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ELECTORAL BARRIERS TO TRADE:

Measuring the Effects of Income and Political Participation on Trade Openness[1]

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This study tests the effect of the political participation of three different income groups upon trade policy in the United States from 1960 to 2004. Using a time-series regression model, we first substantiate the trade preferences of income groups, and then demonstrate a relationship between said groups' electoral turnout and the degree of trade openness. Higher turnout of the middle class leads to lower trade openness while higher turnout of the lower and upper classes leads to higher trade openness.

Key words: trade policy, trade openness, income groups, turnout

INTRODUCTION

Although the United States is still in the midst of a generation-long shift in the composition of its economy, the consequences of this transition are becoming clear. A disparity continues to grow between the rich and poor, evidenced by the marked increase in the United States' GINI coefficient from 0.395 in 1974, to 0.415 in 1984, and reaching 0.466 in 2004. While the causes of this increase are subject to debate, much of the rise in inequality has been described by entrepreneurial politicians and the popular press as a consequence of open trade policy. As cleavages between income groups become manifest, trade policy has therefore become increasingly polarized along party lines (Jeong 2007). Amidst this destruction of the bi-partisan postwar consensus on free trade and with renewed calls for protectionism, the future of America's open trade policy is uncertain.

As different income groups should be experiencing the income effects of trade policy similarly, it is reasonable to assume that individuals *within* income groups articulate similar preferences for "open" or "protectionist" trade policies. As popular anxieties regarding the economic consequences of free trade rise, those

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concerns are likely to be expressed to the elected representatives who establish trade policy. This study therefore seeks to determine if a link exists between the rate of political participation of different income groups and the degree of trade openness in the United States. If such a link is found, it will not only hold portentous implications for the future of trade policy, but it will also provide insights to each income groups' perceptions of its own welfare under an open trade regime.

LITERATURE

Horrigan (1988) finds a demonstrable contraction in the number of American families in the middle class based upon several different income intervals. Using sensitivity analysis, the study reconciles several different studies of income inequality and finds clear evidence that the share of middle class families has been decreasing over time, with the decline being associated with the increase of the upper class. If this pattern holds, we could expect drastically divergent policy preferences between the middle and upper classes due to the aforementioned income dynamic.

Turning to the issue of sources of influence on trade policy, there has been a significant debate in the literature concerning the issue of whether interest groups monopolize influence on trade policy or if diffuse interests also have a certain amount of say on the issue. Many have argued that organized groups, in fact, exert the greatest amount of influence because of the disproportionate share of resources and political efficiency which they enjoy due to the nature of the concentrated interests which they represent. This advantage which interest groups benefit from in the political scene translates into an increased probability of favorable policies being adopted (Cassing, McKeown and Ochs 1986; Gilligan 1997). Unsurprisingly, this intuitive argument has been accepted as conventional wisdom within the discipline. Bailey (2001), however, posits that although interest groups do have a significant amount of persuasive power regarding trade policy, there is evidence which suggests that diffuse interests also have a substantial amount of influence. Specifically, the study finds that skilled labor, which is a diffuse interest group lacking extensive organization, has consistently influenced congressional trade policy votes.

THEORY & HYPOTHESES

The current study seeks to expand on the notion of diffuse interests exerting influence on trade policy by analyzing the effect of income group political participation on trade openness. One would certainly expect the highest income groups to favor freer trade, but what of lower income and middle class voters? Conventional wisdom holds that the middle and lower classes are negatively affected by free trade primarily due to job flight. As turnout increases among lower income and middle class voters, therefore, we can expect decreases in trade openness. Although economic theory asserts that freer trade benefits all persons, individual perceptions of personal welfare do not always correlate with economic theory – particularly in an environment of increasing income inequality. Given the above, we test the following hypotheses:

> **H1:** As turnout levels of the low income group rise, there is a statistically significant inverse effect on trade openness
>
> **H2:** As turnout levels of the middle income group rise, there is a statistically significant inverse effect on trade openness
>
> **H3:** As turnout levels of the high income group rise, there is a statistically significant positive effect on trade openness.

RESEARCH DESIGN

To measure "Trade Openness" (**TO**), we employ a trade ratio measure for the dependent variable of our study. Specifically we use the ratio of the sum of trade (imports + exports) over total output of the economy (GDP). Data was gathered from the World Bank World Development Indicators database for the years 1960-2004. All trade data as well as the GDP data are in constant 2000 US dollars. This measure of openness has been widely used in the literature, mainly because of the widespread availability of the necessary data used to construct it. For example, Alesina, Spolaore, and Wacziarg (2000) state that the trade ratio measure which they use is an appropriate measure of openness since they feel that it "broadly" captures relevant factors such as trade policy and other considerations; however, they also cite the abundance of trade volume data and output data as another reason for using it. Spilimbergo et al (2004) echo this support by stating that, "outcome-based measures are

widely used because they implicitly cover all the sources of distortion and are based on data that are more readily available." (291)

David (2007) reviews the vast amount of different trade openness measures found in the literature and offers insightful critiques and suggestions regarding each one. The study determines that although the trade ratio measure which is employed in the current study is widely used, there are certain problems with it. Specifically, the argument is made that the measure should be understood as a "measure of country size and integration into international markets rather than trade policy orientation." (David 2007:9) Some of the reasons for this position are time lags between policy implementation and trade ratio shifts as well as external influences on trade ratios such as business cycles. A future extension of this study should definitely take the above criticisms into account and should incorporate more internally valid measures of trade openness. For the purposes of the present study, however, we feel that the trade ratio measure adequately captures the trend of trade liberalization in the United States for the years covered, as evidenced by the relatively low level in 1960 and much higher level in 2004. Moreover, since our study is a time-series analysis of a single case, we are not tremendously concerned about a problem of comparability (which is also raised by David).

To measure the expression of income group preferences on trade policy, this study examined the rate at which three different income groups (low, middle, and high) participated in elections from 1960 – 2004. To empirically estimate the variance between participation and the independent variable, turnout data by income quintile was gathered from the US Census, Current Population Survey database. This income turnout survey data, which is used in the current study, goes back to the 1960 presidential election. The bottom two and top two quintiles are averaged so that three income groups remain. This is done in order to simplify the analysis since popular understanding of income distribution follows a similar pattern (lower class, middle class, and upper class). This data for the participation rates of each income group was then used to code the variables "Lower Income" (**LI**), "Middle Income" (**MI**), and "High Income" (**HI**).

Our control variables ["Union Membership" (**UM**) and "Manufacturing Wages" (**MW**)] consist of union membership as a percentage of the workforce as well as manufacturing wages adjusted for inflation. US private

sector union membership density was found at *www.unionstats.com* as well as in the appendix of Hirsch (2007). Manufacturing wages data were gathered from the International Financial Statistics database of the IMF and adjusted using the Bureau of Labor Statistics online inflation calculator at *www.bls.gov*.

[TABLE 1 ABOUT HERE]

DESCRIPTIVE STATISTICS

Table 1 provides the descriptive statistics of the study. The trade openness variable ranges from 7.6% in 1960 to 26.5% in 2004. The trend of trade liberalization can also be viewed cross-temporally in Figure 1. Looking at the income group turnout data, which is also presented in Figure 2, two significant patterns stand out. First, the level of turnout increases from the lower to upper income groups, with the high income group participating the most, the middle income group participating less, and the low income group turning out to vote the least. This trend remains the same for every election cycle over the years covered. The second pattern which is evident is the apparent fluctuation in turnout across all income groups. Specifically, turnout is always higher in presidential election years and lower in legislative election years. This consistent variation in turnout levels creates a moving average problem with our turnout data which, as discussed in the results section, is corrected by including moving average estimators to our final model. Looking at the control variables of the study, the lowest observation for the union membership data is 7.9% in 2004 and 31.9% in 1960. Lastly, manufacturing wages which are an index with 100 being set in 2000, hit a high of 111.51 in 1978 and a low of 87.11 in 1960.

[FIGURES 1 and 2 ABOUT HERE]

RESULTS & ANALYSIS

Table 2 shows the results of the three estimated regression equations. Before analyzing the estimated coefficients, a disclaimer should be made: because the time span comprises only 23 elections, no accurate analyses can be made from the magnitudes of the coefficients, but one can correctly assume that the signs indeed indicate the general impacts of the independent variables on trade openness. Furthermore, because we estimate three different models for robustness and all the coefficients of interest have similar magnitudes, statistical significance and signs, one can claim that there is empirical support to the assumption stated above.

[TABLE 2 ABOUT HERE]

Based on the Akaike Information Criterion, the model of interest is the one represented in the third column. After performing both a unit root test and graphing the correlogram, it is clear that there is an ARIMA process of the first degree in our data. It is for this reason that we include both autoregressive and moving average estimators in the regression, with both of them statistically significant, which is further evidence of such a process.

Analyzing the variables of interest, the income levels and their respective impacts on trade openness clearly show that both low and high income groups apparently tend to respond positively to trade openness while the middle class have a negative impact. Although the results for turnout of the low income group run contrary to H1, from a purely economic point of view, such a response is indeed expected. Using ethanol as an example, if the US decides to forgo its subsidies and tariff protection on corn, the ethanol industry will severely reduce its demand for corn, ceteris paribus, pushing the prices of corn down. This would indeed improve the conditions of lower class for two reasons. First, the reduction of corn prices would have a positive impact on the food consumption of the lower class. Second—still food-price related—the reduction of corn prices would lead to a reduction of cattle feed, which in turn would lead to lower beef prices since corn maze is used to feed stock.[5] Taking the concept of reduced prices into consideration therefore, we could expect the lower class to respond positively to politicians who promise an increase in trade openness.

From a public choice perspective, one could argue that the lower class would not be represented in the political arena due to a lack of organization and coordination, as well as free riding problems. As demonstrated by Denzau and Munger (1986), such a claim is not entirely true because in the event of higher turnouts from the lower class, there is electoral pressure on candidates who apparently work in their favor. Applying to this case, it seems that the lower class supports candidates who believe in trade openness. There is also another valid point to be made here, even in the event that the results of Denzau and Munger (1986) are erroneous: the lower

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[5] It is noted that microeconomic theory holds that a reduction in input prices will result in the reduction of the final product.

classes are being represented through organizations such as WalMart which offer the highly-valued lower priced goods which are a product of open trade policies.   This phenomenon is herein named the "WalMart Paradox".

The WalMart Paradox results, unintentionally, from two seemingly contrasting interests which are working/lobbying for one another. We say unintentionally because while WalMart is lobbying for more trade openness with the only purpose of lowering the costs of its product—and thus increasing its profits, either through profit margin or sales volume—it will also positively impact the lower class as they are now able to purchase different products at lower prices. So, even though the lower classes might want further trade openness solely for the purpose of further enjoyment of lower priced goods, they are indeed pushing their candidates to pass laws that will, ultimately, increase the profits of companies such WalMart—thus the WalMart Paradox.

[FIGURE 3 ABOUT HERE]

The negative effect on trade openness caused by the middle class is much more intuitive. The middle class is negatively impacted by open trade policies because of the increased probability that certain factors of production are reallocated to the most productive industries. Since it takes a relatively long time for this reallocation to occur, there will be lay offs, which directly impacts the economic security of the middle class. Therefore, it is not hard to see why the middle class will, on average, reduce its political support to candidates that supports increases in trade liberalization.

Keeping with the discussion of the middle class, it is worth looking at the current US presidential election and candidates' approach to the issue of free trade. It can be argued that there is increased pressure on the middle class given that: (1) the US has increased its trade openness over the past decades; and (2) the US income distribution is becoming increasingly unequal. It is not surprising, therefore, that many of the Democratic candidates seemingly oppose international trade treaties. For example, John Edwards has repeatedly claimed that he will extinguish most of the current treaties in place, including NAFTA. This is clearly an attempt to capture middle class votes and can be considered additional evidence that our hypothesis has empirical support.

As for the higher classes, the result has more to do with investment return than with food prices. Since the members of the upper class are usually the owners of capital, they can readily reallocate their investments to

the most competitive (read: profitable) industries in the country and around the world. Therefore, with higher levels of trade liberalization, the higher are the rents captured with the most competitive firms present. This usually represents higher dividends being acquired by the higher classes. Therefore, the more profits associated with trade liberalization, the higher is the expected turnout from the upper echelon of the society.

CONCLUSION

Although further research is required to enhance the validity of this study's substantive findings, it has yielded several interesting results. It has lent empirical support to the link between income, political participation, and trade openness. Furthermore, it has offered the counter-intuitive insight that lower income persons may indeed view open trade (or support agents who view open trade) as a benefit to their economic position. Other inquiries into this subject may wish to overcome the limitations of this study by incorporating data from other industrialized democracies.

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APPENDICIES

Table 1: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Trade Openness	23	0.147	0.062	0.076	0.265
Low Income Turnout	23	52.617	10.425	32.7	68.5
Middle Income Turnout	23	65.47	11.227	47	82
High Income Turnout	23	78.839	11.056	57.3	91.5
Union Membership	23	18.935	8.734	7.9	31.9
Manufacturing Wages	23	100.668	5.577	87.11	111.51

Table 2: Regression Results

	DV: D(TO)	DV: TO	DV: TO
	Model 1	*Model 2*	*Model 3*
Year	-0.0002	0.016216 **	0.019669 ***
	(0.001685)	(0.005716)	(0.002195)
Low	0.000544	0.000906 **	0.001206 *
	(0.00049)	(0.000408)	(0.000657)
Middle	-0.00114 **	-0.00133 **	-0.00165 **
	(0.000448)	(0.00048)	(0.000651)
High	0.000908 ***	0.000567 **	0.000567 *
	(0.000289)	(0.00024)	(0.000307)
Union Membership	-0.0008	0.002265	0.004225
	(0.001219)	(0.002685)	(0.002482)
Manufacturing	-0.00046	0.000386	0.000729
Wages	(0.000329)	(0.000512)	(0.000475)
Constant	0.04648	-0.16829	-0.28685 ***
	(0.055232)	(0.140847)	(0.077817)
AR(1)	…	0.85262 ***	0.861989 ***
	…	(0.166733)	(0.088983)
MA(1)	…	…	-1.62856 **
	…	…	(0.699008)
R^2	0.569061	0.990514	0.996649
Adjusted R^2	0.396685	0.985771	0.994588
Log likelihood	81.89088	81.96464	93.41215
Durbin-Watson Stat.	2.61167	2.022794	1.793266
Prob(F-statistic)	0.028247	0	0
Inverted AR Roots	…	0.85	0.86
Inverted MA Roots	…	…	1.63
Akaike Info. Criterion	-6.80826	-6.72406	-7.67383

Figure 1: Trade Openness

Trade Openness, United States (1960-2004)
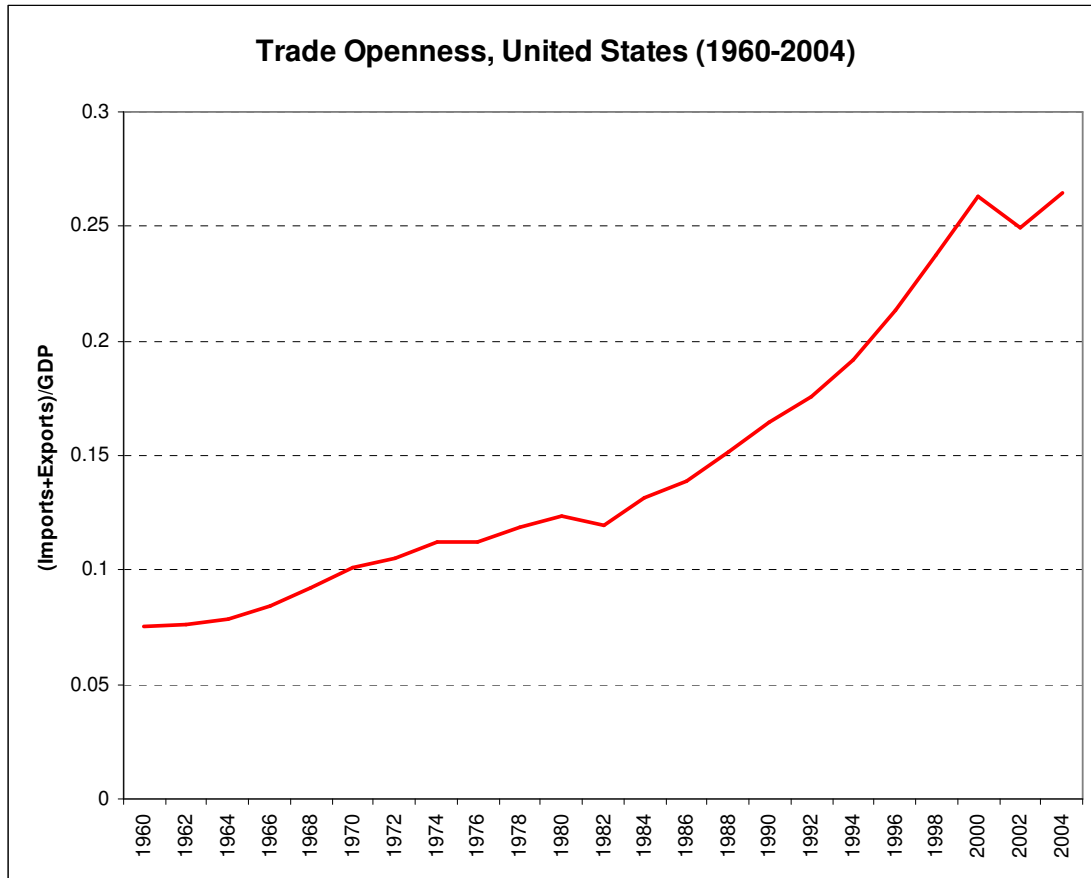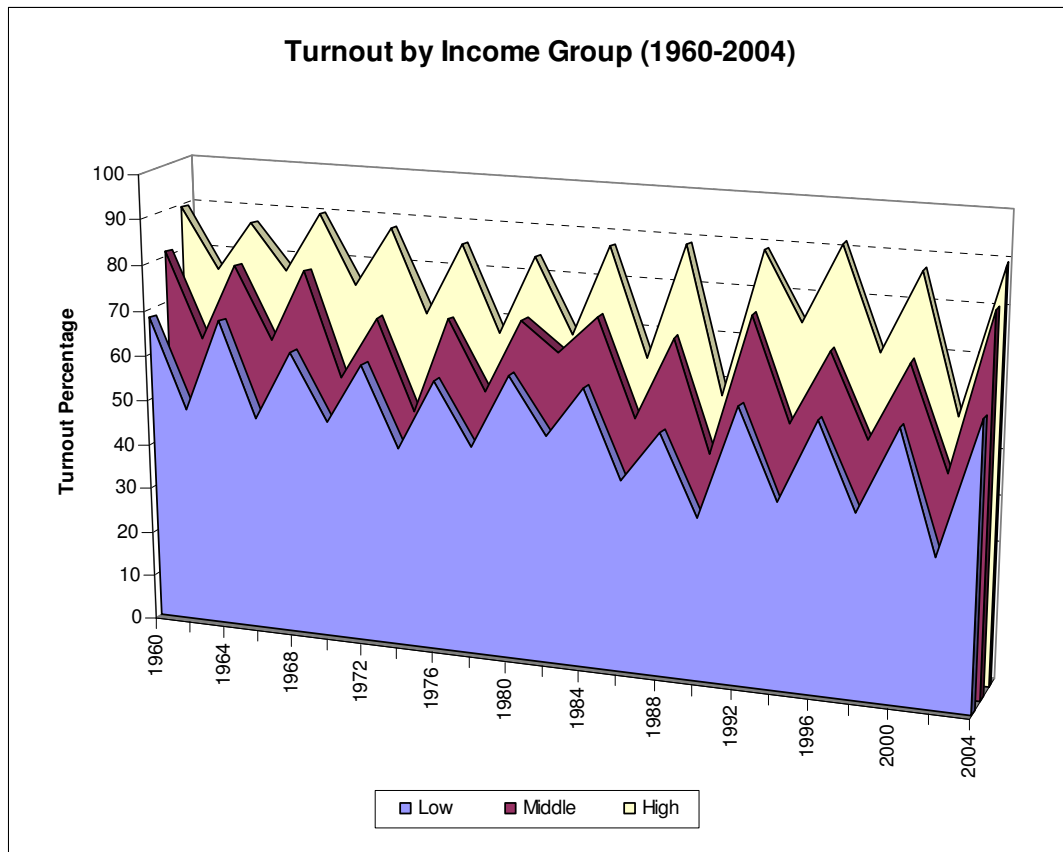
Figure 2: Turnout by Income Group

Turnout by Income Group (1960-2004)

Figure 3: Substantive Effects

Substantive Effects of Income Group Turnout on Trade Openness