



Determinants of Individual Trade Preference

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Background

•Many researches have been done to reveal the determinants of individual trade preference, and many models have been established and tested. Two most classical models are factor-endowments model and the specific-factors model, which point out the relationship between material income and trade preference. Then Scheve and Slaughter suggest not only material income, but also accumulated wealth will also determine trade preference. Later on, the positive correlation between college level education was discovered. Some researchers argued that it is the exposure to economic ideas during college really matters. Evidence for community’s collective recognition influences individual’s trade preference is also fund, supporting the idea of college environment is a critical determinant. However, the situation is changed. Nowadays, college is no longer the only channel to spread economic ideas, also external crisis may alter or enhance people’s belief. This research intends to re-exam theories with changing demographics.

Specific Aims

- Exam the theory that education, especially college education will largely influence one’s trade preference with newly released data.
- Test whether the series of financial dilemmas after 2008 have weaken the positive correlation between college education and individual trade preference.

Data

The data used for the research is the National Identity Survey in International Social Survey Program (ISSP). Both datasets from 2003 and 2013 are used.

Data from 2003					
Statistic	N	Mean	St. Dev.	Min	Max
age	11,390	46.665	16.210	15	97
male	11,390	0.492	0.500	0	1
pro_trade	11,390	0.321	0.467	0	1
educyrs	11,390	15.229	16.289	1	97
wrkst	11,390	3.251	2.883	1	10
topbot	11,390	5.606	1.764	1	10
rural	11,390	2.007	0.773	1	3
college	11,390	0.343	0.475	0	1
logincome	11,390	8.940	2.107	-1.515	13.832

Data from 2013					
Statistic	N	Mean	St. Dev.	Min	Max
AGE	17,450	52.999	62.863	15	999
male	17,450	0.479	0.500	0	1
pro_trade	17,450	0.273	0.446	0	1
EDUCYRS	17,450	14.836	12.186	0	99
MAINSTAT	17,450	3.626	9.222	1	99
TOPBOT	17,450	10.011	20.250	0	99
rural	17,450	2.637	7.424	1	99
college	17,450	0.295	0.456	0	1
logincome	17,450	-Inf.000		-Inf.000	15.861

A glance of the data suggests that pro_trade rate declined from 2003 to 2013.

Methods

Logistic Regression

- Baseline model:

$$P(x) = \frac{e^{\beta_0 + \beta_1 Age + \beta_2 Sex + \beta_3 Schooling + \beta_3 College}}{1 + e^{\beta_0 + \beta_1 Age + \beta_2 Sex + \beta_3 Schooling + \beta_3 College}}$$

- Demographic model:

$$P(x) = \frac{e^{\beta_0 + \beta_1 Age + \beta_2 Sex + \beta_3 Schooling + \beta_3 College + \beta_4 topbot + \beta_5 rural + \beta_6 logincome}}{1 + e^{\beta_0 + \beta_1 Age + \beta_2 Sex + \beta_3 Schooling + \beta_3 College + \beta_4 topbot + \beta_5 rural + \beta_6 logincome}}$$

Results

Baseline Model for 2003										
	Dependent variable: pro_trade									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
educyrs	1.008*** (0.001)	1.020*** (0.003)	1.008 (0.008)	1.004* (0.002)	1.000 (0.003)	1.005*** (0.001)	1.011*** (0.002)	1.002 (0.008)	1.004* (0.002)	0.991** (0.005)
age	0.991*** (0.001)	1.006*** (0.002)	0.964* (0.009)	1.007 (0.012)	0.987*** (0.003)	1.005** (0.001)	0.983*** (0.002)	0.983** (0.009)	0.999 (0.013)	0.988*** (0.003)
male	1.540*** (0.041)	1.476*** (0.050)	1.898*** (0.206)	1.196 (0.187)	1.708*** (0.089)	1.574*** (0.042)	1.528*** (0.051)	2.034*** (0.210)	1.254 (0.190)	1.656*** (0.092)
college						2.408*** (0.043)	2.171*** (0.052)	2.094*** (0.240)	1.657*** (0.196)	3.291*** (0.105)
Constant	0.511*** (0.072)	0.264*** (0.107)	0.471* (0.392)	0.450** (0.372)	0.529*** (0.215)	0.344*** (0.077)	0.216*** (0.109)	0.435** (0.398)	0.428** (0.379)	0.419*** (0.226)
Observations	11,390	7,272	490	480	2,999	11,390	7,272	490	480	2,999
Log Likelihood	-7,032.794	-4,654.223	-282.214	-324.707	-1,612.940	-6,821.298	-4,543.440	-277.572	-321.352	-1,549.246
Akaike Inf. Crit.	14,073.590	9,316.445	572.427	697.414	3,233.879	13,652.680	9,096.881	565.144	652.704	3,106.492
Note:	*p<0.1; **p<0.05; ***p<0.01									

Demographic Model for 2003										
	Dependent variable: pro_trade									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
educyrs	1.007*** (0.001)	1.017*** (0.002)	1.008 (0.008)	1.003 (0.003)	0.999 (0.004)	1.005*** (0.001)	1.010*** (0.002)	1.003 (0.008)	1.003 (0.003)	0.990** (0.005)
age	0.993*** (0.001)	1.005** (0.003)	0.988 (0.009)	1.010 (0.013)	0.988*** (0.003)	0.994*** (0.001)	1.005** (0.002)	0.983* (0.009)	1.001 (0.013)	0.987*** (0.004)
male	1.483*** (0.041)	1.438*** (0.050)	1.975*** (0.210)	1.183 (0.190)	1.642*** (0.091)	1.530*** (0.042)	1.494*** (0.051)	2.076*** (0.213)	1.262 (0.193)	1.618*** (0.093)
college						2.089*** (0.045)	1.920*** (0.055)	1.940*** (0.255)	1.632*** (0.205)	2.793*** (0.111)
topbot	1.191*** (0.012)	1.183*** (0.016)	1.084 (0.053)	1.161*** (0.038)	1.193*** (0.025)	1.122*** (0.013)	1.123*** (0.016)	1.046 (0.055)	1.134*** (0.059)	1.113*** (0.026)
rural	0.916*** (0.027)	0.916*** (0.033)	0.715** (0.139)	1.107 (0.128)	0.877*** (0.057)	0.959 (0.027)	0.954 (0.033)	0.741** (0.142)	1.178 (0.131)	0.907* (0.058)
logincome	1.037*** (0.010)	1.023* (0.012)	0.856** (0.061)	1.057 (0.041)	1.072*** (0.024)	1.022** (0.010)	1.011 (0.012)	0.852*** (0.061)	1.058 (0.041)	1.059** (0.024)
Constant	0.154*** (0.144)	0.103*** (0.184)	2.132 (0.736)	0.094*** (0.644)	0.171*** (0.343)	0.165*** (0.145)	0.119*** (0.185)	2.295 (0.743)	0.059*** (0.649)	0.208*** (0.348)
Observations	11,390	7,272	490	480	2,999	11,390	7,272	490	480	2,999
Log Likelihood	-6,908.259	-4,587.189	-275.254	-320.099	-1,578.749	-6,776.039	-4,516.442	-271.884	-317.219	-1,536.261
Akaike Inf. Crit.	13,830.820	9,188.360	564.509	654.199	3,171.499	13,568.080	9,048.885	559.769	650.437	3,088.522
Note:	*p<0.1; **p<0.05; ***p<0.01									

Baseline Model for 2013										
	Dependent variable: pro_trade									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
EDUCYRS	1.008*** (0.001)	1.008*** (0.002)	1.029*** (0.009)	0.997 (0.005)	1.007*** (0.002)	1.003*** (0.001)	1.000 (0.002)	1.022*** (0.008)	0.997 (0.005)	1.004 (0.003)
AGE	0.989*** (0.004)	0.999*** (0.003)	0.991 (0.005)	1.021** (0.010)	1.000 (0.003)	0.999*** (0.001)	0.998** (0.003)	0.992 (0.006)	1.010 (0.011)	1.000 (0.001)
male	1.437*** (0.034)	1.392*** (0.044)	1.254 (0.149)	1.558*** (0.137)	1.496*** (0.076)	1.481*** (0.035)	1.483*** (0.045)	1.328* (0.151)	1.603*** (0.138)	1.465*** (0.077)
college						2.444*** (0.036)	2.354*** (0.046)	2.094*** (0.196)	1.597*** (0.159)	2.918*** (0.085)
Constant	0.298*** (0.036)	0.338*** (0.049)	0.273*** (0.287)	0.297*** (0.075)	0.188*** (0.039)	0.231*** (0.054)	0.260*** (0.048)	0.252*** (0.285)	0.336*** (0.263)	0.151*** (0.080)
Observations	17,450	9,901	1,015	946	4,364	17,450	9,901	1,015	946	4,364
Log Likelihood	-10,154.090	-6,044.039	-550.524	-610.894	-2,195.108	-9,856.199	-5,870.950	-543.694	-606.615	-2,118.488
Akaike Inf. Crit.	20,316.190	12,096.080	1,109.048	1,229.788	4,398.216	19,725.400	11,751.900	1,097.388	1,223.231	4,246.977
Note:	*p<0.1; **p<0.05; ***p<0.01									

Demographic Model for 2013										
	Dependent variable: pro_trade									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
EDUCYRS	1.007*** (0.001)	1.007*** (0.002)	1.003 (0.007)	1.012 (0.007)	1.004 (0.003)	1.002 (0.002)	1.003 (0.003)	0.999 (0.007)	1.010 (0.008)	1.000 (0.004)
AGE	0.998*** (0.001)	0.999*** (0.001)	0.987** (0.005)	0.988** (0.005)	0.999 (0.001)	0.999 (0.003)	0.999 (0.001)	0.989* (0.005)	0.989** (0.005)	0.999 (0.001)
male	1.272*** (0.040)	1.360*** (0.053)	1.193 (0.167)	1.095 (0.160)	1.181** (0.079)	1.373*** (0.040)	1.475*** (0.054)	1.337* (0.172)	1.156 (0.163)	1.283*** (0.080)
college						1.915*** (0.044)	1.920*** (0.059)	2.396*** (0.180)	1.296 (0.177)	2.090*** (0.088)
TOPBOT	1.002** (0.001)	1.004** (0.001)	0.999 (0.005)	1.003 (0.005)	1.000 (0.002)	1.002* (0.001)	1.003** (0.001)	1.000 (0.003)	0.999 (0.005)	0.999 (0.002)
rural	0.997 (0.003)	1.002 (0.004)	1.006 (0.015)	0.897 (0.112)	0.989 (0.007)	0.998 (0.003)	1.003 (0.004)	1.005 (0.015)	0.909 (0.112)	0.991 (0.007)
logincome	1.525*** (0.024)	1.530*** (0.023)	1.627*** (0.101)	1.437*** (0.098)	1.574*** (0.048)	1.333*** (0.025)	1.333*** (0.034)	1.374*** (0.160)	1.366*** (0.104)	1.844*** (0.051)
Constant	0.005*** (0.242)	0.004*** (0.324)	0.004*** (0.1024)	0.019*** (0.999)	0.004*** (0.454)	0.015*** (0.252)	0.014*** (0.337)	0.012*** (0.050)	0.007*** (0.024)	0.015*** (0.505)
Observations	13,234	7,441	797	784	3,342	13,234	7,441	797	784	3,342
Log Likelihood	-7,777.083	-4,363.871	-450.025	-467.588	-1,966.997	-7,667.676	-4,302.234	-438.306	-466.523	-1,931.971
Akaike Inf. Crit.	15,568.170	8,741.741	914.049	949.176	3,947.994	15,351.350	8,620.469	892.611	949.045	3,879.942
Note:	*p<0.1; **p<0.05; ***p<0.01									

In all the models above, model number (1),(6) represent full sample. Model number (2),(7) represent population with jobs. Model number (3),(8) represent population unemployed and looking for jobs. Model number (4),(9) represent population in education. Model number (5),(10) represent population not in the labor force.

Conclusion

The analysis supports the theory that education, especially college level education is a strong determinant for individual’s trade preference. However, cross year comparison does not show significant change of the influential power of college education, though some changes in sub-population occurs.

Limitations

More data with larger time variation may be able to capture the change of the influence of education towards individual's trade preference.

References

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