# Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure

David Autor

David Dorn

Gordon Hanson

Kaveh Majlesi

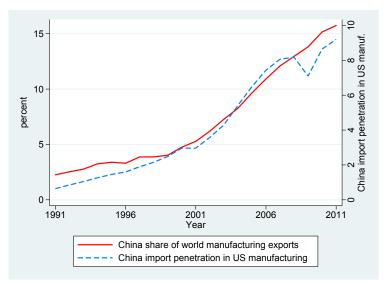
September 2016

# Impact of Trade on US Workers: Touchstone Issue in 2016 Presidential Campaign





# Context: Rapid Growth of China's Manufacturing Exports...



## ... Contributed to Decline in US Manufacturing

### **Economic Impacts of Import Competition from China**

- Closure of manufacturing plants (Bernard Jensen Schott '06), declines in employment (Acemoglu Autor Dorn Hanson Price '16; Pierce Schott '16) in more trade-exposed industries
- Lower employment, higher labor-force exit, higher long-run unemployment, greater benefits uptake in more trade-exposed local labor markets (Autor Dorn Hanson '13)
- Lower lifetime incomes, greater job churning for workers in more trade-exposed industries (Autor Dorn Hanson Song '14)

## Anti-trade Sentiments Precede The 2016 Election

- Congressional representatives from trade-exposed districts are more likely to vote against trade bills... (Feigenbaum Hall '15)
- ...and in favor of anti-China foreign-policy legislation (Kleinberg Fordham '13; Kuk Seligsohn Zhang '15)

#### Our work

• Do the impacts of trade exposure extend beyond voting on trade policy to affect the ideological composition of Congress itself?

# Has Rising Trade Exposure in Local Labor Markets Contributed to Political Divisions in Congress?

### • Anti-incumbency effect?

• Incumbents tend to be punished for negative economic outcomes (Fair '78, Margalit '11, Jensen Quinn Weymouth '16)

### 2 Party-realignment effect?

 Economic shocks may shift voter preferences — Leftward (Alesina La Ferrara 2005, Bruner Ross Washington '11, Che Lu Pierce Schott Tao '16) or Rightward (Malgouyres '14, Dippel Gold Heblich '15)

#### Polarization effect?

- In response to adverse shocks, beliefs of those leaning right may shift further right and of those leaning left may shift further left
  - Movement to extremes under failure of MLRP (Dixit Weibull '07, Baliga Hanany Klibanoff '13, Acemoglu Chernozhukov Yildiz '15)

#### Trade Shocks vs. Other Shocks

Are political impacts of trade shocks distinct from those of other shocks? We compare impact of trade shocks to...

- General labor demand shifts (as captured by Bartik '91 measure)
- Post-Great Recession housing-market bust (as captured by post-2007 change in local housing prices)

# Agenda

1 Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

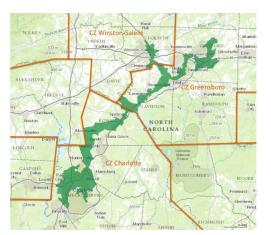
2 Main results

Anti-Incumbent Effects
Party Realignment Effects
Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

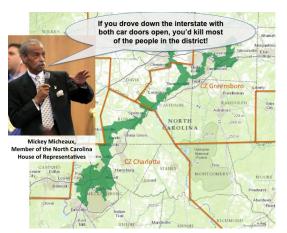
# Empirical Strategy: Matching Local Labor Markets to Congressional Districts

**Challenge:** Congressional districts can have extreme shapes that do not correspond to any definition of local labor market geography



### An Extreme Example: District NC-12

The district closely follows Interstate 85, and at some points is barely wider than a highway lane



### Our Analysis is at the County-District Cell Level

- Divide US into county-by-congressional-district cells
  - Attach each county to its corresponding commuting zone (CZ)
  - Weight each cell by its share of congressional-district population
  - Result is a mapping of CZ shocks to district political outcomes
  - Use CZ trade shocks from Acemoglu Autor Dorn Hanson Price ('16)
- Examine electoral outcomes over 2002 to 2010
  - Because of redistricting, we can only examine intercensal periods
  - Fortunately, these are *non*-presidential election years
  - Our time period spans the rise of the Tea Party

#### **Data Sources**

### Political behavior of congressional representatives

- DW-Nominate scores (Poole & Rosenthal '97)
  - Estimated for each legislator in each Congress
  - Tag 2003-2005 score (108th Congress) to winner in 2002 election, 2011-2013 score (112th Congress) to winner in 2010 election

### 2 Vote shares by party in House elections

- Dave Leip's Atlas of US Presidential Elections
  - Vote counts for each party by county-district cell
- 3 Campaign finance scores (Bonica '14)
  - Tabulates campaign contributions by donor and recipient for all amounts in excess of \$200

## Agenda

① Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects
Party Realignment Effects
Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

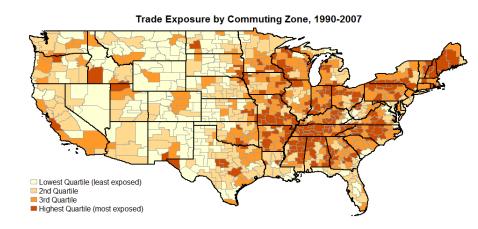
# Mapping Industry Import Shocks to Commuting Zones

### Exposure of commuting zone *i* to trade with China

$$\Delta IP_{i\tau}^{cu} = \sum_{j} \frac{L_{ijt}}{L_{it}} \Delta IP_{j\tau}^{cu}$$

- A weighted average of share of different industries in each CZ times industry import penetration from China
- US import demand  $\Delta's$  may contaminate estimation
- IV for US imports from China using other DCs (Austria, Denmark, Finland, Germany, Japan, New Zealand, Spain, Switzerland)

## Geography of Trade Exposure



# **Primary Empirical Specification**

# $\Delta Y_{jkt}$ is '02-'10 change in electoral outcome for county j, district k

$$\Delta Y_{jkt} = \gamma_d + \beta_1 \Delta I P_{jt}^{cu} + X_{jkt}^{'} \beta_2 + e_{jkt}$$

- $\Delta IP_{jt}$  is  $\Delta$  in import exposure in CZ for county j (IV using  $\Delta IP_{it}^{co}$ )
- $X_{ikt}$  is vector of control variables,  $\gamma_d$  is census division dummy
  - Pol. conditions in '02 for county-district jk: winner's party, vote share, Nominate score, if unopposed—interacted w/ GOP dummy
  - **2** Econ. conditions in '00 for CZ containing county *j*: manuf. emp. share, routine-task intensity, offshorability index
  - 3 Demog. composition in '00 in county *j*: pop. shares by age, gender, education, race, ethnicity, nativity groups
- Weight by jk pop. share in district k, cluster by CZ and by district

# Agenda

**1** Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects
Party Realignment Effects
Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

## Effect of Trade Exposure on Electoral Competitiveness

# Trade exposure reduces vote shares for party in power, increases voter turnout and campaign contributions (by individuals)

			Chan	ge	in Electoral	Out	comes 20	02-	2010		
	Electio	n O	utcomes		Turnout			Log Campaign Cont.		aign Cont.	
	Vote % for Party that Won in 2002		Pr(R+D Compete)		100 × Ln(Votes)		% Registerd Voters	1	Individual Donors		Corporate Donors
	(1)		(2)	-	(3)		(4)	-	(5)		(6)
Δ CZ Import Penetration	-7,05 (2,69)	**	11,94 (6,43)	~	7,00 (3,78)	~	5,89 (2,02)	**	79,31 (30,58)	**	4,58 (24,49)
Mean Outcome Level in 2002	-8,5 70,6		12,3 81,6		13,8 1079,1		3,1 47,2		86,0 602,6		111,1 610,8

Notes: N=3,504 County\*District cells, except N=2,620 in column 3 and N=2,363 in column 4. Data on registered voters is missing for the states of GA, MS, ND and WI. Columns 5 and 6 measure the log point change of one plus observed campaign contributions in \$1,000. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.10$ , \* $p \le 0.05$ , \*\* $p \le 0.01$ .

# Agenda

1 Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects

Party Realignment Effects

Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

## Effect of Trade Exposure on Vote Shares by Party

### No impact on vote share of Republicans, Democrats, Others

	Channa	in Vote Outcome	2002 2010
	Change	in vote Outcome	2002 - 2010
	Republican Vote Share (1)	Democrat Vote Share (2)	Other Parties Vote Share (3)
△ CZ Import	1,60	0,86	-2,45
renetration	(2,62)	(2,84)	(1,76)
Mean Outcome	1,2	-1,3	0,1
Level in 2002	48,8	48,1	3,1

Notes: N=3,504 County\*District cells. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.10, *p \le 0.05, **p \le 0.01$ .

# Agenda

1 Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects
Party Realignment Effects

Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

# Effect of Trade Exposure on Change in Nominate Scores Note: Level in 2002 = 13.9

# Trade exposure induces shift away from center, net shift to right in legislator voting—due to leg. turnover not within-person $\Delta's$

Dependent Variables: 100\*Change Nominate or Absolute Nominate Score of Winner

	2002-2010 C	hang ositio	_			Decomposition of Change in Absolute Nominate Score		
	Nominate Score		Absolute Nominate Score	_	Shift to Right		Shift to Left	
	(1)		(2)	_	(3)		(4)	
Δ CZ Import Penetration	18,13 (7,91)	*	13,99 (6,12)	*	10,83 (5,32)	*	3,16 (2,22)	
Mean Outcome	7,4		7,6		10,8		-3,2	

Notes: N=3,504 County\*District cells. The outcome in column 1 is the Nominate score times 100, while the outcome in column 2 is the absolute value of that score, corresponding to the distance of a politician from the political center of the Nominate scale. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.10$ , \*  $p \le 0.05$ , \*\*  $p \le 0.01$ .

## Effect of Trade Exposure on Ideological Position of Winners

### Trade exposure hurts moderates, helps conservative Republicans

Dependent Variables: 100\*Change in Indicators for Election of Politician by Party and Political Position

	Change	in Probability	2002-2010 th	at Winner has	Given Political C	Prientation
	Moderate	Liberal Democrat	Moderate Democrat	Moderate Republican	Cons. Republican	Tea Party Member
	(1)	(2)	(3)	(4)	(5)	(6)
Δ CZ Import Penetration	-35.96 ** (13.35)	0.17 (7.01)	-22.91 * (8.56)	* -13.04 (9.02)	35.79 <b>**</b> (13.54)	24.30 ~ (12.65)
Mean Outcome Level in 2002	-19.7 56.8	2.6 19.9	-4.6 27.0	-15.0 29.8	17.0 23.3	11.7 6.1

Notes: N=3,504 County\*District cells."Liberal Democrate", "Moderates" and "Conservative Republicans" are defined as politicians whose Nominate scores would respectively put them into the bottom quintile, middle three quintiles, or top quintile of the Nominate score in the 107th (2001-2003) congress that preceeds the outcome period. A Tea Party Member is defined as a representative who was a member of the Tea Party or Liberty Caucus during the 112th (2011-2013) Congress. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.10$ , \* $p \le 0.05$ , \*\* $p \le 0.01$ .

# Agenda

① Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects
Party Realignment Effects
Polarization Effects

- 4 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

## Heterogeneity in Effects: Initial Party in Power

# Losses of centrists compensated by gains on the left and right (initially Dem districts), or right only (initially GOP)

Dependent Variables: 100\*Change in Nominate Score of Winner or Indicators for Election of Politician by Party and Political Position.

		Tolitician by 1	,			
		Change in	Probability th	at Winner has	Given Political	Orientation
	Nominate	Liberal	Moderate	Moderate	Cons.	Tea Party
	Score	Democrat	Democrat	Republican	Republican	Member
	(1)	(2)	(3)	(4)	(5)	(6)
		1	A. Initially Den	nocratic Distric	<u>t</u>	
△ CZ Import	16.93	15.30	-45.12	* -0.26	30.07	31.18
Penetration	(14.96)	(18.59)	(18.61)	(6.81)	(19.24)	(23.64)
Mean Outcome	13.0	5.6	-21.0	3.6	11.8	5.4
Level in 2002	-36.4	42.4	57.6	0.0	0.0	0.0
		Į	3. Initially Rep	ublican Distric	t	
△ CZ Import	12.17	~ 0.00	-13.23	~ -19.26	32.49	* 16.89
Penetration	(6.91)		(7.32)	(13.57)	(16.05)	(15.02)
Mean Outcome	2.5	0.0	9.9	-31.5	21.6	17.4
Level in 2002	58.3	0.0	0.0	56.1	43.9	11.6

Notes: N=1,233 County\*District cells in Panel A, 2,271 County\*District cells in Panel B. All regressions include the full set of control variables. Standard errors are two-way clustered.  $\sim p \le 0.10$ , \*  $p \le 0.05$ , \*\*  $p \le 0.01$ .

## Heterogeneity in Effects: Racial Composition

# Trade exposure helps conservative GOPers in white-majority districts, liberal Dems in non-white-majority districts

Dependent Variables: 100\*Change in Nominate Score of Winner, 100\*Change in Indicators for Election of Politician by Party and Political Position.

	Lice		, ,	id i ondeai i os		
		Change in	Probability th	at Winner has	Given Political	Orientation
	Nominate	Liberal	Moderate	Moderate	Cons.	Tea Party
	Score	Democrat	Democrat	Republican	Republican	Member
	(1)	(2)	(3)	(4)	(5)	(6)
	A. Co	unties where	>1/2 of Votin	ng Age Pop is l	Non-Hispanic V	Vhite
$\Delta$ CZ Import	21.15 *	0.07	-26.90 *	** -14.90	41.73 **	25.31 ~
Penetration	(8.63)	(7.86)	(9.65)	(10.78)	(15.37)	(15.31)
Mean Outcome	8.5	2.2	-4.2	-17.7	19.7	13.4
Level in 2002	20.1	16.1	24.8	33.5	25.7	6.3
	B. Cou	nties where <	=1/2 of Voti	ing Age Pop is	Non-Hispanic '	White
$\Delta$ CZ Import	-8.28	25.66	* -22.90	~ 9.99	-12.74	1.12
Penetration	(7.87)	(12.59)	(11.82)	(6.81)	(9.95)	(7.56)
Mean Outcome	1.8	5.0	-6.8	-1.8	3.5	3.4
Level in 2002	-17.7	39.3	38.4	10.9	11.4	5.3

Notes: N=3,241 (263 )County\*District cells covering 347 (69) districts in Panel A (B). All regressions include the full set of control variables. Standard errors are two-wav clustered.  $\sim p \le 0.10, *p \le 0.05, **p \le 0.01$ .

# Agenda

**1** Empirical Strategy

Measuring Electoral Outcomes
Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects

Party Realignment Effects

Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

### Trade Shocks vs. Other Shocks

# We add measures of two economic shocks to our baseline specification:

- A Bartik measure for the predicted change in CZ log employment based on national-industry employment changes
- The peak-to-trough log change in local housing prices during the post-2006 housing-market collapse

#### We find that

- The results for the effect of import exposure on electoral outcomes are substantially the same.
- Changes in housing prices are strongly related to changes in electoral outcomes, but only in initially Republican districts.
- The qualitative effects of trade shocks and predicted employment changes are similar, but only changes in import penetration generate political polarization.

## Agenda

**1** Empirical Strategy

Measuring Electoral Outcomes Exposure to Import Competition from China

2 Main results

Anti-Incumbent Effects
Party Realignment Effects
Polarization Effects

- 3 Heterogeneity in Polarization Effects
  Initial Political Affiliation and Demographic Composition
- 4 Impact of Other Economic Shocks
- 6 Conclusions

### Discussion

### Rising political polarization is striking but not well understood

 Coincidence with widening income inequality leads naturally to conjecture that economic shocks are behind greater partisanship

### Why would trade shocks contribute to political polarization?

 Dem and GOP beliefs about policy have diverged, with substantial differences in prior beliefs possibly contributing to divergent responses to common shocks (Dixit Weibull '07)

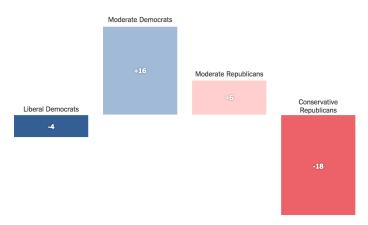
# The employment consequences of trade are acutely recognizable and therefore politically actionable.

 Rising import penetration from China and other low-wage countries disproportionately bears on local labor markets that historically specialized in labor-intensive manufacturing.

# Counterfactual Calcs: Dialing Back the Trade Shock by 50% (New York Times graphic, 26 Apr 2016)

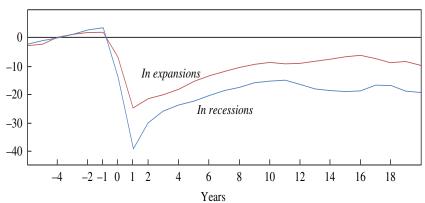
#### What Would The House Look Like If We Had Less Trade?

If imports from China had grown half as fast between 2002 and 2010 as they actually did, Congress probably would have fewer conservatives and liberals and more moderates, according to a new study by a group of economists.



# Durable Scars from Job Displacement *Much Worse in Recessions*

# Average Earnings Losses of Displaced Workers as a Percent of Pre-Displacement Earnings

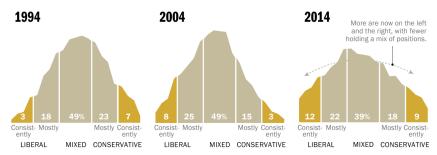


### Polarization of Electorate Didn't Worsen until Mid 2000s

#### What Polarization Looks Like

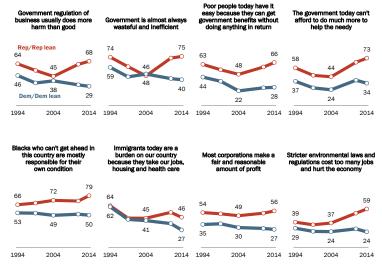
#### **Growing Minority Holds Consistent Ideological Views**

On a 10-item scale of political values, % who are...



Source: 2014 Political Polarization in the American Public Notes: Ideological consistency based on a scale of 10 political values questions. (See Appendix A for details on how the scale is constructed and how scores are grouped.)

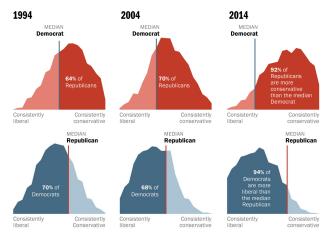
# Gap between Democrats and Republicans Is Growing across a Wide Range of Issues



# Less Mixing of Views Means That since Mid-2000s Median Democrat and Republican Have Grown Further Apart

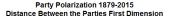
#### Republicans Shift to the Right, Democrats to the Left

Distribution of Republicans and Democrats on a 10-item scale of political values



Source: 2014 Political Polarization in the American Public

### Polarization of House Commences in Late 1970s



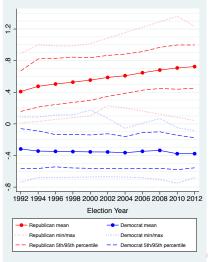


- Ted Cruz (0.88), Marco Rubio (0.58), 4<sup>th</sup> and 33<sup>rd</sup> most conservative
- Bernie Sanders (-0.53), Hillary Clinton (-0.40),  $4^{th}$  and  $109^{th}$  most liberal



### Polarization of Nominate Scores, Not Vote Shares

Parties are winning with more extreme candidates and narrower victories



# Mapping Industry Import Shocks to Commuting Zones

### Observed $\Delta$ in industry import penetration from China

$$\Delta IP_{j,\tau} = \frac{\Delta M_{j,\tau}^{cu}}{Y_{j,91} + M_{j,91} - E_{j,91}}$$

•  $\Delta M_{j\tau}^{cu}$  is  $\triangle$  in China imports over '02-'10 in US industry j,  $Y_{j,91}+M_{j,91}-E_{j,91}$  is industry absorption in '91 (pre-China shock)

### Exposure of commuting zone *i* to trade with China

$$\Delta IP_{i\tau}^{cu} = \sum_{j} \frac{L_{ijt}}{L_{it}} \Delta IP_{j\tau}^{cu}$$

• where  $L_{ijt}/L_{it}$  is share of industry j in employment of CZ i in '00



# Isolating the Supply Shock Component of China Imports: Instrumental Variables Approach

#### **Problem**

ullet US import demand  $\Delta's$  may contaminate estimation

### Instrumental variables approach

- IV for US imports from China using other DCs (Austria, Denmark, Finland, Germany, Japan, New Zealand, Spain, Switzerland)
- ullet Assumption: Common component of  $\Delta$  in rich country imports from China is China export supply shock

$$\Delta IP_{it}^{co} = \sum_{j} \frac{L_{ijt-10}}{L_{uit-10}} \Delta IP_{j\tau}^{co}$$

where  $\Delta IP_{it}^{co} = \Delta M_{j\tau}^{co}/(Y_{j,88} + M_{j,88} - E_{j,88})$  is based on change in imports from China in other high-income countries



# Nominate Scores by Major Issue Area

# Issue-specific Nominate scores are strongly positively correlated, indicating legislators vote in ideologically consistent manner

Correlations between DW-Nominate Score and issue-specific W-Nominate Scores.

			Issue-Spec	ific W-Nomin	ate Score		
	Budget	Regulation	Domestic Social Policy	Foreign Policy	Globali- zation	Tariffs & Trade Regulation	Immigr. & Naturali- zation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			A. Nom	inate Scores i	n 2002		
Corr.	0.990	0.966	0.983	0.982	0.963	0.926	0.947
			B. Nom	inate Scores is	n 2010		
Corr.	0.985	0.969	0.974	0.978	0.962	0.926	0.951
			C. \(\Delta\) Nomi	inate Scores 2	002-2010		
Corr.	0.947	0.893	0.918	0.932	0.889	0.858	0.849

Notes: This table reports pairwise correlations between DW-Nominate scores and issue-specific W-Nominate scores across egislators in 2002 and 2010 and correlations across congressional districts for the 2002-2010 change in Nominate scores. These issue areas are based on aggregate Peltzman codes in the Nominate data: budget general and special interest Peltzman codes 1, 2), regulation general and special interest (Peltzman codes 3, 4), domestic social policy (Peltzman code 5), defense and foreign policy budget and resolutions (Petzman codes 61, 62, 71, 72), tariffs and trade regulation (issue code 50), and immigration/naturalization (issue code 50), and immigration/naturalization (issue code 50).

# Effect of Trade Exposure on Change in Nominate Scores Note: Level in 2002 = 13.9

Trade exposure induces shift away from center, net shift to right in legislator voting—due to leg. turnover not within-person  $\Delta's$ 

		2002-2010 Change in Political Position			Decomposition of Chan Absolute Nominate Sco		
		Absolute		Shift		Shift	
	Nominate	Nominate		to		to	
	Score	Score		Right		Left	
	(1)	(2)		(3)		(4)	
				40.02		2.44	
∆ CZ Import Penetration	18.13 (7.91)	* 13.99 (6.12)	*	10.83 (5.32)	*	3.16 (2.22)	
			*		*		
	(7.91) 7.4	(6.12)		(5.32) 10.8		(2.22)	
Δ CZ Import Penetration  Mean Outcome  Δ CZ Import Penetration	(7.91) 7.4	(6.12) 7.6		(5.32) 10.8		(2.22)	

Notes: N=3,504 County\*District cells. The outcome in column 1 is the Nominate score times 100, while the outcome in column 2 is the absolute value of that score, corresponding to the distance of a politician from the political center of the Nominate scale. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.01$ ,  $*p \le 0.05$ ,  $*p \le 0.01$ .

Mean Outcome

# Interpreting Magnitudes

### Interpreting magnitudes

- Consider two congressional districts that are at the 25<sup>th</sup> and 75<sup>th</sup> percentile of change in trade exposure, respectively
- More trade-exposed district would have:
  - change in Nominate score that is 0.18 (18.41  $\times$  (0.89 0.40)/49) standard deviations higher
  - change in distance from political center that is 0.36  $(13.99 \times (0.89-0.40)/19)$  standard deviations greater

# Heterogeneity in Effects: Interparty, Intraparty transitions

Trade exposure helps induce transitions ('02-'10: 218 CDs no  $\Delta$  incumbent; other CDs: 104 R $\rightarrow$ R, 42 D $\rightarrow$ D, 30 D $\rightarrow$ R, 22 R $\rightarrow$ D)

Dependent Variable: 100 x Dummy for Change in Party, Change in Representative within Same Party, or No Change in Representative

	Change in	No Change	in Party	
	Party	Different Rep	Same Rep	
		A. All Districts		
△ CZ Import	8,16	14,27	-22,43	*
Penetration	(8,15)	(11,12)	(10,29)	
Mean Outcome	12,4	35,1	52,4	
		B. Initially Democratic Dis	trict	
△ CZ Import	29,82	~ -6,36	-23,46	
Penetration	(17,81)	(18,26)	(17,97)	
Mean Outcome	15,4	21,6	63,1	
		C. Initially Republican Dis	trict	
∆ CZ Import	-13,23	~ 38,66 *	-25,43	~
Penetration	(7,32)	(15,38)	(13,34)	

Mean Outcome 9,9 47,2 43,0 Notes: N=3.504 County\*District cells in Panel A, N=1.233 in Panel B, N=2.271 in Panel C. All regressions include the full set of control variables. Standard errors are two-way clustered on CZs and Congressional Districts.  $\sim p \le 0.10$ , \*p  $\le 0.05$ , \*p  $\le 0.01$ .



### **Explaining Polarization**

### Literature is large but little consensus on causal mechanisms

- Explanations shown to lack empirical support
  - Immigration, manipulation of blue-collar voters (Gelman et al. '08)
  - Greater geographic voter segregation—the "big sort" didn't happen (Glaeser Ward '06, Abrams Fiorina '12)
  - Gerrymandering, changes in election structure or congressional rules (McCarty Poole Rosenthal '09, Barber McCarty '15)
- Explanations supported by circumstantial evidence
  - Tax/regulatory reform (Bartels '10, Hacker Pierson '10)
  - Stronger ideological sorting of voters by party (Levendusky '09)
  - Media partisanship (DellaVigna Kaplan '07, Gentzkow Shapiro '11)

# Imports from China in the US and Other Developed Economies 1991 – 2007

Imports from China in the U.S. and Other Developed Economies 1991 - 2007 (in Billions of 2007\$), and their Correlations with U.S.-China Imports

	United States	Japan	Germany	Spain	Australia
$\Delta$ Chinese Imports (Bil\$)	303.8	108.1	64.3	23.2	21.5
No. Industries with Import	385	368	371	377	378
Correlation w/ U.SChina	1.00	0.86	0.91	0.68	0.96

	8 Non-US			New	
	Countries	Finland	Denmark	Zealand	Switzerland
Δ Chinese Imports (Bil\$)	234.7	5.7	4.7	3.8	3.3
No. Industries with Import	383	356	362	379	343
Correlation w/ U.SChina	0.92	0.58	0.62	0.92	0.55

Correlations of imports across 397 4-digit industries are weighted using 1991 industry employment from the NBER Manufacturing database.

### Robustness: Notes on Alternative Specifications

#### Results are robust to

- Using '10 levels, rather than '02-'10 changes, on LHS
- Controlling for quadratic in or bin sizes of '02 Nominate scores
- $\bullet$  Defining liberals and conservatives cardinally as outside [-0.5, 0.5]