Online Appendix for "Economic Decline, Social Identity, and Authoritarian Values in the United States"

A   Sample

The survey was conducted in September 2017 by YouGov. YouGov employs matched sampling to approximate a random sample of the adult population. Matched sampling involves taking a stratified random sample of the target population and then matching available internet respondents to the target sample (Rivers 2011). Ansolabehere and Rivers (2013) and Ansolabehere and Schaffner (2014) show that matched sampling produces accurate population estimates and replicates the correlational structure of random samples using telephones and residential addresses. The respondents were matched to a sampling frame based on gender, age, race, education, party identification, ideology, and political interest. The frame was constructed by stratified sampling from the full 2010 American Community Survey (ACS) sample with selection within strata by weighted sampling with replacements (using the person weights on the public use file). Data on voter registration status and turnout were matched to this frame using the November 2010 Current Population Survey. Data on interest in politics and party identification were then matched to this frame from the 2007 Pew Religious Life Survey. The matched cases were weighted to the sampling frame using propensity scores. The matched cases and the frame were combined and a logistic regression was estimated for inclusion in the frame. The propensity score function included age, gender, race/ethnicity, years of education, and ideology. The propensity scores were grouped into deciles of the estimated propensity score in the frame and post-stratified according to these deciles.

- Interview period: September 2017

- Sample size: 1,800

- Source of data on population socio-demographics: US Census

- Weights range from 0.144 to 5.076, with a mean of 1 and a standard deviation of 0.39.

Table A.1: Distribution of Socio-demographics in the Survey Sample and the Population.

Group	Population	Weighted Sample	Raw Sample
Gender: Male	49.2	48.6	47.3
Gender: Female	50.8	51.3	52.7
Age: 18-34	30.1	31.7	29.6
Age: 35-54	33.0	31.3	30.1
Age: 55+	36.8	35.5	38.9
Bachelor's degree or greater:	30.3	25.6	28.9
HS or greater:	87.0	91.3	92.5

Notes: The table shows the distributions of socio-demographics in the population, the weighted sample, and the raw sample. See text for data sources on the population socio-demographics.

B ANES Regional Data

The American National Election Study has collected nationally-representative panels of American voters for many years. While the exact survey questions included have varied somewhat over time, there are a set of questions that approximate our three subdimensions of authoritarian values that have appeared consistently in the ANES since 1990. More precisely, we argue that the *authoritarian aggression* subdimension is likely to be well proxied by an individual's preference over the use of the death penalty; the ANES includes questions asking about respondent support for the use of the death penalty to punish respondents convicted of murder, and also asks separately about the strength of support or opposition to the death penalty. We next argue that questions about appropriate values for child rearing should serve as a close proxy for *authoritarian submission*; these questions ask respondents to report whether they favor children who are respectful versus obedient, well-mannered versus curious, obedient versus self-reliant, and well-behaved versus considerate. Finally, the *authoritarian conventionalism* subdimension is quite closely related to a battery of questions that the ANES labels as "moral traditionalism;" these questions ask respondents whether they believe that society should adjust its values in light of a changing world, whether newer lifestyles are contributing to the breakdown of society, whether individuals should be more tolerant of others who live differently, and whether the country would be better off with more emphasis on traditional family ties.

We collected responses to each of these questions for the following ANES survey waves: 1990, 1992, 1994, 1996, 1998, 2000, 2004, 2008, 2012, and 2016.[1] We then performed principal component analysis on the full set of questions listed above for respondents who self-identified as white. In each case, factor analysis identified three subdimensions with eigenvalues greater than one. In each case, the questions on child rearing all loaded strongly onto one dimension, which we labeled "submission;" the questions on the death penalty loaded strongly onto another dimension, which we labeled "aggression;" and the moral traditionalism questions loaded strongly onto the third dimension, which we labeled "conventionalism."[2]

Having generated these measures of authoritarianism based on ANES data, we generated average values for each subdimension at the county level (based on the arithmetic mean of such values for all respondents in a given county). These provided county-level averages of our three dimensions of authoritarian aggression, submission, and conventionalism. However, as there was not sufficient coverage of all US counties in a given survey wave, in order to maximize potential geographic coverage we subsequently generated a "pre-trade shock" measure of average authoritarian values by pooling data for all survey waves fielded prior to China's accession to the WTO in 2001, as well as a "post-trade shock" measure that pooled across all waves after 2001. Finally, we calculated our average regional ASC measure by taking the average of the regional measures for aggression, submission, and conventionalism.

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[1]The 2002 wave did not contain these questions, and so was omitted. Note that the 1996 and 1998 waves did not contain questions about child rearing, and the 1990 wave only contained one such question.

[2]For the 1996 and 1998 waves, there were only two dimensions identified, as there were no questions on child rearing.

C   ASC Component Questions

Dunwoody & Funke (2016) propose a battery of 18 questions to capture three distinct subdimensions of authoritarianism that they call "aggression, submission, and conventionalism." Each dimension is measured by taking the average level of support across six questions, three of which are protrait and three of which are contrait and are therefore reverse coded. The exact set of questions for each dimension is provided below:

Authoritarian Aggression
Strong force is necessary against threatening groups.
It is necessary to use force against people who are a threat to authority.
Police should avoid using violence against suspects.*
People should avoid using violence against others even when ordered to do so by the proper authorities.*
Using force against people is wrong even if done so by those in authority.*
Strong punishments are necessary in order to send a message.

Authoritarian Submission
We should believe what our leaders tell us.
Our leaders know what is best for us.
People should be critical of statements made by those in positions of authority.*
People in positions of authority generally tell the truth.
People should be skeptical of all statements made by those in positions of authority.*
Questioning the motives of those in power is healthy for society.*

Conventionalism
People emphasize tradition too much.*
Traditions are the foundation of a healthy society and should be respected.
It would be better for society if more people followed social norms.
Traditions interfere with progress.*
People should challenge social traditions in order to advance society.*
People should respect social norms.
* = reverse coding.

D   Additional Figures

Figure A.1: Average Authoritarian Aggression, Conventionalism, and Submission (ASC)
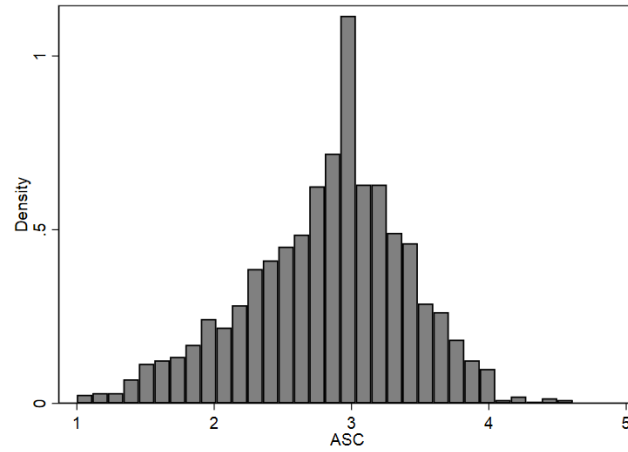
Figure A.2: Change in Chinese Import Penetration, 1991-2007
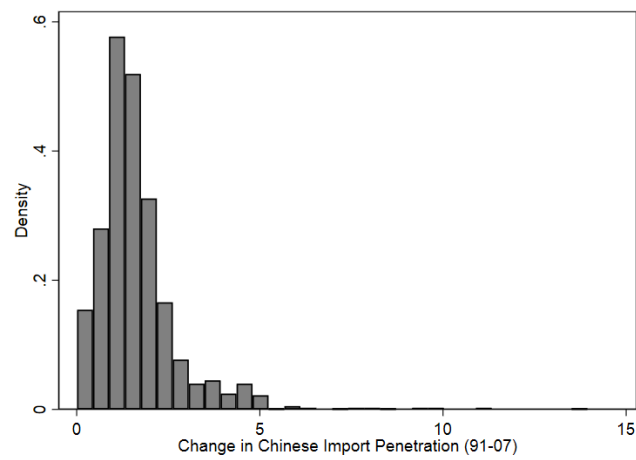
E Additional Tables

Table A.2: *Summary Statistics*

	Count	Mean	Std. Dev.	Min	Max
ASC	1,787	2.82	.58	1	4.61
Δ IP (91-07)	1,787	1.68	1.18	0.01	13.94
Diversity	1,787	0.36	0.48	0	1
Female	1,787	0.53	0.50	0	1
Age	1,787	47.54	17.33	18	89
University	1,787	0.29	0.45	0	1
College	1,787	0.33	0.47	0	1
Married	1,787	0.53	0.50	0	1
Has children	1,787	0.23	0.42	0	1
Manufacturing	1,787	0.20	0.08	0.01	0.61
% Foreign born	1,787	12.47	10.73	0.10	51.65
Δ % Foreign born	1,787	1.99	1.94	-4.79	12.02
Avg. Aggression	1,787	2.97	0.81	1	5
Avg. Submission	1,787	2.28	0.67	1	4.3
Avg. Conventionalism	1,787	3.22	0.76	1	5

Table A.3: *Correlation Matrix for ACS Components*

	Avg. Aggression	Avg. Submission	Avg. Conventionalism
Avg. Aggression	1.000		
Avg. Submission	0.336	1.000	
Avg. Conventionalism	0.530	0.318	1.000

VARIABLES	(1) ASC	(2) ASC	(3) ASC	(4) ASC	(5) ASC	(6) ASC	(7) ASC
Δ IP (91-07)	0.023	0.023	0.019	0.010	0.015	0.016	0.006
	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)	(0.019)	(0.018)
Diversity	-0.154**	-0.187***	-0.137**	-0.145**	-0.133**	-0.142**	-0.184***
	(0.066)	(0.065)	(0.060)	(0.063)	(0.060)	(0.064)	(0.058)
Diversity*Δ IP (91-07)	0.109***	0.104***	0.100***	0.109***	0.108***	0.101***	0.105***
	(0.030)	(0.033)	(0.027)	(0.029)	(0.029)	(0.030)	(0.028)
Female	-0.014	-0.051*	-0.007	-0.012	-0.014	-0.010	-0.045
	(0.033)	(0.029)	(0.032)	(0.033)	(0.033)	(0.033)	(0.029)
Age	0.009***	0.006***	0.009***	0.009***	0.009***	0.009***	0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
University	-0.228***	-0.187***	-0.213***	-0.208***	-0.213***	-0.221***	-0.171***
	(0.047)	(0.040)	(0.038)	(0.040)	(0.039)	(0.040)	(0.041)
College	-0.169***	-0.144***	-0.155***	-0.158***	-0.162***	-0.165***	-0.125***
	(0.038)	(0.035)	(0.037)	(0.038)	(0.038)	(0.038)	(0.036)
Married	0.033	-0.000	0.026	0.042	0.040	0.040	-0.007
	(0.040)	(0.033)	(0.033)	(0.035)	(0.034)	(0.035)	(0.034)
Has children	0.182***	0.142***	0.154***	0.169***	0.175***	0.179***	0.124***
	(0.041)	(0.040)	(0.040)	(0.040)	(0.040)	(0.041)	(0.038)
Manufacturing	-0.429	-0.521*	-0.375	-0.403	-0.363	-0.292	-0.362
	(0.293)	(0.268)	(0.282)	(0.285)	(0.286)	(0.292)	(0.265)
% Foreign Born	-0.002	0.000	-0.001	0.002	0.004	-0.002	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
Δ % Foreign Born	0.012	0.012	0.011	0.021**	0.014	0.009	0.012
	(0.010)	(0.009)	(0.009)	(0.009)	(0.010)	(0.011)	(0.009)
HH income	0.002						0.000
	(0.007)						(0.006)
Religion is important		0.449***					0.402***
		(0.031)					(0.030)
Success comes from hard work			0.322***				0.250***
			(0.033)				(0.031)
Rural pop. (%)				0.004***			0.001
				(0.001)			(0.001)
Total pop. (logged)					-0.057***		-0.023
					(0.016)		(0.021)
Northeast						0.059	0.083*
						(0.057)	(0.047)
South						0.085*	0.045
						(0.049)	(0.046)
West						0.042	0.015
						(0.052)	(0.050)
Observations	1,217	1,225	1,225	1,225	1,225	1,225	1,217
R-squared	0.118	0.240	0.187	0.131	0.128	0.121	0.290
Commuting zones	323	324	324	324	324	324	323

Table A.4: OLS: Trade Shock Exposure and Authoritarianism (Add. Covariates). The table shows results from an OLS regression of the variable *ASC* on the trade shock measure Δ *IP (91-07)*, a dummy variable for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and different sets of control variables among white respondents. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** p<0.01, ** p<0.05, * p<0.1.

VARIABLES	(1) ASC (OLS)	(2) ASC (OLS)	(3) ASC (OLS)	(4) ASC (OLS)	(5) ASC (OLS)	(6) ASC (OLS)	(7) ASC (OLS)	(8) ASC (OLS)
Δ IP (91-07)	0.037**	0.033*	0.028	0.022	0.023	0.019	0.026	0.013
	(0.018)	(0.018)	(0.018)	(0.019)	(0.019)	(0.021)	(0.019)	(0.021)
Diversity (10th pc)	0.072							
	(0.093)							
Diversity (10th) * Δ IP	0.026							
	(0.045)							
Diversity (25th pc)		-0.089						
		(0.067)						
Diversity (25th) * Δ IP		0.087***						
		(0.032)						
Diversity (33rd pc)			-0.120*					
			(0.064)					
Diversity (33rd) * Δ IP			0.098***					
			(0.027)					
Diversity (50th pc)				-0.141**				
				(0.062)				
Diversity (50th) * Δ IP				0.075**				
				(0.029)				
Diversity (67th pc)					-0.089			
					(0.063)			
Diversity (67th) * Δ IP					0.038			
					(0.030)			
Diversity (75th pc)						-0.114*		
						(0.065)		
Diversity (75th) * Δ IP						0.035		
						(0.029)		
Diversity (90th pc)							-0.139*	
							(0.077)	
Diversity (90th) * Δ IP							0.013	
							(0.026)	
% non-white								-0.280
								(0.188)
% non-white * Δ IP								0.169**
								(0.085)
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Observations	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.113	0.114	0.116	0.116	0.113	0.114	0.115	0.114
Czone	324	324	324	324	324	324	324	324

Table A.5: OLS: Trade Shock Exposure and Authoritarianism (Different diversity cutpoints). The table shows results from an OLS regression of the variable *ASC* on the trade shock measure Δ *IP (91-07)*, a measure for living in a diverse county, an interaction between the diversity variable and the trade shock variable, and different sets of control variables among white respondents, for different cutpoints of the diversity definition. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** p<0.01, ** p<0.05, * p<0.1.

VARIABLES	(1) Aggr. (OLS)	(2) Aggr. (OLS)	(3) Aggr. (OLS)	(4) Aggr. (IV)	(5) Aggr. (IV)	(6) Aggr. (IV)
Δ IP (91-07)	0.035	0.015	0.031	0.055**	0.030	0.087**
	(0.022)	(0.025)	(0.029)	(0.026)	(0.030)	(0.042)
Diversity		-0.200**	-0.110		-0.206**	-0.123
		(0.091)	(0.099)		(0.102)	(0.101)
Diversity*Δ IP (91-07)		0.113**	0.107**		0.119**	0.121**
		(0.045)	(0.045)		(0.053)	(0.049)
Female			-0.131***			-0.132***
			(0.048)			(0.048)
Age			0.012***			0.012***
			(0.001)			(0.001)
University			-0.298***			-0.292***
			(0.064)			(0.064)
College			-0.123**			-0.122**
			(0.057)			(0.057)
Married			0.060			0.055
			(0.048)			(0.048)
Has children			0.222***			0.224***
			(0.054)			(0.054)
Manufacturing			-0.433			-1.015**
			(0.426)			(0.514)
% Foreign Born			-0.006*			-0.007**
			(0.003)			(0.003)
Δ % Foreign Born			0.020			0.021
			(0.015)			(0.015)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.003	0.007	0.103			
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.6: Trade Shock Exposure and Authoritarian Aggression. The table shows results from OLS and IV regressions of the variable for Authoritarian Aggression on the trade shock measure Δ *IP (91-07)* among white respondents, using the variable Δ *IPO (91-07)* as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

VARIABLES	(1) Subm. (OLS)	(2) Subm. (OLS)	(3) Subm. (OLS)	(4) Subm. (IV)	(5) Subm. (IV)	(6) Subm. (IV)
Δ IP (91-07)	0.024	0.007	0.024	0.038*	0.027	0.065*
	(0.016)	(0.017)	(0.018)	(0.020)	(0.023)	(0.033)
Diversity		-0.153**	-0.182**		-0.079	-0.124
		(0.069)	(0.085)		(0.075)	(0.093)
Diversity*Δ IP (91-07)		0.101***	0.113***		0.056	0.079*
		(0.035)	(0.036)		(0.043)	(0.044)
Female			0.061*			0.060*
			(0.035)			(0.035)
Age			0.000			0.001
			(0.001)			(0.001)
University			-0.173***			-0.168***
			(0.045)			(0.045)
College			-0.239***			-0.236***
			(0.047)			(0.046)
Married			0.057			0.054
			(0.042)			(0.042)
Has children			0.092*			0.092*
			(0.051)			(0.051)
Manufacturing			-0.498			-0.841**
			(0.322)			(0.419)
% Foreign Born			0.001			0.000
			(0.002)			(0.002)
Δ % Foreign Born			-0.000			-0.001
			(0.012)			(0.012)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.002	0.007	0.042			
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.7: Trade Shock Exposure and Authoritarian Submission. The table shows results from OLS and IV regressions of the variable for Authoritarian Submission on the trade shock measure Δ *IP (91-07)* among white respondents, using the variable Δ *IPO (91-07)* as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** p<0.01, ** p<0.05, * p<0.1.

VARIABLES	(1) Conv. (OLS)	(2) Conv. (OLS)	(3) Conv. (OLS)	(4) Conv. (IV)	(5) Conv. (IV)	(6) Conv. (IV)
Δ IP (91-07)	0.012	-0.007	0.012	0.020	-0.001	0.027
	(0.021)	(0.023)	(0.027)	(0.023)	(0.026)	(0.039)
Diversity		-0.184**	-0.132		-0.169*	-0.124
		(0.084)	(0.087)		(0.096)	(0.094)
Diversity*Δ IP (91-07)		0.107***	0.098***		0.098**	0.094**
		(0.039)	(0.038)		(0.045)	(0.042)
Female			0.036			0.035
			(0.044)			(0.043)
Age			0.015***			0.015***
			(0.001)			(0.001)
University			-0.200***			-0.198***
			(0.055)			(0.055)
College			-0.140***			-0.140***
			(0.052)			(0.052)
Married			0.002			0.001
			(0.048)			(0.048)
Has children			0.224***			0.224***
			(0.056)			(0.056)
Manufacturing			-0.347			-0.491
			(0.370)			(0.465)
% Foreign Born			-0.002			-0.002
			(0.003)			(0.003)
Δ % Foreign Born			0.017			0.017
			(0.013)			(0.013)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
R-squared	0.000	0.004	0.126			
Czone	324	324	324	324	324	324
Weak ID F stat				300.6	117.6	84.10

Table A.8: Trade Shock Exposure and Authoritarian Conventionalism. The table shows results from OLS and IV regressions of the variable for Authoritarian Conventionalism on the trade shock measure Δ *IP (91-07)* among white respondents, using the variable Δ *IPO (91-07)* as an instrument in the IV regressions. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

VARIABLES	(1) ASC (OLS)	(2) ASC (OLS)	(3) ASC (OLS)	(4) ASC (IV)	(5) ASC (IV)	(6) ASC (IV)
Δ IP (91-07)	-0.021	-0.029	-0.021	-0.014	-0.019	-0.006
	(0.015)	(0.029)	(0.033)	(0.016)	(0.030)	(0.033)
Diversity		-0.033	-0.038		-0.019	-0.045
		(0.076)	(0.082)		(0.076)	(0.077)
Diversity*Δ IP (91-07)		0.017	0.008		0.009	0.014
		(0.040)	(0.046)		(0.040)	(0.041)
Female			-0.009			-0.009
			(0.047)			(0.046)
Age			0.003**			0.003**
			(0.001)			(0.001)
University			-0.196***			-0.194***
			(0.058)			(0.057)
College			-0.111**			-0.111**
			(0.051)			(0.050)
Married			0.088**			0.087**
			(0.040)			(0.040)
Has children			0.057			0.058
			(0.049)			(0.049)
Manufacturing			-0.054			-0.247
			(0.414)			(0.435)
% Foreign Born			0.003			0.003
			(0.002)			(0.002)
Δ % Foreign Born			-0.007			-0.007
			(0.010)			(0.009)
Observations	562	562	562	562	562	562
R-squared	0.002	0.002	0.055			
Czone	177	177	177	177	177	177
Weak ID F stat				173.8	49.91	63.59

Table A.9: Trade Shock Exposure and Authoritarianism (Non-Whites). The table shows results from OLS and IV regressions of the variable *ASC* on the trade shock measure Δ *IP (91-07)*, using the variable Δ *IPO (91-07)* as an instrument in the IV regressions, for the sample of non-white respondents. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

VARIABLES	(1) ASC	(2) ASC	(3) ASC	(4) ASC
OLS				
Δ IP (91-07)	0.025	-0.007	0.008	0.047
	(0.025)	(0.027)	(0.037)	(0.028)
Diversity		-0.174**	-0.177*	-0.201***
		(0.084)	(0.100)	(0.075)
Diversity*Δ IP (91-07)		0.140***	0.134***	0.126***
		(0.038)	(0.042)	(0.038)
Pre-shock values				0.008
				(0.017)
IV				
Δ IP (91-07)	0.022	0.002	0.028	0.062
	(0.024)	(0.026)	(0.039)	(0.045)
Diversity		-0.091	-0.098	-0.202**
		(0.095)	(0.104)	(0.084)
Diversity*Δ IP (91-07)		0.089*	0.087*	0.128***
		(0.049)	(0.048)	(0.054)
Pre-shock values				0.008
				(0.017)
Observations	472	472	472	751
Commuting zones	209	209	209	150
Weak ID F stat for 2SLS	230	25.94	58.38	86.39
Controls			✓	✓

Table A.10: OLS & IV: Trade Shock Exposure and Authoritarianism (Sorting). The top panel of the table shows results from an OLS regression of the variable *ASC* on the trade shock measure Δ *IP (91-07)* among white respondents, while the bottom panel shows results from an IV regression of the variable *ASC* on the trade shock measure Δ *IP (91-07)* using the variable Δ *IPO (91-07)* as instrument. The results in columns 1-3 are based on a sub-sample of respondents that have not moved over the past 20 years. Results in column 4 are from the original sample of respondents after adding a measure of average "pre-shock" regional authoritarian values. Standard errors are clustered at the commuting zone-level and reported in parentheses. Significance levels are reported in the following way: *** p<0.01, ** p<0.05, * p<0.1.

VARIABLES	(1) BS	(2) SW	(3) BS	(4) SW	(5) BS	(6) SW
Δ IP (91-07)	0.038***	0.038**	0.019	0.019	0.060**	0.060**
	(0.013)	(0.017)	(0.015)	(0.019)	(0.026)	(0.028)
Diversity			-0.151**	-0.151**	-0.124*	-0.124*
			(0.065)	(0.066)	(0.067)	(0.069)
Diversity*Δ IP (91-07)			0.091***	0.091***	0.098***	0.098***
			(0.033)	(0.034)	(0.031)	(0.033)
Female					-0.012	-0.012
					(0.031)	(0.033)
Age					0.009***	0.009***
					(0.001)	(0.001)
University					-0.220***	-0.220***
					(0.042)	(0.041)
College					-0.166***	-0.166***
					(0.037)	(0.037)
Married					0.037	0.037
					(0.034)	(0.035)
Has children					0.180***	0.180***
					(0.041)	(0.041)
Manufacturing					-0.782**	-0.782**
					(0.325)	(0.365)
% Foreign Born					-0.003	-0.003
					(0.002)	(0.002)
Δ % Foreign Born					0.012	0.012
					(0.009)	(0.010)
Observations	1,225	1,225	1,225	1,225	1,225	1,225
Commuter zones	324	324	324	324	324	324
R-squared	0.001	0.002	0.008	0.008	0.115	0.115

Table A.11: Bootstrapped vs Sandwich Standard Errors. This table reports the second stage results from an IV regression of the variable *ASC* on the trade shock measure Δ *IP (91-07)* among white respondents using the variable Δ *IPO (91-07)* as an instrument. Standard errors are either calculated using bootstrap simulation (resampling over commuter zone) in Columns 1, 3, and 5 (designated "BS"); or using clustered sandwich estimates in Columns 2, 4, and 6 (designated "SW"). Significance levels are reported in the following way: *** p<0.01, ** p<0.05, * p<0.1.