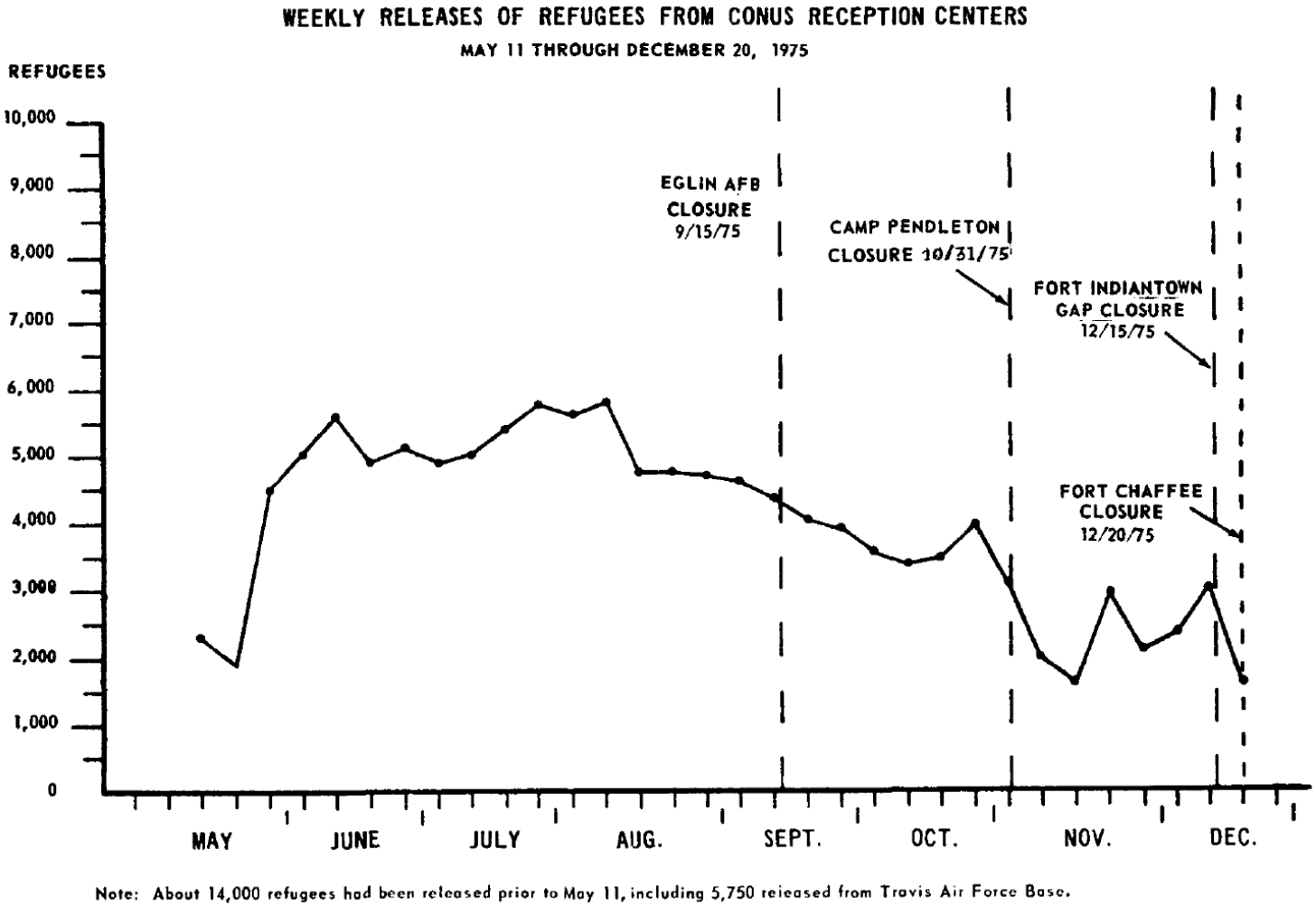
The natural experiment

- US takes active role in hosting refugees
- Brings a first wave of 130,000 refugees in 1975

The natural experiment



The natural experiment



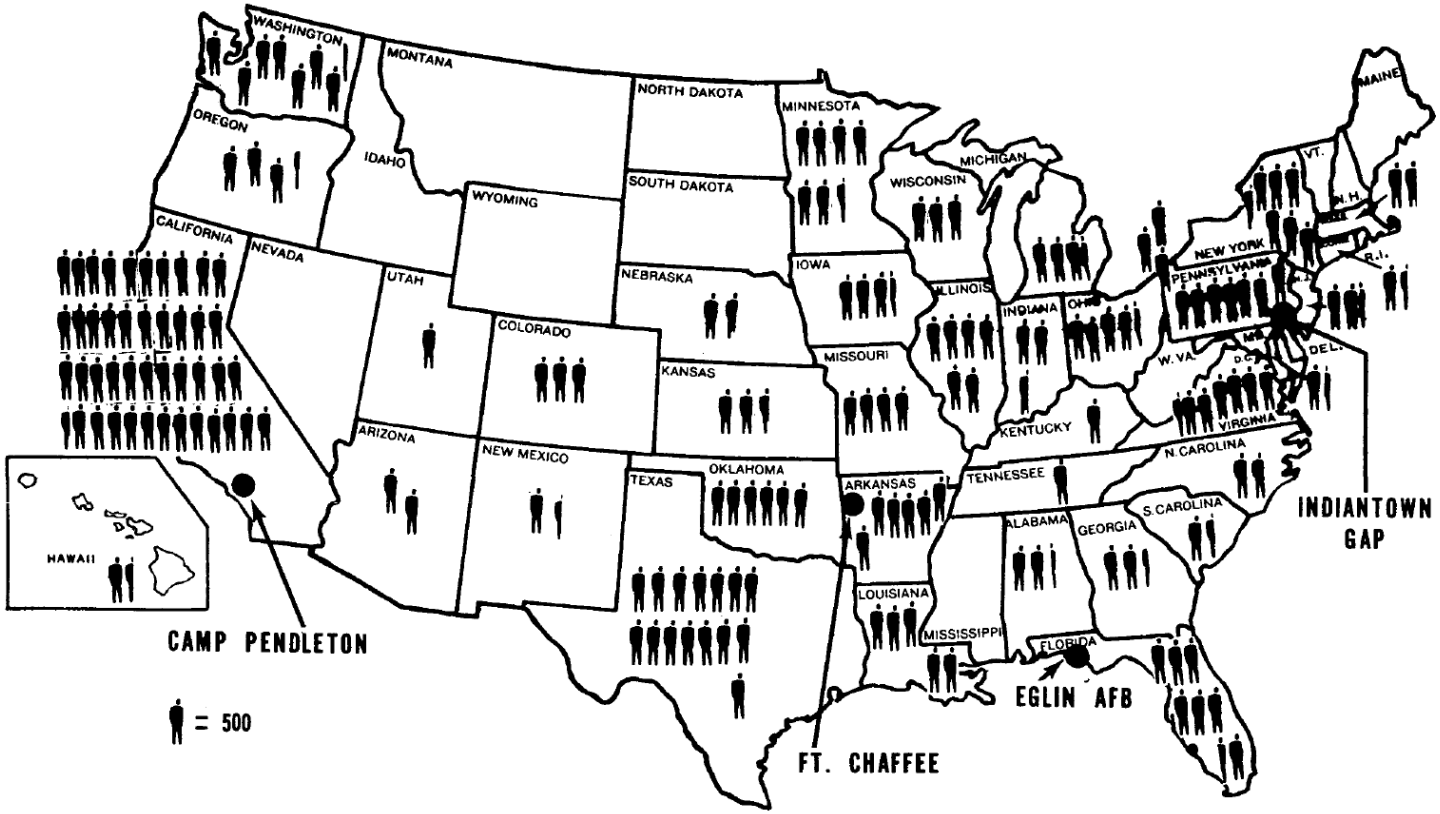
Source: US General Accounting Office Report to Congress (1976)

The natural experiment



Fort Chaffee, Arkansas. Source: Wikipedia.

The natural experiment



Source: US General Accounting Office Report to Congress (1976)

The natural experiment

- We argue this distribution is quasi-experimental for 2 main reasons:
  - US-government dispersion policy
  - US trade embargo on Vietnam

The natural experiment

US-government dispersion policy:

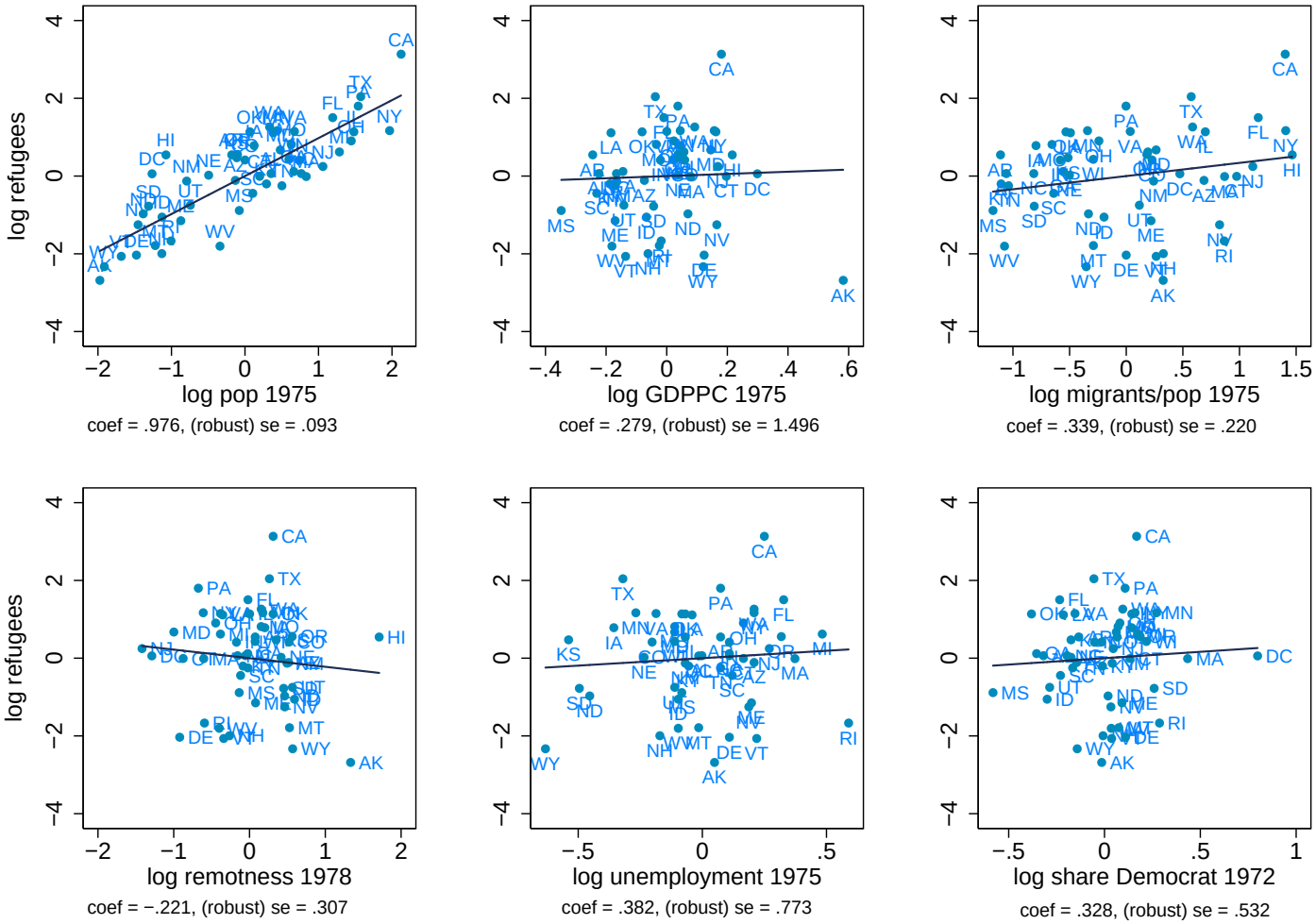
- Kenneth Fasick, US General Accounting Office, May 1979:
  - *"To avoid the kind of geographic concentration experienced with the Cuban refugees, an effort was made at the time of the initial resettlement wave in 1975-76, to distribute the refugee population throughout the US."*

The natural experiment

US-government dispersion policy:

- According to Zhou and Bankston (1998):
  - *"...the voluntary agencies working mainly under government contracts oversaw their resettlement and in most cases decided their destinations... the early attempts at dispersion gave rise to Vietnamese communities in such places as New Orleans, Oklahoma City, Biloxi, Galveston and Kansas City, that had previously received few immigrants from Asia."*

The natural experiment



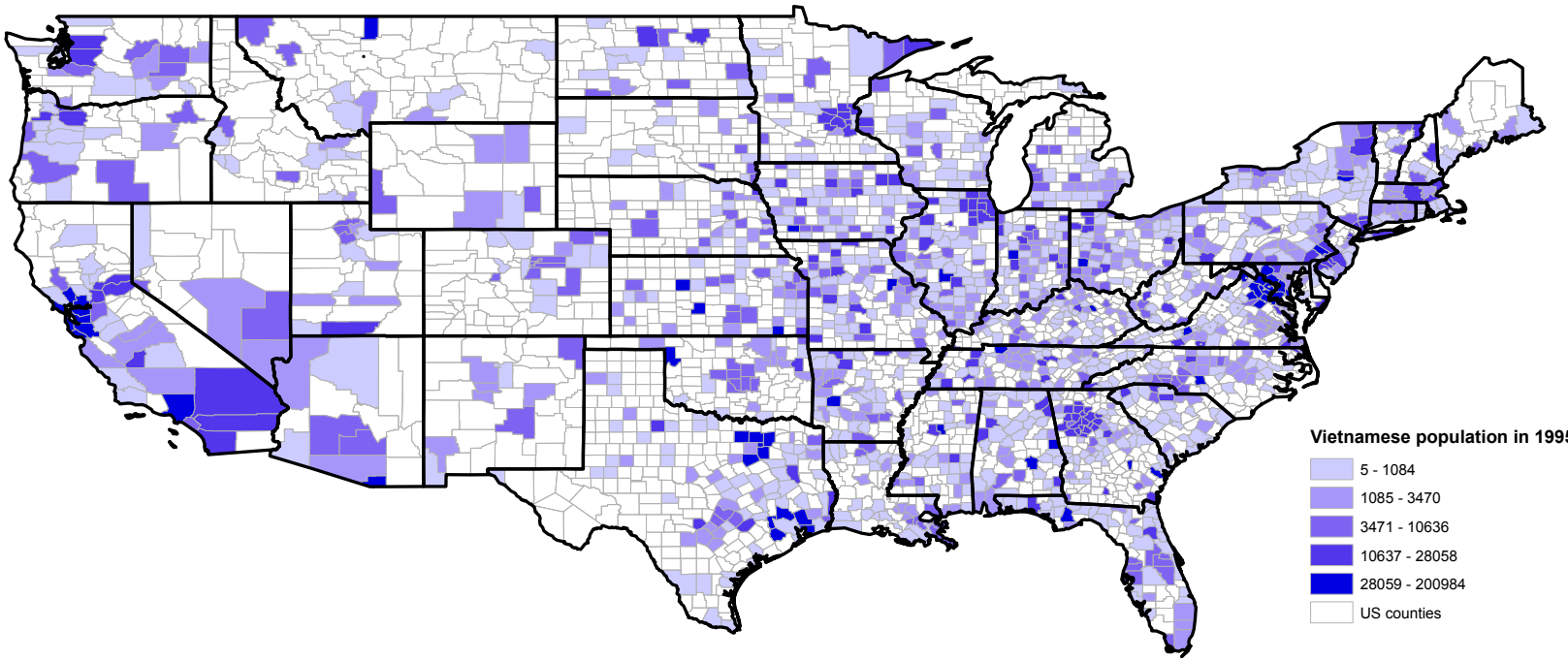
The natural experiment

Trade embargo:

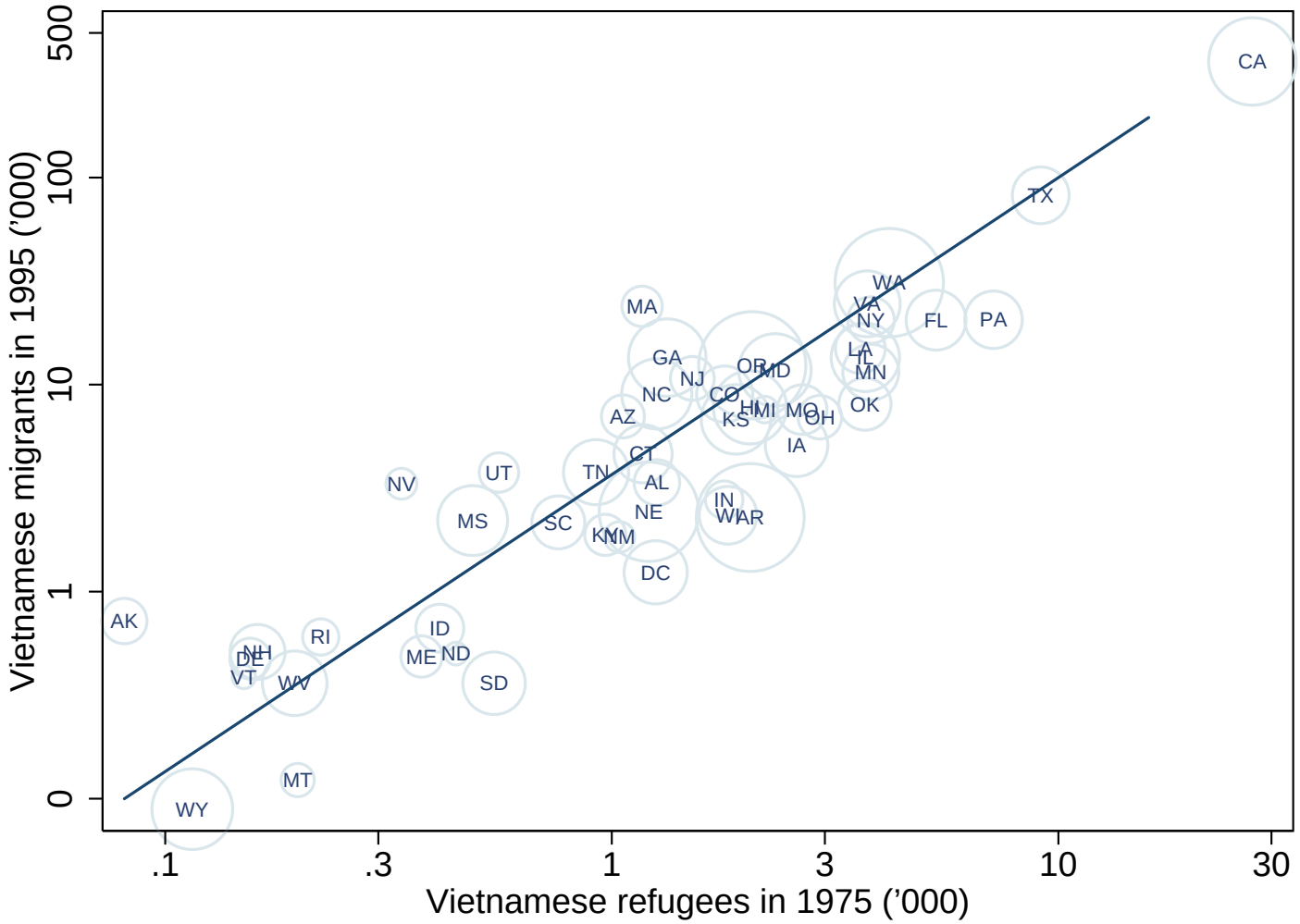
- The US imposed a complete trade embargo on Vietnam from 1975 to 1994 under the 1917 'Trading with the Enemy Act'
  - $\Rightarrow$ No possible reverse causality from trade to migration
- In 1994 Clinton lifted the trade embargo

The natural experiment

The Vietnamese in the US in 1995



The natural experiment



The natural experiment

- We use the exogenous allocation of Vietnamese refugees in 1975 to estimate effect of 1995 migrant networks on trade from 1995 to 2010

Empirical strategy

- Our 'baseline' regression takes the following form:

$$X_i = \beta_0 V_i + \beta_1 C_i + \epsilon_i \quad (1)$$

- X_i is the normalized yearly average exports of State i to Vietnam from 1995 to 2010
- V_i is the stock of Vietnamese migrants in 1995
- C_i is a set of control variables
- V_i is instrumented by the stock of refugees in 1975

Results - Baseline

	(1)	(2)	(3)	(4)
	First Stage	Exports to Vietnam share of		
	Vietnamese 1995	Exports	GDP	Extensive margin
Vietnamese 1995		0.145**	0.190***	0.266***
		(0.0567)	(0.0621)	(0.0309)
Income per capita	0.818	0.0989	-1.305*	-0.175
	(0.861)	(0.590)	(0.785)	(0.322)
Remoteness	-0.510*	-0.0430	-0.256	-0.211
	(0.255)	(0.244)	(0.363)	(0.143)
Export structure	-0.375***	0.161	0.197	0.0607
	(0.104)	(0.108)	(0.143)	(0.0432)
Refugees 1975	1.276***			
	(0.0774)			
Constant	-16.20*	-9.824	12.37	-4.235
	(9.274)	(6.012)	(8.073)	(3.375)
Observations	51	51	51	51
R-squared	0.864	0.169	0.285	0.727
Cragg-Donald F	271.7			
Kleibergen-Paap p-val	0.0001			

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Results - Baseline

- A migrant network twice as large increases:
  - the share of total exports going to Vietnam by 14% (avg share is 0.1%)
  - the GDP share of exports to Vietnam by 19% (avg share is 0.01%)
  - the share of categories exported to Vietnam by 27% (avg share is 43%)

Results - Robustness

- Vietnamese share of pop Table
- Vietnamese share of migrants Table
- Vietnamese share of Asians Table
- Reduced form Table
- Exports as a share of Asian exports Table

Results - Robustness - Placebos

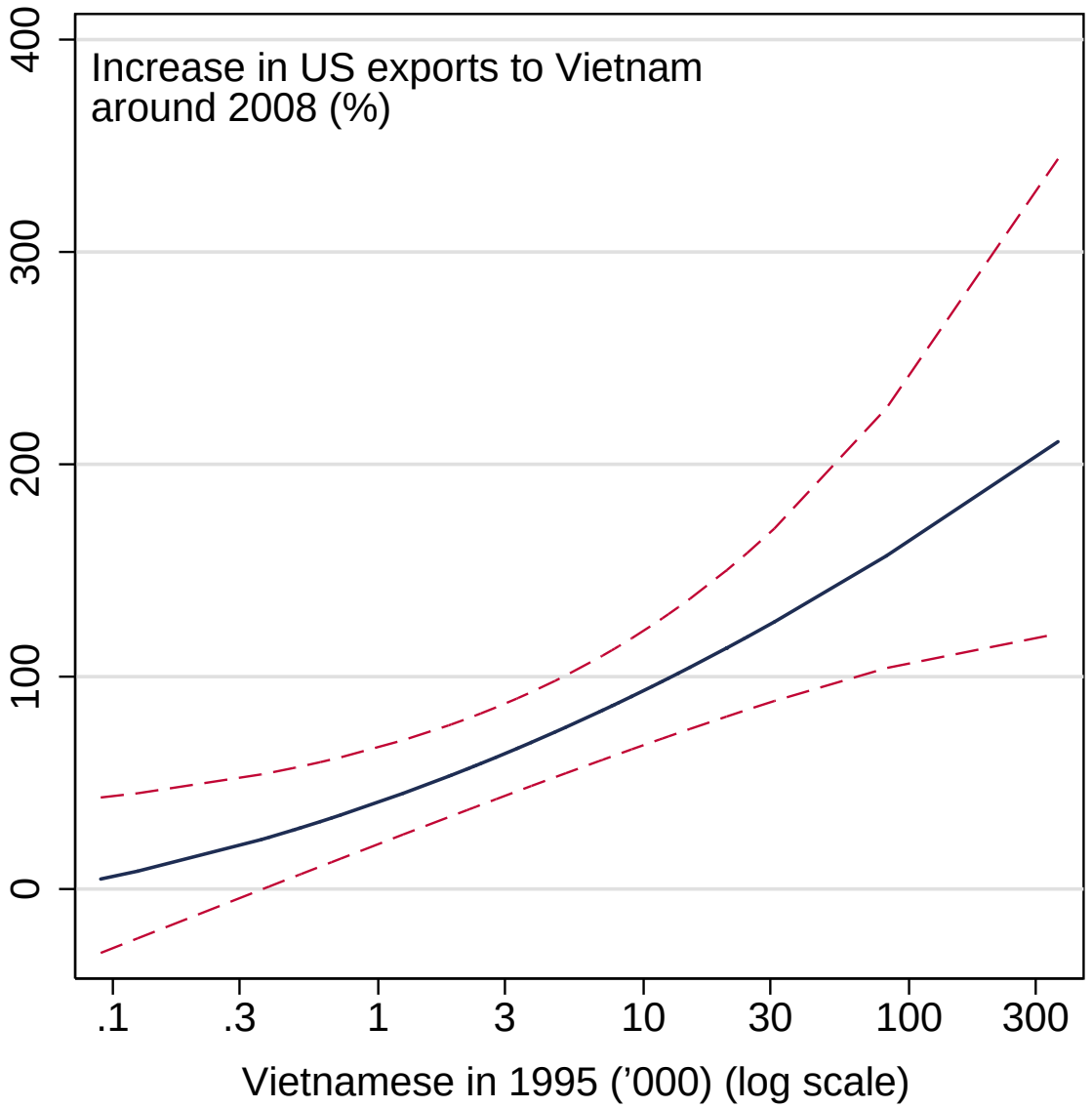
	(1)	(2)	(3)	(4)	(5)
	Cambodia	China	Indonesia	Japan	Korea
Vietnamese 1995	0.499***	0.104**	0.158	0.0286	0.0406
	(0.186)	(0.0483)	(0.126)	(0.0579)	(0.0734)
Income per capita	1.411	-1.803**	-1.309	0.782	0.888
	(1.353)	(0.824)	(0.876)	(0.548)	(0.758)
Remoteness	0.258	-0.0541	0.0956	0.230	-0.0280
	(0.458)	(0.300)	(0.270)	(0.334)	(0.382)
Export structure	0.0549	-0.265***	0.148	-0.122	-0.284*
	(0.190)	(0.100)	(0.0962)	(0.110)	(0.150)
Constant	-25.86*	13.71	7.642	-8.107*	-14.02*
	(14.45)	(9.820)	(9.302)	(4.615)	(7.250)
Observations	49	51	51	51	51
Cragg-Donald F	280.7	271.7	271.7	271.7	271.7
Kleibergen-Paap p-val	0.000128	7.54e-05	7.54e-05	7.54e-05	7.54e-05
	(6)	(7)	(8)	(9)	(10)
	Laos	Malaysia	Philippines	Taiwan	Thailand
Vietnamese 1995	0.106	0.125	0.143	-0.0365	0.0234
	(0.109)	(0.0882)	(0.0915)	(0.0607)	(0.0828)
Income per capita	4.009***	-1.197	-0.483	0.215	0.825
	(1.266)	(1.240)	(1.086)	(0.523)	(0.715)
Remoteness	0.0823	-0.375	-0.220	-0.723***	-0.193
	(0.339)	(0.457)	(0.410)	(0.263)	(0.254)
Export structure	-0.418**	-0.339*	-0.248*	-0.200**	-0.151*
	(0.198)	(0.198)	(0.141)	(0.0986)	(0.0797)
Constant	-53.50***	1.284	-4.527	-15.96***	-16.42**
	(12.72)	(11.19)	(9.930)	(5.404)	(7.937)
Observations	47	51	51	51	51
Cragg-Donald F	226.5	271.7	271.7	271.7	271.7
Kleibergen-Paap p-val	0.000316	7.54e-05	7.54e-05	7.54e-05	7.54e-05

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Results - 2008 policy change

- Overseas Vietnamese benefit from preferential treatment
- 2008 Government Action Plan introduced new policies:
  - to encourage overseas Vietnamese to invest and do business in Vietnam
  - E.g. preferential land rent, loans, interest rates, investment credit guarantees, reduction in corporate income tax, personal income tax, and tariff on machinery import.

Results - 2008 policy change



Results - Anecdotes

- Vietnamese immigrants create their own export businesses
- E.g. Sriracha sauce



Results - Anecdotes



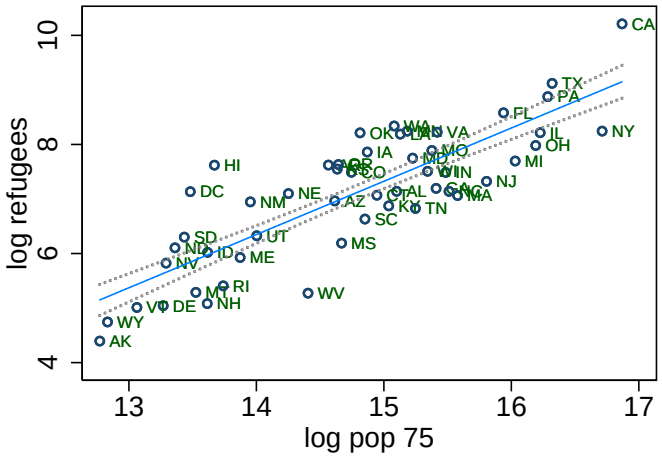
David Tran is the 68-year-old founder and owner of Huy Fong, makers of Sriracha sauce.
Huy Fong is the name of the liner that took him to the US in 1979
Huy Fong had sales of $60 Million in 2010, 80% in Asia

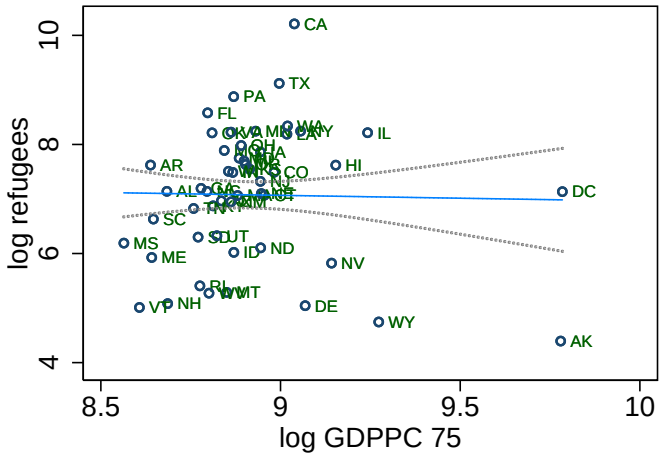
Conclusion

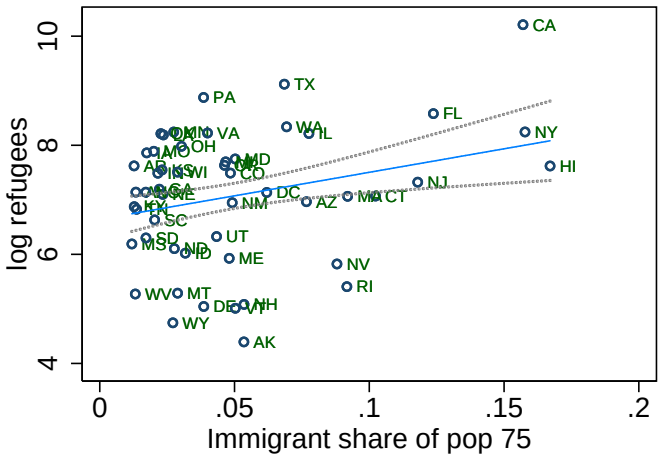
- We establish a causal effect from migration to trade
- We show positive long-term economic benefits of hosting refugees
- We bring back attention to the role of immigration policy in lowering trade frictions and helping realize gains from trade

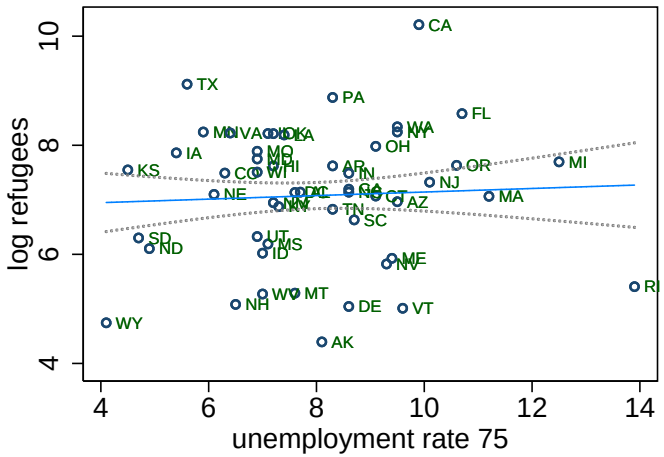
EXTRA SLIDES

The natural experiment

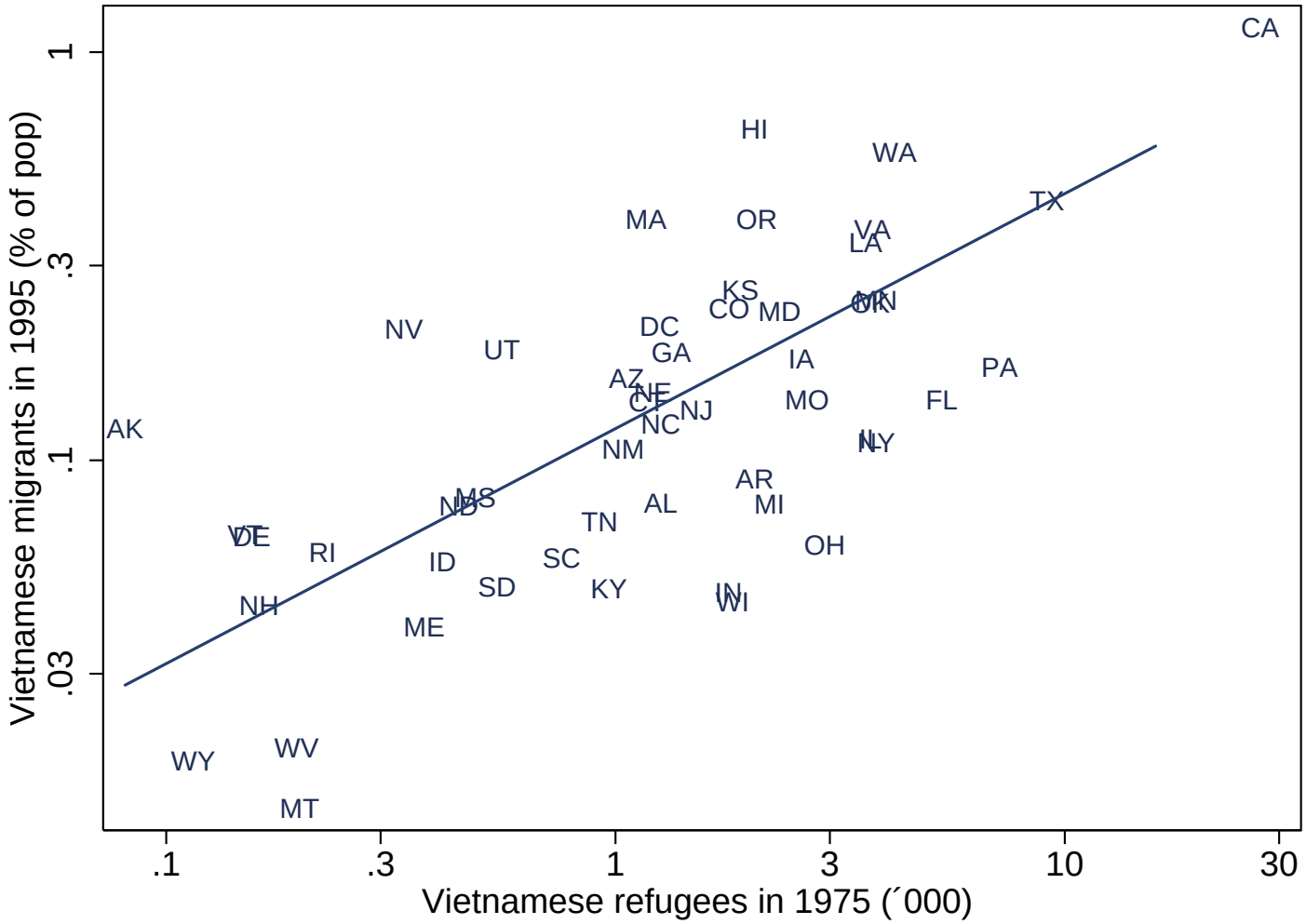








The natural experiment



Results - IV - Robustness

	(1)	(2)	(3)	(4)
	First Stage	Exports to Vietnam share of		
	Vietnamese share of pop 1995	Exports	GDP	Extensive margin
Vietnamese share of pop 1995		179.9**	238.8**	334.7***
		(79.76)	(93.43)	(126.8)
Income per capita	0.00193	-0.131	-1.609*	-0.602
	(0.00129)	(0.602)	(0.908)	(0.653)
Remoteness	-0.000583	-0.0109	-0.213	-0.151
	(0.00124)	(0.197)	(0.475)	(0.474)
Export structure	-0.000437	0.186*	0.230*	0.107
	(0.000274)	(0.0987)	(0.136)	(0.0841)
Refugees 1975	0.00101***			
	(0.000316)			
Constant	-0.0333**	-6.156	17.24*	2.591
	(0.0139)	(6.105)	(9.490)	(6.554)
Observations	51	51	51	51
R-squared	0.440	0.214	0.205	-0.386
Cragg-Donald F	10.31			
Kleibergen-Paap p-val	0.0207			

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Back

Results - IV - Robustness

	(1)	(2)	(3)	(4)
	First Stage	Exports to Vietnam share of		
	Vietnamese share of migrants 1995	Exports	GDP	Extensive margin
Vietnamese share of migrants 1995		21.75**	28.89**	40.48***
		(10.75)	(12.18)	(12.30)
Income per capita	-0.0379**	1.041*	-0.0543	1.578**
	(0.0163)	(0.619)	(0.829)	(0.756)
Remoteness	0.00375	-0.197	-0.461	-0.498**
	(0.00535)	(0.241)	(0.320)	(0.249)
Export structure	0.00146	0.0759	0.0840	-0.0982
	(0.00250)	(0.102)	(0.135)	(0.128)
Refugees 1975	0.00838***			
	(0.00228)			
Constant	0.414***	-21.14***	-2.654	-25.29***
	(0.152)	(6.594)	(8.988)	(8.064)
Observations	51	51	51	51
R-squared	0.290	0.147	0.176	-1.115
Cragg-Donald F	13.52			
Kleibergen-Paap p-val	0.00287			

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Back

Results - IV - Robustness

	(1)	(2)	(3)	(4)
	First Stage	Exports to Vietnam share of		
	Vietnamese share of Asians 1995	Exports	GDP	Extensive margin
Vietnamese share of Asians 1995		0.720*	0.956**	1.339***
		(0.405)	(0.425)	(0.368)
Income per capita	-1.489**	1.287	0.273	2.037*
	(0.570)	(0.856)	(1.026)	(1.041)
Remoteness	-0.194	0.0240	-0.167	-0.0860
	(0.203)	(0.315)	(0.370)	(0.309)
Export Structure	0.0197	0.0935	0.107	-0.0655
	(0.0827)	(0.107)	(0.150)	(0.132)
Refugees 1975	0.253***			
	(0.0666)			
Constant	8.599	-18.33**	1.081	-20.06*
	(5.877)	(7.286)	(10.85)	(10.66)
Observations	51	51	51	51
R-squared	0.337	0.028	0.073	-0.974
Cragg-Donald F	14.47			
Kleibergen-Paap p-val	0.00559			

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Back

Results - Reduced form

	(1)	(2)	(3)
	Exports to Vietnam share of		
	Exports	GDP	Extensive margin
Refugees 1975	0.182**	0.242***	0.339***
	(0.0800)	(0.0874)	(0.0496)
Income per capita	0.216	-1.149	0.0428
	(0.594)	(0.897)	(0.487)
Remoteness	-0.116	-0.352	-0.346**
	(0.271)	(0.390)	(0.134)
Export structure	0.108	0.126	-0.0391
	(0.118)	(0.157)	(0.0515)
Constant	-12.14**	9.299	-8.543
	(5.921)	(9.242)	(5.453)
Observations	51	51	51
R-squared	0.172	0.219	0.607

Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Back

Results - Asia focus

	(1)	(2)	(3)	(4)
	Exports to Vietnam share of Exports to Asia			
Vietnamese 1995	0.135**			
	(0.0636)			
Vietnamese share of pop 1995		168.1**		
		(83.85)		
Vietnamese share of migrants 1995			19.61*	
			(10.35)	
Vietnamese share of Asians 1995				0.625*
				(0.341)
Income per capita	-0.0553	-0.212	0.976	1.284
	(0.694)	(0.789)	(0.669)	(0.879)
Remoteness	0.0910	0.111	-0.0815	0.0925
	(0.255)	(0.278)	(0.171)	(0.168)
Export structure	0.355***	0.381***	0.287***	0.312***
	(0.0893)	(0.0884)	(0.0932)	(0.0892)
Constant	-5.129	-2.423	-17.62**	-16.36**
	(7.404)	(8.385)	(6.935)	(8.107)
Observations	50	50	50	50
R-squared	0.328	0.230	0.240	0.206
Cragg-Donald F	133.3	10.41	13.37	17.73
Kleibergen-Paap p-val	4.80e-10	0.0193	0.00346	0.00424

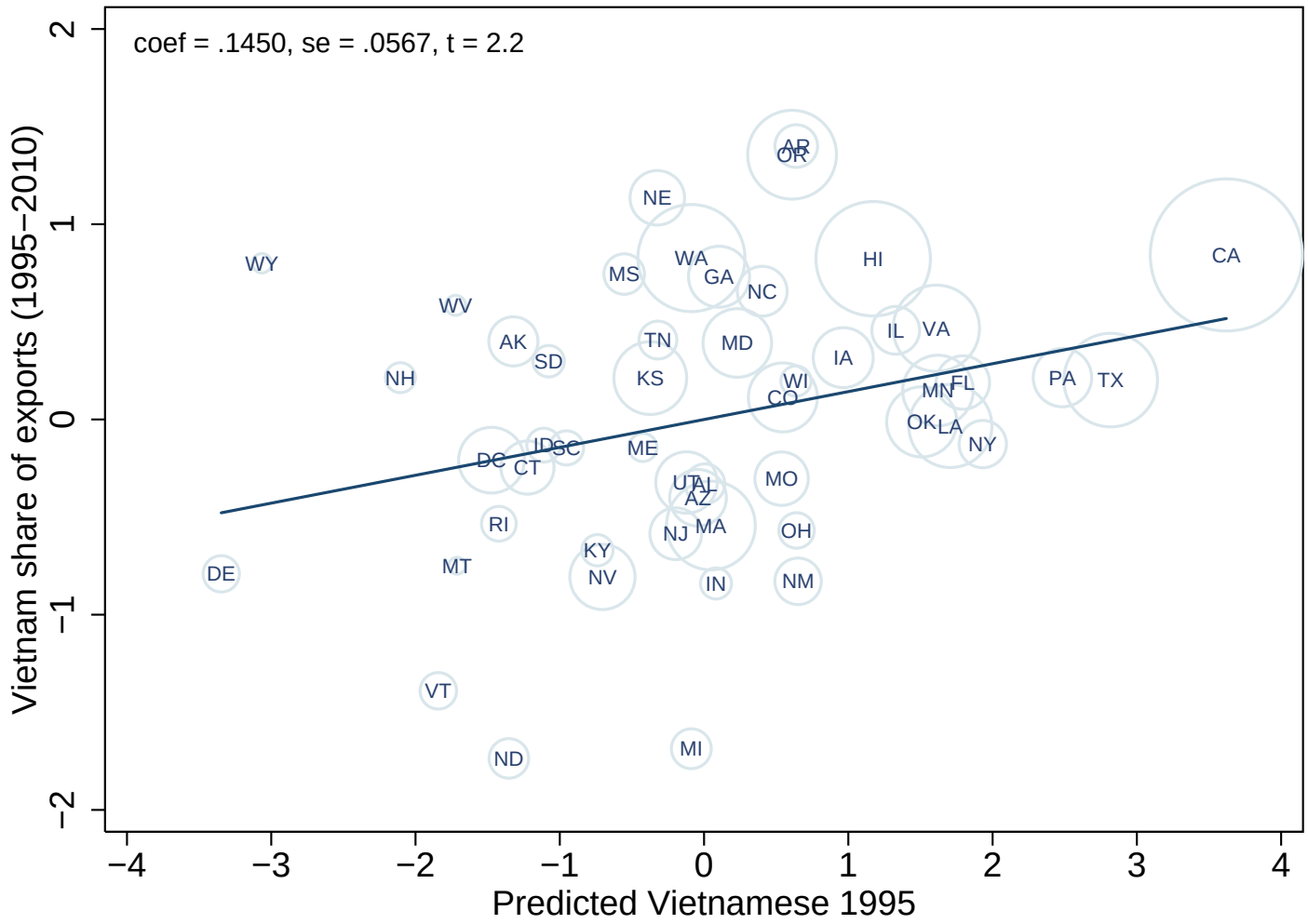
Note: Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Back

The natural experiment

- Large flows of secondary migration took place after 1975
  - Reunification with kin, friends, and compatriots
  - Migration to states with warmer climates and better social welfare programs
  - 45% of refugees for whom we know residence lived in a different state in 1980 than in 1975 (Baker et al., 1984)
- Secondary migration suggests the initial placement was exogenous to many migrants' preferences

Results - Baseline



Note: The circles are proportional to the State's Vietnamese population share in 1995.

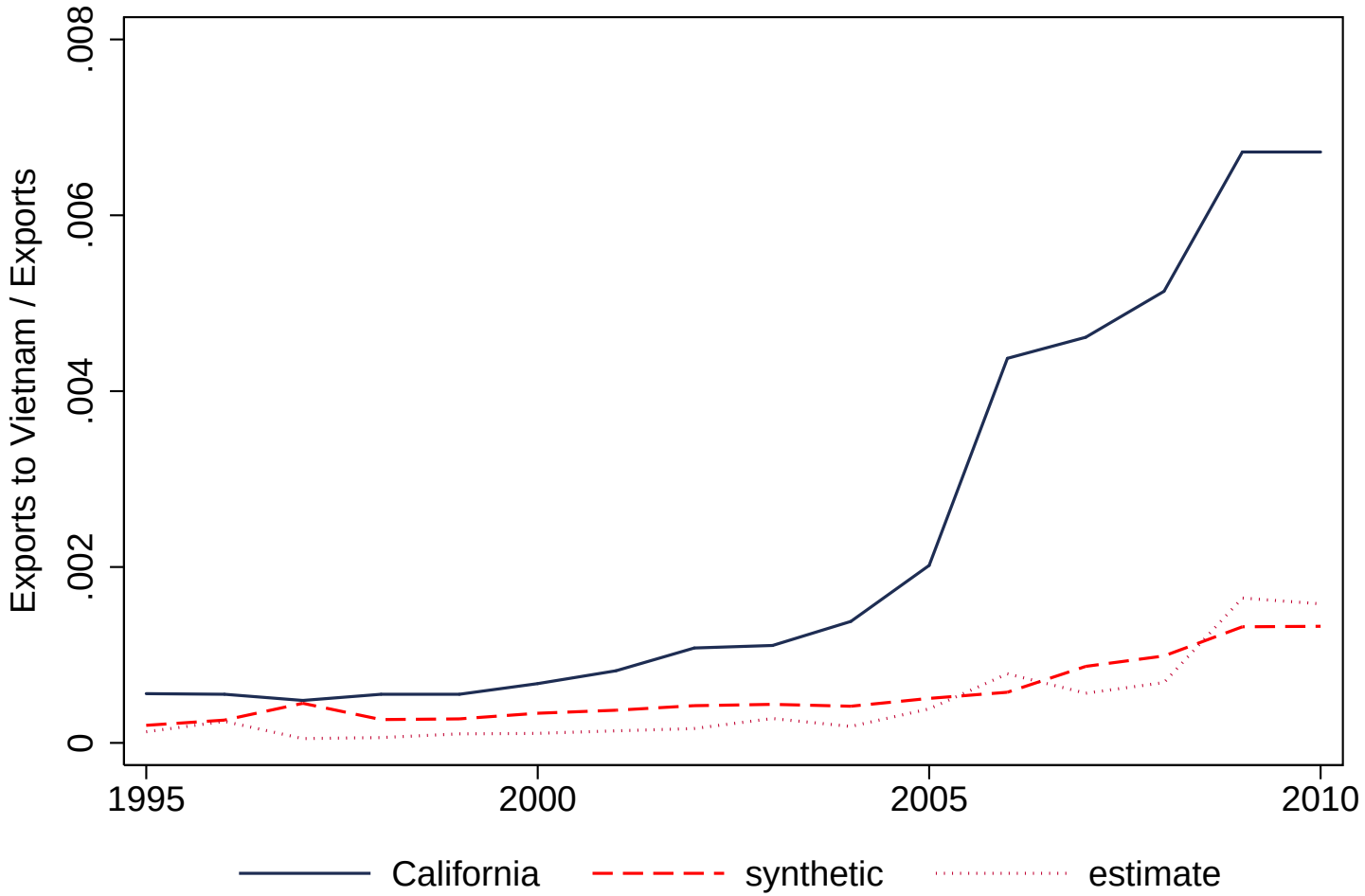
Main exports to Vietnam - 1995-2010

NAICS	Exports to Vietnam ('000$)	Share of US exports	Description
316	380000	1.34%	Leather & Allied Products
113	210000	1.28%	Forestry Products, Nesoi
321	470000	1.05%	Wood Products
311	2600000	0.76%	Food & Kindred Products
312	220000	0.57%	Beverages & Tobacco Products
910	790000	0.52%	Waste And Scrap
111	1600000	0.40%	Agricultural Products
114	92000	0.26%	Fish, Fresh/chilled/frozen & Other
336	3200000	0.20%	Transportation Equipment
322	350000	0.20%	Paper
325	1900000	0.17%	Chemicals
333	1700000	0.16%	Machinery, Except Electrical
327	110000	0.14%	Nonmetallic Mineral Products
313	97000	0.12%	Textiles & Fabrics
112	13000	0.11%	Livestock & Livestock Products

Results - Case studies

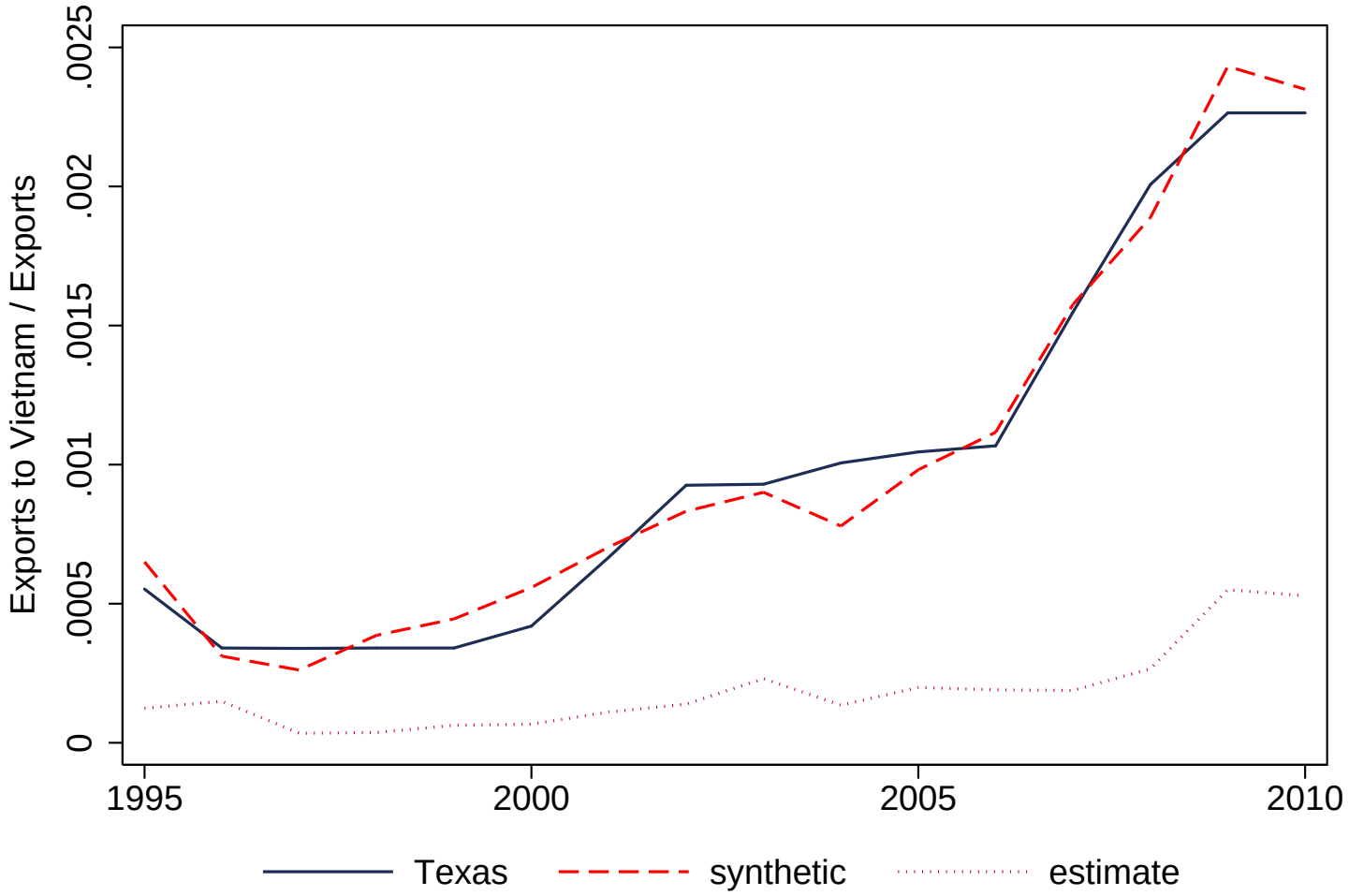
- For each top 10 US States (in terms of Vietnamese migrants), we construct a synthetic counterfactual:
- A weighted average of other States where the numbers of Vietnamese are at least 5 times smaller
- The weights are generated so that the differences in export shares across each industry are minimized
- Each State is compared to a synthetic version of itself with far fewer Vietnamese refugees

Results - Case studies



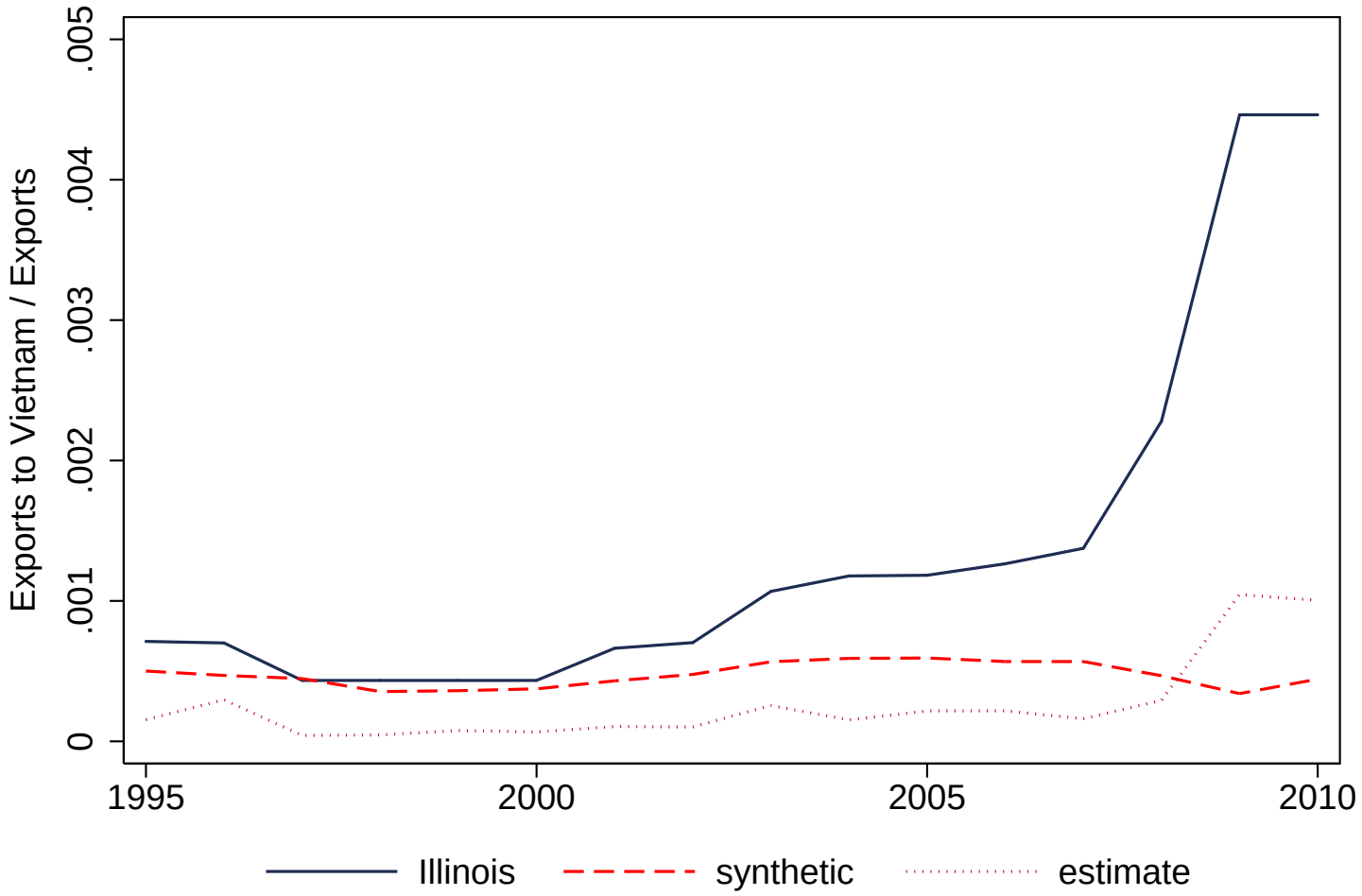
Simulates a drop in the nb of Vietnamese by 97%

Results - Case studies



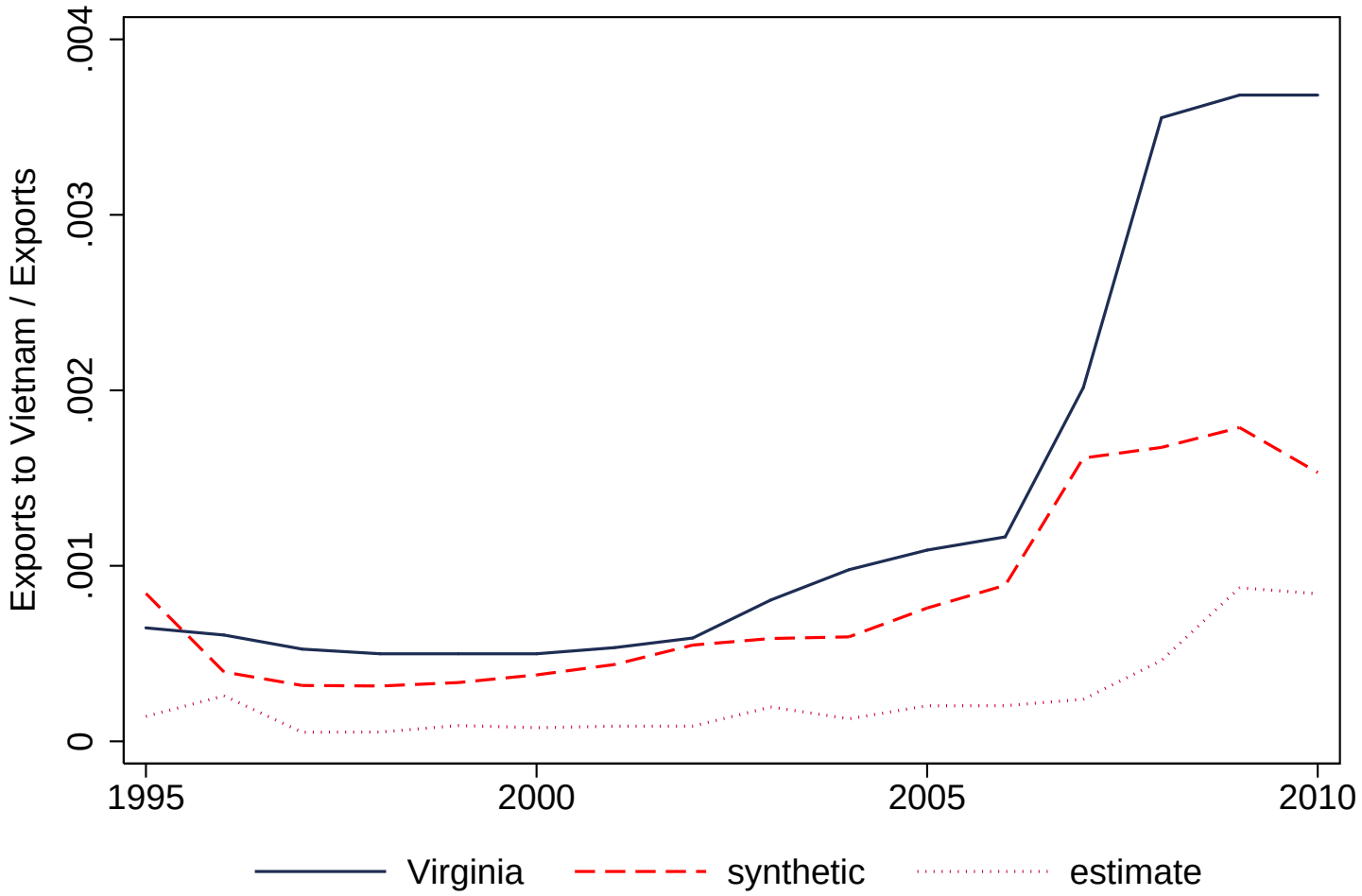
Simulates a drop in the nb of Vietnamese by 96%

Results - Case studies



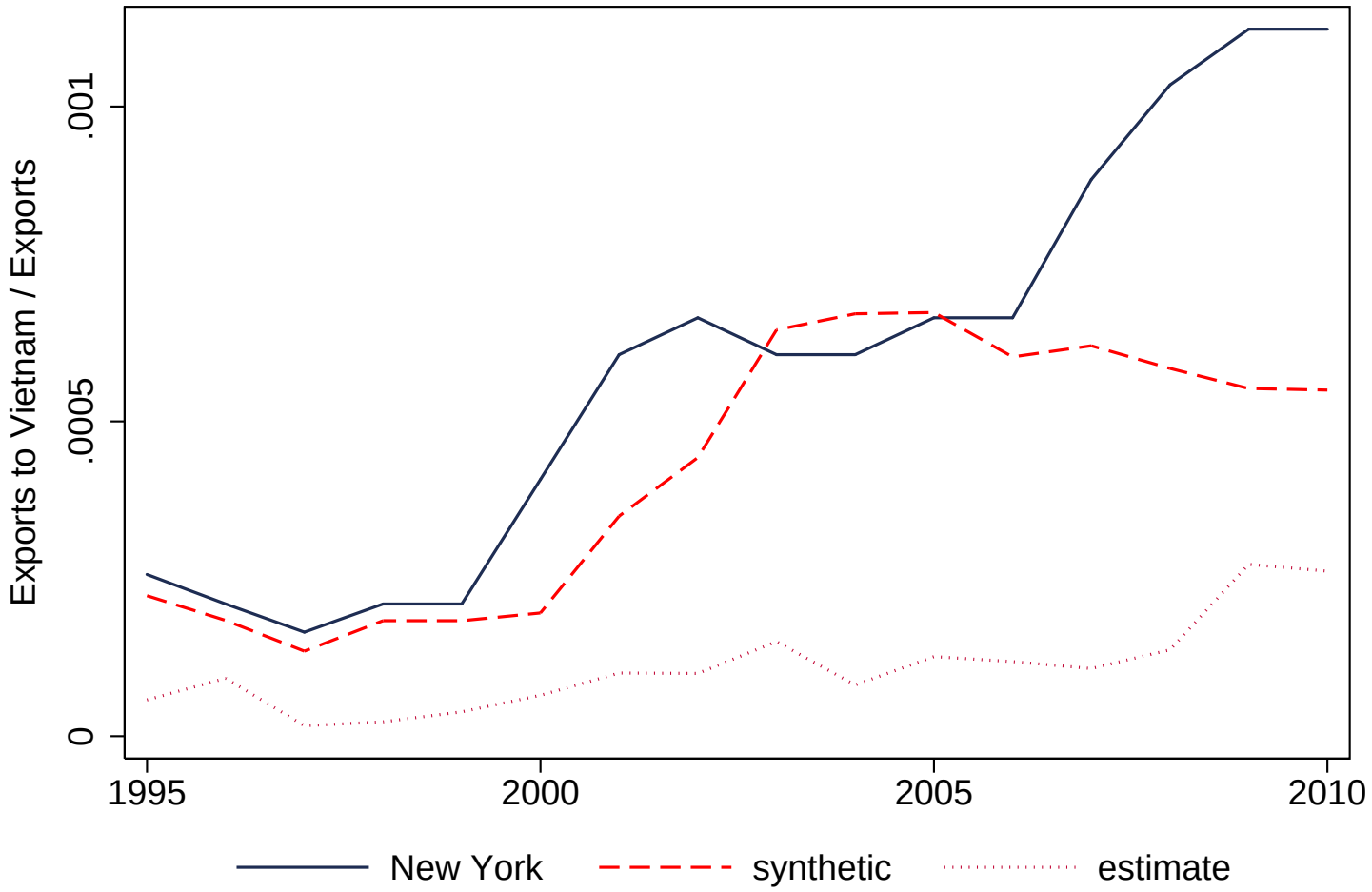
Simulates a drop in the nb of Vietnamese by 92%

Results - Case studies



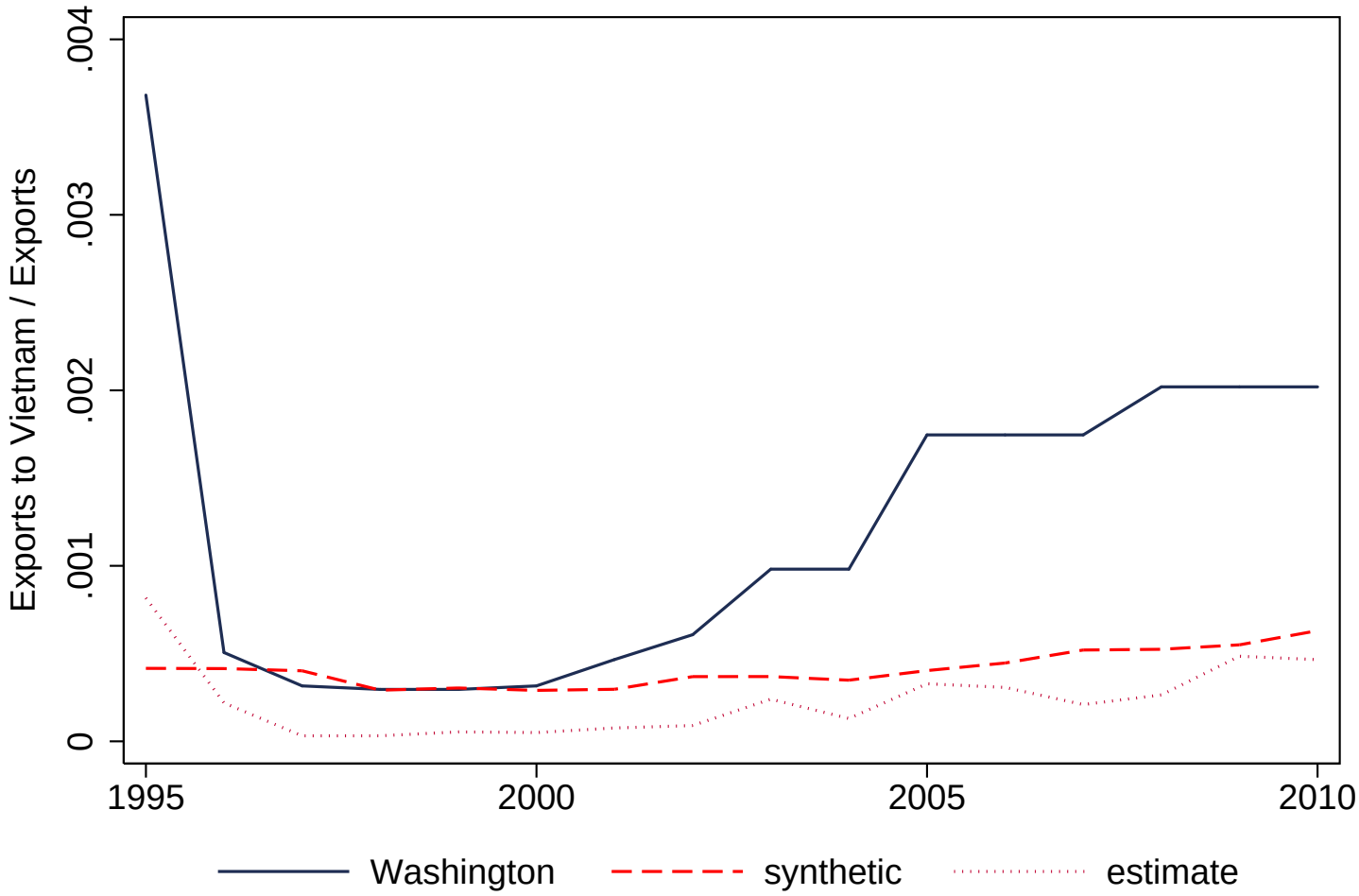
Simulates a drop in the nb of Vietnamese by 94%

Results - Case studies



Simulates a drop in the nb of Vietnamese by 96%

Results - Case studies



Simulates a drop in the nb of Vietnamese by 95%

Results - Case studies

- On average the top 10 US States' Vietnamese share of exports would have been 40% lower