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Can Neoclassical Trade Theory Explain Congressional Voting?

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Abstract: The neoclassical trade model has notoriously been unable to empirically predict trade flows throughout the world, however there has been a notion that the same theories and predictions could also be applied to democratic voting on free trade legislation. Using roll-call votes on three 2011 United States bilateral trade agreements with Colombia, Panama, and South Korea, respectively, a simple empirical model based on the neoclassical concepts, specifically the Heckscher-Ohlin and Stolper-Samuelson corollary theorems, is outlined. After an analysis using a logit estimation method, it is revealed that there is conflicting evidence whether the voting on the 2011 free trade agreements follow the initial predictions given by the model, indicating that the representatives did not explicitly take into account district skill level while voting. However, the results do support that there is certainly a driving factor within the industrial composition of the district, as well as key political and economic components that help explain the voting behavior of Congress.

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1. Introduction

Standard international trade theory has historically struggled to hold up empirically in terms of being able to predict countries' trade patterns and volume. This is most famously demonstrated by the "Leontief Paradox" (Leontief, 1953), which exposed the inconsistencies of the United States' trade flows based on its resource abundance. Indeed, even after correcting for the misspecifications of Leontief's model, Leamer (1984) shows that it is still difficult to accurately predict trade between countries based on the neoclassical principles. Rather than trying to continue this line of research and rearrange the model to fit the actual trade flows of countries it would be equally interesting to discover if the initial decision to legislate free trade in fact follows these same neoclassical theories. Thus, bilateral free trade agreements are a perfect platform to test whether legislators in a democratic voting system utilize standard trade theory in their decision making process.

On October 12, 2011, the United States' 112th Congress passed three separate bilateral free trade agreements with Colombia, Panama, and South Korea, respectively.[1] Since this was a period of highly publicized partisan divide, it is fascinating that three pieces of trade legislation passed all within the same day. The simple fact of this occurrence perhaps signals how important many in Congress believe that the role of trade could play in facilitating an economic recovery during a time of distress. What drives this perception that foreign trade is important to economic growth however? Indeed, this emphasis on trade liberalization has been at the heart of U.S. development strategies in its own past, and also as a prescription for the rest of the world (export-oriented growth is a main pillar of the 'Washington Consensus'). Of course, examining the standard neoclassical trade theory, one can conclude that all countries are better off through trade based on their comparative advantage in productive capabilities. From the perspective of a Congressional representative however, does one base their decision to vote in favor of liberalized trade on that actual comparative advantage logic, given the economic and/or political composition of their state or district?[2]

Using the Heckscher-Ohlin model as a basis for standard neoclassical trade theory, two predictions emerge from the comparative advantage reasoning to help characterize the expected voting decisions of a representative. First, according to the Heckscher-Ohlin

[1] The agreements with Colombia and Panama are both technically "Trade Promotion" Agreements (TPA). For all purposes in this thesis they are the same as a Free Trade Agreement (FTA).

[2] Henceforth, referencing a representative's district also applies for a reference to a Senator's state.

Theorem, there is an expectation that a country's relative factor abundance will dictate their trade patterns. Second, the corollary Stolper-Samuelson Theorem predicts that there will be real 'winners' and 'losers' in each country as a result of trade, again based on the relative factor abundance. If the scale of these predictions are then reduced to the U.S. Congressional district level, it can be expected that the votes of the representatives should reflect the relative resource abundance of their respective district. This is especially true for the Stolper-Samuelson Theorem, since representatives will ideally seek to benefit their constituents with an affirming vote if they are deemed to be 'winners' if free trade legislation is passed. On the other hand, if their constituents would be termed as 'losers' as a result of trade, then they would seek to protect their district by voting against the passage of trade liberalizing legislation. Thus, the objective of this thesis is to construct an empirical model to test whether the votes on the three 2011 free trade agreements reflects these theorems, after controlling for a number of political and economic variables. Importantly the empirical model, which is outlined in section 3.1, uses the skill level of a district, defined by university educational attainment, as a proxy for resource abundance.

Previewing the results displayed in section 4, after separate logit estimations for all three agreements, it is revealed that the skill level of a Congressional district does not explicitly confirm the expectations of the neoclassical model when controlling for the comprehensive list of representative and district specific variables. There is significant evidence however that there are industrial drivers, particularly in the agricultural industry, that explain the voting tendencies. Since these industrial drivers are factor based, it can be additionally argued that the Heckscher-Ohlin and Stolper-Samuelson Theorems are playing a role in the voting to some degree, even if it is not within the scope of the initial model. Furthermore, the additional results give a great deal of insight into the trade voting behavior of lawmakers, and are of great interest with regards to policymaking. The conclusions from this thesis can be useful in determining prime factors in Congress that can lead to an improved likelihood of passing trade liberalizing legislation in the future.

1.1 Free Trade Agreements

The three 2011 bilateral free trade agreements between the United States and Colombia, Panama, and South Korea, respectively, have been negotiated over a long period of time, originally introduced by the Bush administration in 2007. Interestingly, they have been passed with a relatively low-level of fanfare, certainly compared to the controversial North

American Free Trade Agreement (NAFTA) in the 1990's. They also serve as the most recent bilateral trade agreements the U.S. has signed in the past six years, the last being a bilateral agreement with Peru in 2007. Perhaps most revealing is that these agreements passed during a time of well-publicized partisan gridlock in Congress. The passage of all three was seen as a victory for President Obama and those in Congress that believe that freer trade is a remedy for a recession. Table 1 shows the voting breakdown for all three agreements.[3] The following sub-sections are brief summaries for each agreement.[4]

1.1.1 Colombia TPA

The trade promotion agreement with Colombia was the most controversial of the three, particularly with regards to the lack of perceived labor union rights within the country.[5] The agreement, upon implementation, eliminates tariffs on more than 80% of industrial good exports from the U.S. to Colombia, and will phase out the remaining barriers over a period of ten years. Importantly, more than half of the U.S. agricultural exports to Colombia became duty-free upon implementation. Another key industrial area included greater access to the Colombian services markets, as well as stronger intellectual property rights. Overall, upon enactment, the average tariff rate on U.S. exports reduces from 10.8% to 4.0%.

1.1.2 Panama TPA

The agreement with Panama gained the greatest number of votes from Congress, and upon implementation immediately eliminates over 87% of the tariffs on U.S. industrial good exports (with the same phase out period of ten years for the remainder). Again, the major area of interest was the agricultural industry, which similarly had over 50 percent of exports declared to be duty-free. The services market was also a key industry (again offering stronger intellectual property rights), as well as potential infrastructure opportunities in the Panama Canal expansion project, as well as several other major projects. Overall, upon implementation, the average tariff rate on U.S. exports reduces from 7.0% to 3.3%.

[3] For a more in depth analysis of the votes, refer to section 3.2.

[4] As documented by the office of the U.S. Trade Representative (USTR) and the International Trade Association (ITA).

[5] As reported by the New York Times in an article titled "Congress Ends 5-Year Standoff on Trade Deals in Rare Accord" by Applebaum and Steinhauer published on October 12, 2011.

1.1.3 South Korea FTA

Of the three countries, South Korea has the largest economy and the agreement is predicted to have the largest impact in the U.S.[6] Upon implementation, nearly 80% of U.S. industrial good exports became duty-free, with the rest of the tariffs being phased out over the ten year period. About two-thirds of the tariffs on agricultural goods exported to South Korea became non-existent, and greater access to the services market was negotiated (with the same intellectual property rights conditions as the other two FTA's). Of particular note with the South Korea agreement was the emphasis on reducing barriers on automobile tariffs. Overall, the average tariff rate reduces from 6.2% to 1.1% on all U.S. exports to South Korea.

2. Congressional Voting and Trade Theory

2.1 Neoclassical Trade Theory

Before the literature with regard to trade legislation is examined, it is useful to similarly review neoclassical trade theory and the theorems that are at the foundation of this thesis' analytical objectives.[7]

The neoclassical model is an updated version of David Ricardo's classical model which first demonstrated the concept of comparative advantage. This theory of comparative advantage implies that any two countries can benefit as a result of trade based on their relative opportunity costs of labor in the production of two goods. The neoclassical model incorporates this crucial concept (and the two good assumption) but improves on its classical predecessor by including increasing opportunity costs (curved production possibility frontier), an additional factor of production (capital as well as labor, for example), and explicit demand considerations (it takes into account the preferences of the country in question). Thus the neoclassical trade model provides a microeconomic demonstration in how a country can gain from trade by manipulating relative price lines (going from autarky to openness) in view of their production possibility frontier and indifference curves.

The Heckscher-Ohlin (H-O) model is an extension of this neoclassical theory in that it displays the basis for trade between two countries. Among the numerous assumptions of the H-O model, the key tenants are: the two goods, two countries and two factors of production (whose initial levels are fixed and assumed to be relatively different for each country)

[6] According to the ITA.

[7] The neoclassical model detailed in this section is adapted from that of Appleyard, Field and Cobb (2010)

framework; the two goods have different relative factor intensities in their production process; and finally, the factors are perfectly mobile within each country but not mobile across borders. Thus the first major conclusion of the H-O model is the Heckscher-Ohlin (H-O) Theorem, which states: a country will export the good or service that uses relatively intensively its relatively abundant factor of production, and it will import the good that uses relatively intensively its relatively scarce factor of production.

While this H-O Theorem is the essential basis for trade between two countries, and the basic concept of comparative advantage entails that both countries will be better off from that trade, the corollary Stolper-Samuelson (S-S) Theorem characterizes the income distribution effects of trade. This S-S Theorem can be formally explained: with full employment both before and after trade takes place, the increase in the price of the abundant factor and the fall of the price of the scarce factor due to trade imply that the owners of the abundant factor will find their real incomes rising and the owners of the scarce factor will find their real incomes falling. This broadly means that when trade opens, as a result of a higher demand for an exportable good (intensive in the abundant factor), the price of that good will increase and the seller will be better off. Conversely, as a result of importing the good that's intensive in the scarce factor, the price of that good will go down and will hurt the domestic seller of that good.

Hence this neoclassical framework and the two corollary theorems that come out of it can be used to display not only how countries come to their reasons for initiating trade (like legislating a FTA for example) but also that there are real winners and losers in a country as a result of that same trade. These two conclusions from the neoclassical theory explains both the support many have for trade liberalization as well as the opposition, despite the fact that the country as a whole benefits in the end. It is then not surprising that there are competing parties within countries that are in favor of trade liberalizing legislation (the owners of the relatively abundant factor) and those that are against it (the owners of the relatively scarce factor). In a democratic society, it is reasonable to expect that a legislative representative considers which category of factor ownership his/her constituents are classified as and will vote accordingly when a free trade agreement is on the docket.

2.2 Literature Review

The literature on Congressional voting habits with regards to international trade legislation is well covered; however there has been significantly more focus on the political and industrial factors that influence votes rather than the theoretical implications of the neoclassical

model. This thesis is expressly interested in testing whether the S-S Theorem in particular holds in the roll-call votes on the three separate FTAs that were passed in both chambers of the U.S. Congress on October 12, 2011, using the skill level of a district as a proxy for the factor abundance. Considering that the majority of the work already established in this field has revealed that district factors along with political dynamics are significant in the legislative decision-making process, it is vital to account for these while trying to capture the effect of the factor allocations. Specifically, this literature review focuses on four of these influential topics that are extensively examined in the field: the industrial composition of districts; the unemployment rate; the contributions received by representatives from political action campaigns (PACs); and the political party of a representative. The review also includes a discussion of the use of skill as a factor proxy.

Unsurprisingly the voting on the 2011 FTAs display similar results with regards to the economic and political indicators mentioned above, although this research is unique to the literature in that it benefits from the fact that all three of the agreements passed by Congress were done on the same day. While the papers that solely look at NAFTA (Kahane, 1996; Kang and Greene, 1999), do not suffer from any time variation, they lack the scope of multiple agreements. Conversely, the papers that examine multiple deals (Beaulieu, 2002; Baldwin and Magee, 2000; Im and Sung, 2011) capture the diversity in issues of dealing with many countries, but then lack the benefit of dealing with the same political and economic climates. The structure of this type of roll-call vote analysis utilized in the literature however is broadly the same, and has been modeled and econometrically tested (via logit or probit) consistently throughout.

The work most closely related to this research is that of Beaulieu (2002), as he examines whether the S-S Theorem is evident in the voting on three different pieces of trade legislation: the Canadian-United States FTA (CUSTA), NAFTA, and the Uruguay Round of the General Agreement on Tariffs and Trade (GATT). Beaulieu's sole motivation however is not to explicitly determine whether the neoclassical theorem holds in Congress, but rather to reveal whether the rest of the literature is correct for assuming perfect factor mobility between industries, thus allowing to draw certain theoretical conclusions from district-industry based models. This concept of perfect factor mobility is crucial to the interpretation of the S-S Theorem in this setting. If this assumption holds, then the explicit factor allocation of a district is irrelevant and the S-S Theorem will be reflected through the industrial employment

composition. Beaulieu calls this the "factor-detachment" corollary of the S-S Theorem. His results indicate that indeed the industrial approach is an effective one, but also produces evidence that the factors of production could in fact determine trade policy as well. Thus he concludes that the factor-detachment assumption is only partially true and additional analysis of explicit factor allocation is warranted. This latter revelation is the basis for the hypothesis and model in this thesis, and the results mirror that of Beaulieu's. It also allows for some flexibility in interpreting whether the S-S Theorem holds in the case of the 2011 FTAs, as it could also be speculated that the S-S Theorem is reflected through the industrial composition if the assumption of factor detachment is partially accepted.

In the empirical model specified in section 3.1, the skill level of a district (which is the proxy for factor abundance) is represented by the educational attainment of the district, or rather, the percentage of the workforce with a Bachelor's degree or above. This type of factor proxy is in keeping with Beaulieu (2002) and Kang and Greene (1999) as far as the trade literature is concerned: they both find that skill was a significant, positive determinant of support for NAFTA. Educational attainment is also a standard measure of skill in the immigration legislation literature: Facchini and Steinhardt (2011) use educational attainment as their main variable of interest in trying to discover what drives U.S. immigration policy. Facchini and Steinhardt set up their study from a specific factors model perspective, which is closely related to the Heckscher-Ohlin framework. Indeed, their model was used as a guide and closely resembles that outlined in section 3.1.

As indicated previously, the majority of the literature follows models that focus on the industrial composition of districts. Kahane (1996) and Kang and Greene (1999) take this approach to analyze NAFTA, and playing to the rhetoric of the time,[8] cluster district industries into two groups. These groups are classified as either 'winners' or 'losers', and are based on the predicted trade as a result of NAFTA passing.[9] They both find limited evidence that representatives' votes were influenced by the composition of potential winners and losers in their respective districts, a result that closely follows the S-S Theorem. The more common approach to broader studies that focus on multiple agreements with different countries is to

[8] Kahane mentions in his introduction former presidential candidate Ross Perot and his infamous comments on the specific industries that stood to lose from a free trade agreement with Mexico.

[9] If the industry was expected to increase its exports, it was grouped as a winner. If an industry was an import competing sector, then they were grouped as a loser. Kang and Greene (1999) actually use the terms "gainers" and "losers".

simply group the industries into 'export' or 'import' classifications or ratios (Beaulieu, 2002; Dennis et al., 2000; Conconi et al., 2011). Since the 2011 agreements deal with three countries with fairly heterogeneous economies, there is no grouping of industries into specific export or import orientations. This seems necessary since the U.S. may have a comparative advantage over Panama in one industry, but could likely be at a comparative disadvantage to South Korea and/or Colombia in that same industry. It will be more informative to then allow for the varying results in the industries from one agreement to the next. This interest in the variation from country to country is the rationale that Baldwin and Magee (2000) use when they analyze not only NAFTA and GATT, but the vote on the Most Favored Nation (MFN) status of China in 1994 as well. No matter how the grouping or presentation of results however, it seems that there is a consistent trend that the industrial composition of a district does in fact play a significant role in determining trade policy.

Other district economic factors are influential in the literature as well, but since the 2011 FTAs were signed during a recession and at a time of well-publicized unemployment,[10] the district unemployment rate is of key interest. The unemployment rate as a control variable is a fixture throughout most of the literature; however Kono (2011) purposefully investigates the link between trade policy and unemployment. He finds that the unemployment rate of Congressional districts negatively influence the likelihood of a representative voting in favor of free trade legislation (his main finding is that greater social insurance can actually improve the likelihood of freer trade). Indeed this empirical result is fairly commonplace throughout the literature, but it is important to take into account the social theory behind the negative perception of trade in times of high unemployment. Adsera and Boix (2002) delve deeper into this social theory of trade legislation, including unemployment in an analysis which focuses around the median-voter approach. Intuitively thinking, and keeping the S-S Theorem in mind, it is surprising that the unemployment rate has a negative influence on free trade voting. If anything, it would be expected to be ambiguous, since factor abundant districts would see unemployment decrease as a result of trade (in a rigid wage structure), and the opposite should hold true for factor scarce districts.

The political tendencies of the representatives themselves are equally important to the district factors, from a theoretical and logical perspective. The PAC contributions received by representatives and the impact they have on trade legislation voting has been comprehensively

[10] According to the Bureau of Labor Statistics, the national unemployment rate was at 9.0% in October 2011

examined in the literature, whether as a main subject of study (Hasnat and Callahan, 2002; Baldwin and Magee, 2000; Im and Sung, 2011) or as an additional control to other interests (Kang and Greene, 1999; Beaulieu, 2002; Kaempfer and Marks, 2003; O'Roark, 2012; Nollen and Quinn, 1994). Nearly the entire literature groups PACs into two categories: labor and business/corporate. This fits nicely into the S-S Theorem, as the owners of labor (labor PACs) and the owners of capital (corporate PACs) are expected to experience an increase or decrease in real wages as a result of trade, depending on the relative factor endowments. The results for the U.S. (largely considered as relatively abundant in capital compared to most nations) have been fairly straightforward: labor PACs have a negative influence on voting while corporate PACs either have a positive or insignificant impact. Hasnat and Callahan (2002) for example, look at Congressional voting on Chinese Permanent Normal Trade Relations (PNTR) status in 2000 and find evidence that both PAC contributions were predictively influential. A more comparative study to this thesis was done by Im and Sung (2011), where they reveal that PAC contributions were significant (with expected signs) for seven FTAs voted on by the 108th and 109th Congresses.[11]

Another political piece that is important to consider when any type of Congressional voting analysis is done is the party affiliation of the representative. Even though the 2011 FTAs were passed at a time of extreme partisanship, there was clearly not a complete deadlock based on party affiliation, and all three managed to pass through both chambers relatively easily.[12] However, to understand the marginal degree in which voting follows the party line is very important with regards to future agreements. Conconi et al. (2011) look at the votes on all trade liberalizing bills from the Trade Act of 1974 to the DR-CAFTA agreement in 2005 and find that Democrats were significantly less likely to vote in favor of the bills while Republicans were more likely. This result has been broadly hypothesized and confirmed throughout the literature, although Kahane (1996) and Kang and Greene (1999) show that this was not necessarily that strong of a case in NAFTA. They both speculate that the relatively insignificant impact of party affiliation may have been due to the public exposure given to the debate around NAFTA. Representatives may have had to prove that they were looking at the ratio of prospective winners and losers as a result of NAFTA's passage rather than vote along a party line.

[11] Im and Sung (2011) use a probit-tobit model, the same used by Baldwin and Magee (2000)

[12] For graphical representations of the votes, see Figures i and ii in the appendix.

An interesting corollary study conducted by Magee (2010) shows that in the case of trade legislation, the party of the President is also a contributing factor. In the case of NAFTA, he shows that there would be a diminished chance of the trade agreement passing in the House of Representatives if Bush had been elected rather than Clinton in 1992. Likewise, there is a very likely chance that the trade promotion authority granted to Bush in 2001 or CAFTA signed in 2005 would not have passed under a Democratic President. Note that in 2011, there was a Democratic President, a Republican-controlled House and a Democrat-controlled Senate.

The literature in the trade legislation realm for the most part reaffirms itself, drawing many of the same economic and political conclusions when analyzing different agreements. That is not to say each bill does not require an analysis of the roll-call votes; quite the opposite in fact, as is the case of international economics, when dealing with different countries, vastly different circumstances and assumptions are made. What this thesis offers from the literature's point of view is a basic neoclassical interpretation of voting with the unique benefit of three votes all on the same day. As Beaulieu (2002) points out as well, the factor approach is one that is relatively neglected in the field, and a comprehensive factor/industry analysis is rare. This research builds on Beaulieu's factor model assessment and determines whether the S-S Theorem in particular can explain voting behavior in Congress.

3. Methodology

3.1 Empirical Model

In order to properly analyze the voting behavior of representatives in Congress, it is appropriate to consider a relatively simple model that uses the H-O organization described in Section 2.1 as a guiding framework. To accomplish this, the actual situation can dictate the structure. There are three cases of bilateral trade agreements, so the assumption of only two countries (for each agreement) is validated. For the purpose of evaluating the S-S Theorem, the assumption that there are only two factors that go into the production of two types of goods and services can be made. To most effectively test this theorem, the factor concept can be defined from a skilled labor perspective. This theoretical framework based on skilled labor is similar to that used by Facchini and Steinhardt (2011) in their analysis of voting behavior with regards to immigration legislation. The H-O model typically uses capital and labor as the two factors of production. In this case, high-skilled labor is a proxy for capital while low-skilled is a proxy for labor. Thus the same conclusions based on these assumptions can be drawn.

Each Congressional district *i* is populated by two sets of workers: low-skilled and high-skilled. These high-skilled workers produce two sets of goods and services: those that use high-skilled labor relatively more intensively, and those that use low-skilled labor relatively more intensively. In relation to the trade agreements, it can be assumed that, as a whole, the U.S. is relatively more abundant in high-skilled labor with respect to all three countries (this will most likely hold with any future negotiations with another developing country as well). This assumption thus leads to the belief, according to the H-O Theorem, that any district within the U.S. that has a greater relative share of high-skilled labor will increase their exports as a result of any trade agreement passing. This assertion should then be reflected by that district's representative's voting on the trade agreement in this simple model. Voting *yea* on an agreement is seen as liberalizing trade, which would imply an increase in exports for goods that production uses relatively more intensively high-skilled labor as an input, and according to the S-S theorem, an increase in the real income of high-skilled workers. Conversely, this would also mean an increase in imports of the goods and services that production uses relatively more intensively low-skilled labor as an input, which would imply that low-skilled labor in the U.S. is the import-competing factor of production (and would thus see their real wages decrease). This leads to the hypothesis statement:

H_0: $\beta \leq 0$: The skill level of a district has a negative or no effect on voting in favor of a trade liberalizing bill.

H_A: $\beta > 0$: The skill level of a district has a positive effect on voting in favor of a trade liberalizing bill.

Representatives are presumed to consider several additional aspects while voting on any type of legislation, and trade issues are no different. Thus to properly test this hypothesis it is necessary to also incorporate a series of controls that cover not only economic factors within the respective district but also the political and personal characteristics of the man or woman that is voting. Many of these controls have been prefaced in the literature review (section 2.2), however a more complete explanation as well as a detailed methodology for all data is considered in section 3.2. For now however, an econometric specification of the empirical model can be presented.

To assess the hypothesis that the skill level of a district has a positive effect on voting in favor of a trade liberalizing bill, a logit model can be used to econometrically estimate:

$$Prob(\text{Vote}_{ij} = 1 \mid S_i, X_i, Z_i) = F(\beta_0 + \beta_1 S_i + \beta_2 X_i + \beta_3 Z_i)$$

Where Vote_{ij} is the *yea* vote (1) or *nay* vote (0) by representative *i* for legislation regarding liberalizing trade with country *j*, S_i is the percentage of high-skilled laborers in the workforce of district *i*, X_i is a vector of the representative-specific variables and Z_i is a vector of the district-specific variables. Thus, the dichotomous choice of voting *yea* or *nay* on a trade liberalizing bilateral agreement with country *j* is a function of district *i*'s skill level along with vectors of district-specific and representative-specific control variables.

The use of the logit estimation method in this case is fairly straightforward considering the binary nature of the dependent variables. It is assumed that the probability of voting *yea* on any agreement conditional on the specified vectors is a non-linear function. This is done to avoid any issues regarding heteroskedasticity in the errors or inaccurate interpretations of marginal effects that would be consistent with the use of a linear probability model in this case. Given this conjecture of non-linear conditional probability, by simply making another assumption that the errors are distributed over the logistical function, the justification of using the logit model over the probit is appropriate. Indeed, the same justification for the logit method is seen throughout the literature, particularly in Beaulieu (2002) and Kahane (1996), which both reflect similar data and research objectives. Furthermore, when the results are presented, a more accurate expression of the marginal effects are given in order to explain the change in the probability of voting in favor of a trade agreement when there is a unit change in a single covariate, holding all other variables constant.

3.2 Data

All data were collected from a variety of secondary sources, and the summary statistics are displayed in Table 2.

3.2.1 Roll-Call Votes

The roll-call votes for all three trade bills were taken from the Library of Congress' THOMAS database for the 112th Congress (First Session), which recorded the voting results for both the House of Representatives and the Senate on H.R. 3078 (*A bill to implement the United States-Colombia Trade Promotion Agreement*), H.R. 3079 (*A bill to implement the United*

States-Panama Trade Promotion Agreement), and H.R. 3080 (*A bill to implement the United States-Korea Free Trade Agreement.*), respectively. These votes are the dependent variables in the logit model. The summary of the roll-call votes on all three agreements are displayed in Table 1, with the voting distributions separated into several different groups.

This voting breakdown exhibited in Table 1 presents a quick glance at the results of the model. All three agreements were overwhelmingly supported by Republicans (lowest percentage was 92% in favor of the Korea FTA), while the majority of Democrats voted against all three (52.6%). Most notably Democrats were against the Colombian agreement, which only received *yea* votes from 21.90% of the party. Interestingly, there are 88 voters that "flipped" on either one or two of the agreements, or rather did not vote uniformly on all three bills. This would lead to the belief that different economic and political factors may be more or less influential depending on the specific agreement, as well as show that the degree of comparative advantage between the U.S. and the three countries respectively differ. If this latter scenario is the case, then it would be expected that different coefficients on the industrial sectors exist for each respective agreement.

3.2.2 District-Specific Variables

The main variable of interest, skill level, is measured by educational attainment, specifically the percentage of district working population that has received a Bachelor's degree or higher. This data is drawn from the 2010 United States Census, which provides district-level data from the 111th US Congress.[13]The decision to use educational attainment as the proxy for skill level is vital to this analysis, although it is far from the perfect measure in terms of quantifying a district's factor endowment. However, because of the framework of the empirical model, it is the most valid representation.

The U.S. Census is also used for the employment figures for the district industrial sectors. These statistics display the percentage of working population employed in each respective industry within a single district. The industrial sectors that are presented in Table 1 are the sectors which produce goods and services that are considered tradable.[14] The Retail and Wholesale Trade sectors are consolidated into one category, while the variable "High Skill

[13] The fact that the district lines are drawn for the 111th Congress is not a problem since the re-drawing of some Congressional districts will not come into effect until the 113th US Congress is in session, so we can safely assume that the composition of the districts in the 2010 US Census accurately reflects the conditions that faced the 112th Congress.

[14] The methodology used to classify tradable services follows Jensen (2011), who creates a Gini index in order to rank industries from least tradable to highly tradable (1-3). The services industries included in the regressions are industries which have an index score of 3 (highly tradable) and/or are relevant to the agreements.

Services" is a composite of three sectors: Information; Banking and Finance; and Professional, Scientific, and Technical Services. The industrial employment data for each district is an important aspect in determining the role that the skill level proxy plays within the estimations, as it is expected that the employment in the import and export competing industries will also be very influential and the effects are anticipated to vary from country to country (relative to the U.S.).

Similarly, the percentage of Asians and Hispanics in each districts' workforce are drawn on from the U.S. Census. Intuitively, and without being too general, there could be an expectation that a district with a greater percentage share employment in either of these ethnic groups could be more likely to vote in favor of at least one agreement (greater percentage of Asians for the South Korea agreement; greater percentage of Hispanics for either Panama and/or Colombia). There may be cultural links between businesses and/or migration trends, for example, that could support this claim.

The unemployment figure used in the model is the rate at the time of the actual vote, October 2011. The U.S. Bureau of Labor Statistics (BLS) provides the data at the county level, and that county level data was manually transferred to the district level by taking the average of the unemployment rates for all counties within the district. The unemployment rate is expected to have a negative effect on a representative's vote in favor of liberalizing trade. In times of high level of joblessness, it is anticipated that free trade is generally an unpopular policy initiative (Kono 2011).

3.2.3 Representative-Specific Variables

To control for the representatives' own personal and political preferences towards trade, it is important to include three components. The first is the party affiliation, as it is expected that this will be a significant factor in voting *yea* or *nay* on trade legislation. Generally, it is anticipated that Republicans are more ideologically inclined towards free trade, and as previously mentioned, looking at the breakdown of the roll-call votes for the agreements in Table 1, this looks to be the case. The party affiliation is drawn from the same THOMAS database that was used for the roll-call votes. It also should be noted that representatives who are listed as "Independent" are included with the Democrats.[15]

[15] There are only two, both in the Senate: Joseph Lieberman (CT) and Bernard Sanders (VT). Lieberman is a former member of the Democratic Party while Sanders considers himself a democratic socialist.

Likewise, it is necessary to control for whether the representative is a member of the House of Representatives or the Senate. This data is also taken from the THOMAS database and is mainly important to account for because the House Representatives are concerned with the welfare of their district only (in terms of the model) while Senators are responsible for the welfare of their entire state. This unit-level difference in the data must be controlled for; although it is not inherently believed that one chamber of Congress would be more in favor of trade than the other. However, looking at Table 1 clearly all three agreements were supported more in the Senate than in the House.

The last aspect of the representative controls are the PAC contributions. It is expected that labor organizations in the U.S. are generally against free trade. Traditionally, labor organizations (more specifically labor unions) have been against freer trade that could put domestic workers out of jobs. Thus according to the S-S theorem it is assumed that the labor PAC contributions come from the owners of labor (low-skilled laborers that are predicted to see their real incomes decline according to the model). These labor contributions then are expected to have a negative impact on a representative's vote in favor of any of the trade agreements.[16] Likewise, if it is believed that corporate PAC contributions come from the owners of capital (high-skilled), it would be expected that donations of this nature would then have a positive effect on the probability of a *yea* vote. The data for the PAC contributions comes from the Federal Election Commission (the 2010 election circuit), and the classifications into "Labor" or "Corporate" are aided by OpenSecrets.org.

Finally, regional fixed-effects are included in all specifications in order to capture any correlations in voting that may exist in different parts of the country. There are four regions: Northeast, South, Midwest, and West. All models run with state fixed-effects rather than regional fixed-effects are also included as a robustness check. The comparison between the two methods for each model specification can be found in the appendix. Robust standard errors, clustered at the state level, are used throughout all specifications as well. This is done to ensure that any state-based correlations in the standard errors are accounted for.

[16] While this is the theoretical prediction, there is also empirical evidence from NAFTA (Kahane, 1996; Kang et. al 1999) that this is what we observe.

4. Results

Table 4 contains the results for the logit estimations of the comprehensive model for each agreement. Immediately it can be seen that the coefficient on skill level is insignificant in all three agreements, so it can be concluded that the relative factor abundance of a district, as defined by the level of educational attainment, has no impact on a representative's vote. Thus there is a failure to reject the null hypothesis in all three cases for the comprehensive model.

This failure to reject the null hypothesis in the comprehensive model need not completely erase the implication that voting does in fact follow neoclassical principles however. The industrial employment composition of a district plays a strong and significant role in the voting behavior. First, keeping in line to some degree with the original hypothesis, the percentage of workers in the high skill service industries have a positive and significant effect on voting in favor of the Panama agreement. This indirectly confirms the notion that is trying to be achieved: the U.S. is widely considered an exporter of high-value services that in turn require an advanced education (Bhagwati et al, 2004; Gresser, 2012). Indeed, looking at the scatter plot in Figure 1, there is a strong correlation between employment in the high skill services and the skill level of a district. The fact that this significant result only appears for one of the agreements in the comprehensive model however does not allow this argument to be a definite conclusion, but clearly there could be a suspicion of collinearity.

In another specification presented in Table 5 however, where the high skill services variable is dropped, the coefficient for skill level is positive and significant for the Colombia and Panama agreements.[17] Additionally, when the estimations are run in a preliminary specification in Table 3, where the only district employment driver is the skill level, the Panama vote has a positive and significant skill coefficient. While these results from the separate specifications are not necessarily conclusive, they do provide some evidence that the skill level of a district may in fact play some type of significant role, especially in the Panama agreement.

To further strengthen the argument that the skill level is in fact influential, consider the previously mentioned "factor-detachment" assumption (Beaulieu, 2002). In Table 3, the presumption of running the model with this specification is that the skill level is representative of the industrial composition as a whole. If one assumes that the skill level characterizes district industrial employment completely, such that there is not perfect factor mobility and

[17] When run with state fixed-effects rather than regional fixed-effects, only the coefficient on Panama is significant.

workers are assigned jobs that are high-skilled or low-skilled based on their education solely, then it can be concluded that the relative factor abundance of a district is explanatory in the Panama agreement. This assumption that the factor endowment can explain employment completely is very strong however, and it is appropriate to add in the industrial characteristics.

Considering Table 5, the high skill services variable is dropped because it is highly correlated with the skill variable, having a correlation coefficient of 0.80 (R^2 of 0.64). Although the industries included in the high skill services variable produces goods and services that are deemed as highly tradable and should be included in the comprehensive model, it is not uncommon to drop a variable due to collinearity. Thus this presents evidence that the skill level does in fact play some type of role in at least two of the agreements. In particular the strengthening of the coefficient's significance in Panama to the 1% level compared to the specification in Table 3, where it is only significant at the 10% level, is an indication of the relevance of the explicit factor allocations for the agreement with Panama specifically. It should be noted however, that since this result is not robust throughout all specifications, the failure to reject the null hypothesis cannot be overturned.

Returning to the comprehensive model in Table 4, it can be seen that there is a very strong, positive and significant coefficient on the share of employment in the agricultural industry for all three agreements.[18] It is especially strong with regards to the agreement with Colombia, where a one percent increase in the employment share of agriculture in a district leads to a 7.584 percentage point higher probability of the representative voting in favor of the agreement, significant at the 1% level. At first glance, these general results for agriculture seems counterintuitive, as it has traditionally been considered a relatively labor intensive industry. With the advancement of technology however, one can imagine that the U.S. has turned agriculture into a more capital intensive industry (and thus a more high-skilled industry), and similarly the export statistics would reflect that this is certainly an area where the U.S. specializes in.[19] Additionally, as mentioned in section 1.1, all three agreements include provisions that significantly and quickly reduce the tariffs and/or quotas placed on U.S. agricultural exports to each country. Undoubtedly these beneficial provisions could have played a role in determining votes.

[18] This result is robust throughout all specifications.

[19] According to the ITA, in 2010 the U.S. exported over $68 billion worth of agricultural products across the globe, compared to imports that totaled to around $42 billion

Interestingly, the percentage of Asians employed in the district plays a significant role in two of the three agreements in Table 4. Perhaps predictively, a one percent increase in the share of Asian employment in a district is associated with a 0.515 percentage point higher probability of voting in favor of the South Korea FTA, significant at the 10% level. Contrastingly, and maybe more perplexingly, the same increase is associated with a 0.497 percentage point lower probability of voting in favor of the Panama TPA, significant at the 1% level. There has been no indication that there was any competition between the signing of any of the agreements, so this result is a strange one. There is not a significant effect from the Hispanic working population on the outcome for either Panama or Colombia in the comprehensive model, although in Table 5 where the high skill services variable is dropped, it appears to be positive and significant in both of these countries. The broad ethnic references may be slightly off based and may need to be narrowed; however there is indeed some evidence that there may be a link between the countries trading with the U.S. and the domestic population with cultural or historical similarities to those trading countries.

The level of unemployment at the time of the votes plays a strong, negative and significant role in all three agreements in Table 4. Most strikingly in the South Korea FTA, a one percentage increase in the unemployment rate in a district leads to a 5.045 percentage point lower probability of voting in favor of it, significant at the 1% level. These results are in line with what is expected, and are more amplified in the South Korea FTA, possibly because South Korea is a relatively large competitor in the automobile industry, an area of the U.S. economy that has been hard hit by the recent recession. This however could be a difficult argument considering the South Korea FTA also includes a number of provisions that benefit American automakers. As seen and explained in the literature however, the relationship between unemployment rates and free trade does not exactly lend to theoretical rationale.

This same argument used to elucidate the strong negative effect of the unemployment rate on the likelihood of a *yea* vote could also be used to interpret the coefficient on the percentage of workforce employed in the manufacturing industry with regards to the South Korea FTA. There is a 1.148 percentage point lower probability of voting in favor of the South Korea agreement with every one percentage increase in the manufacturing employment share of a district, significant at the 10% level. This result is consistent throughout all specifications[20]

[20] Though it should be noted, only the specifications using the regional fixed-effects. When the comprehensive model is run with state fixed-effects, there is no significance on the coefficient.

and clearly reflects traditional domestic feelings towards trade with East Asian countries that specialize in manufacturing exports.

From the political perspective, considering the rather convincing summary statistics, it is not surprising that the coefficients on the political party to be strongly positive and significant, all at the 1% level. This result would lead to the belief that the votes to some degree follow a certain party line, although in all three cases not enough to stop the agreements from going through. Again, this confirms that generally speaking, it is expected that Republicans are more likely to vote in favor of trade liberalizing legislation. It also seems that it does not matter whether a representative is a member of the House or Senate, as predicted, with all three coefficients statistically equivalent to zero.[21]

Finally, both types of PAC contributions have a strongly significant impact on all three votes. Furthermore, they both have the signs that were expected. The more money that is received from a labor PAC decreases the likelihood of a *yea* vote while the more money received from a corporate PAC increases the likelihood of a *yea* vote. This result is not necessarily surprising, especially with the recent publicity given to the role that money plays in political campaigning with regards to the 2012 elections. As seen from these results, the political contributions are in fact associated with voting on trade legislation. This outcome also lends itself to an explanation of the S-S Theorem. If the assumption is that labor PAC contributions come from the owners of the scarce factor, then a significant negative coefficient proves there is an effective channel to lobby for protectionism. The same is true for the corporate PAC contributions, although having the reverse effect. Comparing the coefficients between the two interested parties, in all three agreements, it appears that the same dollar contribution is relatively more influential in the deterrence of a *yea* vote via the labor PAC than it is in the encouragement of a *yea* vote via the corporate PAC.

In summary, the comprehensive model displayed in Table 4 shows mixed results over whether a district's relative factor endowment determines the voting tendencies on trade legislation, as theoretically hypothesized. Explicitly, none of the coefficients on the main variable of interest, skill level (educational attainment), are significant, refuting the initially established hypothesis. However, two different specifications do show that the skill level is a significant factor, for at least two of the agreements (with Panama significant throughout those

[21] Although it should be noted that in the specification presented in Table 5, the coefficient on House is positive and significant for the Panama and Colombia agreements, indicating that members of the House of Representatives were more likely to vote in favor of both agreements.

specifications). Even accepting the comprehensive model specification though, clearly it can be seen that, while political factors certainly influence the behavior, there are definite employment drivers within the district economic industries that help explain some variation in voting, most notably for all three agreements the percentage share of employment in agriculture. Since employment in these industrial sectors is factor based as well, there is a notion that the S-S Theorem is being revealed through Congressional voting.

5. Conclusion and Discussion

This thesis explores the theoretical relevance that theorems drawn from the neoclassical trade model holds with respect to voting in the United States Congress, specifically with regards to bilateral agreements with developing countries. While traditional international trade theory has failed to empirically explain the actual trade flows of countries, the concept applied to Congressional voting behavior is equally valid. It can be seen however, in the case of the three separate free trade agreements passed in 2011 between the U.S. and Colombia, Panama, and South Korea, respectively, that the same empirical problems face the law-making side. The results show that there is no explicit association between the relative skill level of a Congressional district and the likelihood of a corresponding representative's vote in favor of trade liberalizing legislation, when controlling for a comprehensive list of political and economic variables. There is however some indication from different model specifications that at least for the Panama agreement, the factor endowment of a district does in fact play a role.

This broad failure to reject the null hypothesis may not accurately explain the entire relationship between the Stolper-Samuelson Theorem and voting behavior. Clearly from the results there are certain industrial employment drivers that influence the vote, specifically with regards to the share of a district's employment in the agricultural sector. This perhaps would lead one to believe that educational attainment may not necessarily be the most appropriate factor in determining whether the neoclassical theorems hold in this case. An industry-focused model may be a more explanatory avenue, one that explicitly focuses on the share of employment in export-oriented industries. Indeed this would be similar to Beaulieu (2002), who compares the factor approach to the industrial approach and concludes that it is certainly the industrial approach that is better suited to explain the S-S theorem. Looking at the results from the 2011 FTAs, there are arguments for and against the use the of the skill level factor proxy, so additional analysis from either side may be warranted.

Reflecting on the additional results outside the scope of the specific research question, there are several intriguing outcomes from this empirical investigation. With regards to the political considerations, the results seen in the majority of the literature hold throughout the three agreements. It appears party politics are the norm even in the trade legislative realm, and there is a definite monetary impact with regards to political action campaigns. This of course complicates any type of economic policy recommendations in the effort to tilt Congress towards more open trade legislation (without advocating for more corporate lobbying); however it would appear that since all three proposed bills were passed, representatives are for the time being committed to freer trade.

Examining the district-specific results, the dramatic negative effect unemployment rates have on the likelihood of a *yea* vote is unsurprising yet continues to be somewhat contradictory. According to the S-S Theorem, we would expect that if a district was relatively abundant in capital, then employment in the district would increase as a result of trade no matter the original rate of unemployment. Of course the opposite holds true, but nonetheless it could be expected that these would potentially offset each other and render the unemployment rate insignificant.[22] Knowing that this negative effect exists however, policymakers would do well to follow Kono's (2011) recommendations and pursue social programs that alleviate unemployment pressure on the ability to pass trade liberalizing agendas. The results with regards to the ethnic-specific employment of a district also suggests that strengthening ties with any prospective partner country's migrant communities within the U.S. could increase the likelihood of a trade liberalizing agenda to pass.

The drawbacks of this study are centered on the debate of whether skill, defined by a university degree, is an appropriate proxy for the factors of production. It is conceivable that a Bachelor's degree does not necessarily guarantee a high-skilled job, nor may it be completely accurate to assume that the same high-skilled jobs use capital relatively more intensively. To address this to some degree, the same comprehensive specification given in Table 4 is presented in Table iv of the appendix, using the number of post-secondary institutions in a state, taken from the National Center for Education Statistics. The results are largely the same as seen in Table 4, specifically with regards to no significance on the coefficients of the main variable of

[22] In the specifications run with state fixed-effects, it appears that only the coefficient on the unemployment rate for the South Korea FTA is significant. This would actually confirm the conclusions drawn in Section 4 with regards to the South Korea FTA specifically, although may weaken the interpretations for the unemployment rate as a factor in the grander scheme of FTAs in general.

interest. Further, an argument could be made that land as a factor of production could be more explanatory than capital, especially since agriculture seems to be a decisive industry. In Tables v and vi of the appendix, two proxies for farmland are used, with both specifications producing similar results to Table 4. While these results given in the appendix lend some robustness to the industrial results, it is still difficult to conclude anything definitively from the factor perspective. Further research in the area of alternative proxies is certainly necessary.

Finally, there are collinearity issues with regards to the comprehensive model presented in Table 4. While it is important to note this issue, as is done in section 4, the implications of this collinearity between employment variables are not immense. Clearly, there are some variables that routinely lose or gain significance through specifications; however there are some definite robust results. What can be conclusively stated about the S-S Theorem and its role in Congressional voting on the three 2011 FTAs is thus twofold. First, there is proof that the explicit factor abundance of a Congressional district plays a positive role in the passing of the Panama agreement. Second, in all three agreements, there are specific industrial drivers, that are factor based, that are influential. While political factors outside the scope of neoclassical theory absolutely play a role in the voting, Congressional representatives do seem to take account of their district economic composition when voting on free trade legislation.

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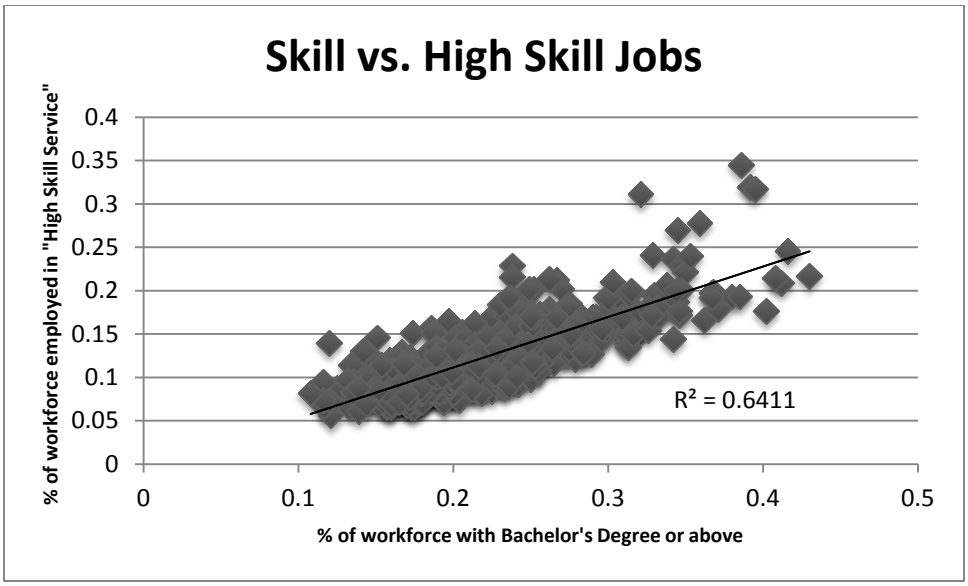

Figure 1: Scatter Plot of Skill vs. High Skill Jobs

Table 1: Summary of Roll-Call Votes

	Vote		House/Senate		Party	
Trade Legislation	Yea	Nay	HoR	S	R	D/I
Colombia TPA	328	200	61.07%	66.67%	96.15%	21.90%
Panama TPA	377	151	69.93%	77.78%	97.90%	40.08%
Korea FTA	361	166	64.80%	84.69%	92.31%	40.25%
Distribution of Votes	3 Yea	2 Yea	1 Yea	0 Yea	Total	
Republicans	261	17	2	6	286	
Democrats	46	41	27	127	241	

Notes: All votes took place on October 12, 2011, as a part of the 112th Congress. There were 528 members who voted on both the Colombia and Panama TPA, while 527 voted on the Korea FTA. The two columns showing "House/Senate" and "Party" show the percentage of representatives for each respective group that voted Yea on the respective agreement. There were a total of 429 members that voted in the House of Representatives and 99 members that voted in the Senate (98 voted on Korea). SOURCE: THOMAS Database, Library of Congress

Table 2: Summary Statistics

Dependent variables	Mean	Std. Dv.	Min.	Max.	Obs.
Colombia Vote	0.621	0.486	0.000	1.000	528
Panama Vote	0.714	0.452	0.000	1.000	528
Korea Vote	0.685	0.465	0.000	1.000	527
Control variables					
District Specific					
Skill Level	0.222	0.058	0.108	0.430	535
Unemployment	0.085	0.022	0.027	0.203	535
Agriculture	0.009	0.015	0.000	0.164	535
Mining	0.006	0.012	0.000	0.092	535
Utilities	0.007	0.003	0.002	0.017	535
Construction	0.043	0.012	0.015	0.110	535
Manufacturing	0.094	0.041	0.018	0.260	535
Wholesale/Retail Trade	0.159	0.016	0.105	0.274	535
High Skill Services	0.125	0.042	0.056	0.345	535
Hispanic	0.276	0.337	0.009	0.989	535
Asian	0.049	0.065	0.004	0.584	535
Representative Specific					
Republican	0.540	0.499	0.000	1.000	535
House	0.813	0.390	0.000	1.000	535
Labor PAC	0.739	0.925	-0.001	4.290	529
Corp. PAC	2.497	2.506	-0.010	16.995	529
Regional Fixed-Effects					
Northeast	0.213	0.410	0.000	1.000	535
South	0.310	0.422	0.000	1.000	535
Midwest	0.245	0.463	0.000	1.000	535
West	0.232	0.430	0.000	1.000	535

Notes: All district specific control variables are expressed as a percentage of workforce. High Skilled Services is a composition of jobs in the Information, Finance and Insurance, and Professional, Scientific and Technical Services sectors. Labor and Corporate PAC figures are presented as US$ (hundred-thousands).

Table 3: Skill Specification

Variables	Colombia	Panama	Korea
Skill Level	0. 407	0.563*	0.800
	(1.057)	(0.322)	(0.723)
Republican	0.552***	0.322***	0.358***
	(0.074)	(0.052)	(0.064)
House	0.109	0.072	-0.065
	(0.126)	(0.050)	(0.054)
Labor PAC	-0.289***	-0.135***	-0.140***
	(0.084)	(0.042)	(0.047)
Corp. PAC	0.0788***	0.047***	0.076***
	(0.020)	(0.013)	(0.017)
Unemployment	-3.995*	-1.663*	-4.647***
	(2.169)	(1.001)	(1.692)
Northeast	-0.052	0.004	-0.147
	(0.116)	(0.033)	(0.105)
South	0.142**	0.052*	0.071
	(0.069)	(0.031)	(0.052)
West	0.132*	0.069**	-0.040
	(0.069)	(0.032)	(0.084)
Observations	528	528	527
Log Likelihood	-134.94	-151.91	-186.71
Pseudo R-Squared	0.6148	0.5193	0.4313

Notes: Table reports marginal effects of logit regressions. Midwest regional fixed-effect omitted due to collinearity. Robust standard errors, clustered at the state level, in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Comprehensive Model Specification			
Variables	**Colombia**	**Panama**	**Korea**
Skill Level	0.575	0.010	-0.429
	(1.375)	(0.342)	(0.967)
Republican	0.582***	0.326***	0.419***
	(0.096)	(0.059)	(0.085)
House	0.338	0.154	-0.110
	(0.223)	(0.103)	(0.079)
Unemployment	-3.847**	-2.240***	-5.045***
	(1.938)	(0.690)	(1.497)
Agriculture	7.584***	4.032**	3.914***
	(1.779)	(1.469)	(1.318)
Mining	-2.155	-1.257	-0.640
	(3.878)	(1.302)	(2.503)
Utilities	-8.007	4.308	0.245
	(13.633)	(6.088)	(12.878)
Construction	5.604	-1.172	-0.2240
	(3.925)	(1.090)	(1.691)
Manufacturing	-0.726	0.137	-1.148*
	(1.006)	(0.384)	(0.608)
Wholesale/Retail Trade	2.174	1.077	0.322
	(3.917)	(1.135)	(1.787)
High Skill Services	1.389	1.459**	1.487
	(1.734)	(0.709)	(0.994)
Labor PAC	-0.297***	-0.121***	-0.131***
	(0.076)	(0.036)	(0.046)
Corp. PAC	0.082***	0.045***	0.074***
	(0.018)	(0.012)	(0.016)
Hispanic	0.227	0.078	-0.049
	(0.160)	(0.053)	(0.131)
Asian	-0.273	-0.497***	0.515*
	(0.439)	(0.182)	(0.281)
Northeast	-0.129	0.059	-0.131
	(0.174)	(0.064)	(0.114)
South	0.061	0.021	-0.042
	(0.109)	(0.042)	(0.085)
Midwest	-0.007	-0.078	-0.048
	(0.138)	(0.068)	(0.070)
Observations	528	528	527
Log Likelihood	-123.00	-136.03	-177.31
Pseudo R-Squared	0.6489	.5695	.4600

Notes: The table reports marginal effects of logit regressions. West regional fixed-effect omitted due to collinearity
Robust standard errors, clustered at the state level, are presented in parentheses, *** p<0.01, ** p<0.05, * p<0.1. .

Table 5: High Skill Services dropped			
Variables	**Colombia**	**Panama**	**Korea**
Skill Level	1.576*	0.977***	0.373
	(0.935)	(0.276)	(0.746)
Republican	0.568***	0.322***	0.416***
	(0.089)	(0.057)	(0.084)
House	0.453**	0.337**	-0.063
	(0.197)	(0.167)	(0.084)
Unemployment	-3.888*	-2.432***	-5.291***
	(2.042)	(0.854)	(1.609)
Agriculture	6.996***	3.306***	3.228***
	(1.369)	(1.206)	(1.249)
Mining	-2.278	-1.400	-0.892
	(3.881)	(1.272)	(2.548)
Utilities	-12.528	-0.669	-3.694
	(13.665)	(6.161)	(13.235)
Construction	5.257	-1.788	-0.589
	(3.715)	(1.367)	(1.708)
Manufacturing	-1.051	-0.321	-1.470**
	(0.892)	(0.330)	(0.597)
Wholesale/Retail Trade	1.224	0.568	-0.468
	(1.495)	(0.757)	(0.969)
Labor PAC	-0.301***	-0.127***	-0.135***
	(0.076)	(0.038)	(0.049)
Corp. PAC	0.084***	0.046***	0.076***
	(0.018)	(0.013)	(0.016)
Hispanic	0.310*	0.163**	0.027
	(0.160)	(0.078)	(0.117)
Asian	-0.373	-0.529***	0.468*
	(0.466)	(0.194)	(0.263)
Northeast	-0.178	-0.011	-0.220**
	(0.130)	(0.029)	(0.098)
South	-0.015	0.078***	-0.083
	(0.120)	(0.026)	(0.079)
West	-0.015	0.054*	-0.049
	(0.144)	(0.033)	(0.085)
Observations	528	528	527
Log Likelihood	-123.58	-140.10	-178.85
Pseudo R-Squared	.6472	.5567	.4553

Notes: Table reports marginal effects of logit regressions. Midwest regional fixed-effect omitted due to collinearity. Robust standard errors, clustered at the state level, in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: No Skill Variable			
Variables	**Colombia**	**Panama**	**Korea**
Republican	0.588***	0.327***	0.412***
	(0.085)	(0.057)	(0.080)
House	0.305	0.151	-0.084
	(0.193)	(0.104)	(0.060)
Unemployment	-3.767*	-2.130***	-4.990***
	(1.980)	(0.675)	(1.551)
Agriculture	7.840***	4.061***	3.848***
	(1.756)	(1.427)	(1.415)
Mining	-1.917	-1.133	-0.517
	(3.981)	(1.311)	(2.519)
Utilities	-9.266	4.057	-0.071
	(13.138)	(5.998)	(13.378)
Construction	4.971	-1.428	-0.129
	(3.830)	(1.067)	(1.670)
Manufacturing	-0.554	0.129	-1.172**
	(1.047)	(0.373)	(0.608)
Wholesale/Retail Trade	1.874	0.987	0.087
	(1.424)	(0.601)	(0.898)
High Skill Services	2.203*	1.691***	1.151
	(1.293)	(0.574)	(0.852)
Labor PAC	-0.296***	-0.121***	-0.134***
	(0.077)	(0.036)	(0.046)
Corp. PAC	0.083***	0.045***	0.075***
	(0.015)	(0.012)	(0.016)
Hispanic	0.194	0.073	-0.010
	(0.154)	(0.060)	(0.120)
Asian	-0.127	-0.452**	0.434
	(0.472)	(0.198)	(0.291)
Northeast	-0.129	0.010	-0.220**
	(0.127)	(0.025)	(0.097)
South	0.041	0.067***	-0.096
	(0.082)	(0.023)	(0.081)
West	-0.005	0.051	-0.060
	(0.155)	(0.034)	(0.092)
Observations	528	528	527
Log Likelihood	-123.00	-135.43	-177.51
Pseudo R-Squared	.6489	.5714	.4594

Midwest regional fixed-effect omitted due to collinearity. Robust standard errors, clustered at the state level, in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Specification Comparison

	Colombia			Panama			Korea		
Variables	**(1)**	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Skill Level	0. 407	1.576*	0.575	0.563*	0.977***	0.010	0.800	0.373	-0.429
	(1.057)	(0.935)	(1.375)	(0.322)	(0.276)	(0.342)	(0.723)	(0.746)	(0.967)
Republican	0.552***	0.568***	0.582***	0.322***	0.322***	0.326***	0.358***	0.416***	0.419***
	(0.074)	(0.089)	(0.096)	(0.052)	(0.057)	(0.059)	(0.064)	(0.084)	(0.085)
House	0.109	0.453**	0.338	0.072	0.337**	0.154	-0.065	-0.063	-0.110
	(0.126)	(0.197)	(0.223)	(0.050)	(0.167)	(0.103)	(0.054)	(0.084)	(0.079)
Unemployment	-3.995*	-3.888*	-3.847**	-1.663*	-2.432***	-2.240***	-4.647***	-5.291***	-5.045***
	(2.169)	(2.042)	(1.938)	(1.001)	(0.854)	(0.690)	(1.692)	(1.609)	(1.497)
Agriculture		6.996***	7.584***		3.306***	4.032**		3.228***	3.914***
		(1.369)	(1.779)		(1.206)	(1.469)		(1.249)	(1.318)
Mining		-2.278	-2.155		-1.400	-1.257		-0.892	-0.640
		(3.881)	(3.878)		(1.272)	(1.302)		(2.548)	(2.503)
Utilities		-12.528	-8.007		-0.669	4.308		-3.694	0.245
		(13.665)	(13.633)		(6.161)	(6.088)		(13.235)	(12.878)
Construction		5.257	5.604		-1.788	-1.172		-0.589	-0.2240
		(3.715)	(3.925)		(1.367)	(1.090)		(1.708)	(1.691)
Manufacturing		-1.051	-0.726		-0.321	0.137		-1.470**	-1.148*
		(0.892)	(1.006)		(0.330)	(0.384)		(0.597)	(0.608)
W/R Trade		1.224	2.174		0.568	1.077		-0.468	0.322
		(1.495)	(3.917)		(0.757)	(1.135)		(0.969)	(1.787)
HS Services			1.389			1.459**			1.487
			(1.734)			(0.709)			(0.994)
Labor PAC	-0.289***	-0.301***	-0.297***	-0.135***	-0.127***	-0.121***	-0.140***	-0.135***	-0.131***
	(0.084)	(0.076)	(0.076)	(0.042)	(0.038)	(0.036)	(0.047)	(0.049)	(0.046)
Corp. PAC	0.0788***	0.084***	0.082***	0.047***	0.046***	0.045***	0.076***	0.076	0.074***
	(0.020)	(0.018)	(0.018)	(0.013)	(0.013)	(0.012)	(0.017)	(0.016)	(0.016)
Hispanic		0.310*	0.227		0.163**	0.078		0.027	-0.049
		(0.160)	(0.160)		(0.078)	(0.053)		(0.117)	(0.131)
Asian		-0.373	-0.273		-0.529***	-0.497***		0.468*	0.515*
		(0.466)	(0.439)		(0.194)	(0.182)		(0.263)	(0.281)
Northeast	-0.052	-0.178	-0.129	0.004	-0.011	0.059	-0.147	-0.220**	-0.131
	(0.116)	(0.130)	(0.174)	(0.033)	(0.029)	(0.064)	(0.105)	(0.098)	(0.114)
South	0.132*	0.050	0.061	0.069**	0.078***	0.021	-0.040	-0.083	-0.042
	(0.069)	(0.081)	(0.109)	(0.032)	(0.026)	(0.042)	(0.084)	(0.079)	(0.085)
Midwest			-0.007			-0.078			-0.048
			(0.138)			(0.068)			(0.070)
West	0.142**	-0.015		0.052*	0.054*		0.071	-0.049	
	(0.069)	(0.144)		(0.031)	(0.033)		(0.052)	(0.085)	
Observations	528	528	528	528	528	528	527	527	527
Log Likelihood	-134.94	-123.58	-123.00	-151.91	-140.10	-136.03	-186.71	-178.85	-177.31
Pseudo R-Squared	0.6148	0.6472	0.6489	0.5193	0.5567	.5695	0.4313	0.4553	.4600

Notes: The table reports marginal effects of logit regressions. Robust standard errors, clustered at the state level, in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Midwest regional fixed-effect omitted due to collinearity in first and second specifications (1) and (2). West regional fixed-effect omitted due to collinearity in the third specification (3). Specification (1) is the results from Table 3. Specification (2) is the results from Table 5. Specification (3) is the comprehensive results from Table 4.

Appendix

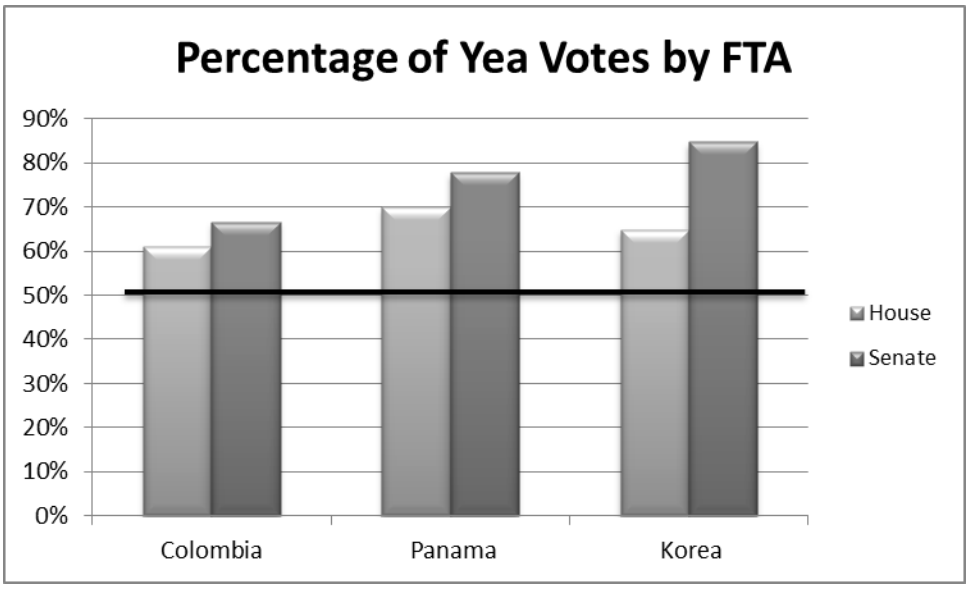

Figure i: Breakdown of Votes by Chamber

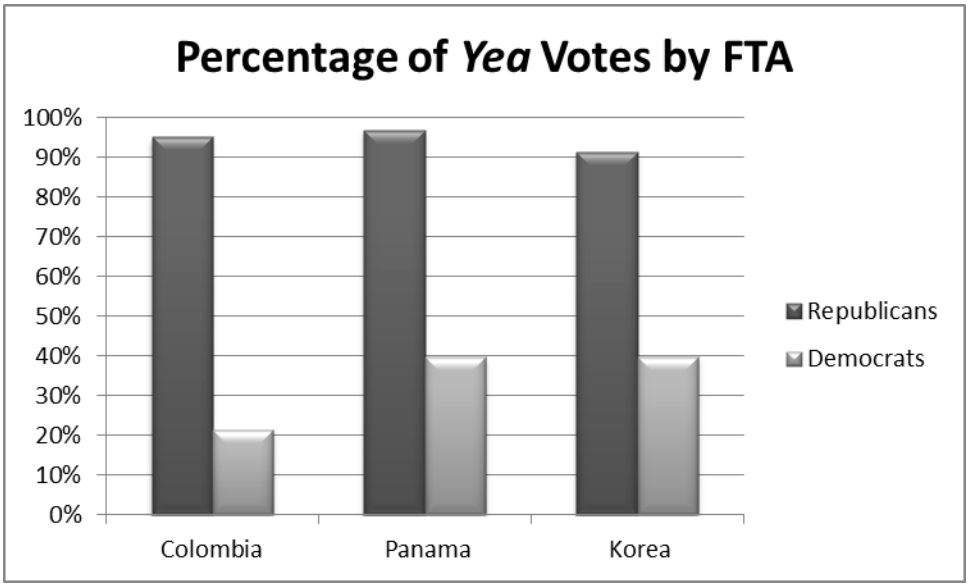

Figure ii: Breakdown of Votes by Party

Table i: Regional vs. State Fixed Effects (Comprehensive Specification)

	Colombia		Panama		Korea	
Variables	**Regional**	**State**	**Regional**	**State**	**Regional**	**State**
Skill Level	0.575	-0.036	0.010	0.193	-0.429	-1.467
	(1.375)	(1.789)	(0.342)	(0.410)	(0.967)	(1.449)
Republican	0.582***	0.730***	0.326***	0.401***	0.419***	0.543***
	(0.096)	(0.073)	(0.059)	(0.075)	(0.085)	(0.095)
House	0.338	0.706**	0.154	0.093	-0.110	-0.183***
	(0.223)	(0.319)	(0.103)	(0.143)	(0.079)	(0.067)
Unemployment	-3.847**	-1.015	-2.240***	-1.184	-5.045***	-5.577**
	(1.938)	(3.569)	(0.690)	(1.674)	(1.497)	(2.559)
Agriculture	7.584***	6.809***	4.032**	3.708***	3.914***	5.015***
	(1.779)	(2.023)	(1.469)	(1.391)	(1.318)	(1.769)
Mining	-2.155	20.988***	-1.257	-5.182	-0.640	-0.164
	(3.878)	(5.499)	(1.302)	(3.398)	(2.503)	(4.720)
Utilities	-8.007	-36.524*	4.308	2.614	0.245	0.717
	(13.633)	(20.049)	(6.088)	(10.015)	(12.878)	(16.831)
Construction	5.604	3.424	-1.172	-2.827	-0.2240	0.002
	(3.925)	(3.490)	(1.090)	(2.121)	(1.691)	(2.467)
Manufacturing	-0.726	-2.357*	0.137	0.189	-1.148*	-0.689
	(1.006)	(1.694)	(0.384)	(1.064)	(0.608)	(0.843)
W/R Trade	2.174	5.076***	1.077	1.968**	0.322	1.666
	(3.917)	(1.694)	(1.135)	(0.789)	(1.787)	(1.372)
HS Services	1.389	0.994	1.459**	1.789*	1.487	2.812*
	(1.734)	(2.044)	(0.709)	(1.052)	(0.994)	(1.599)
Labor PAC	-0.297***	-0.304***	-0.121***	-0.135***	-0.131***	-0.120**
	(0.076)	(0.060)	(0.036)	(0.043)	(0.046)	(0.069)
Corp. PAC	0.082***	0.087***	0.045***	0.047***	0.074***	0.094***
	(0.018)	(0.017)	(0.012)	(0.012)	(0.016)	(0.018)
Hispanic	0.227	0.497*	0.078	0.034	-0.049	-0.120
	(0.160)	(0.290)	(0.053)	(0.088)	(0.131)	(0.187)
Asian	-0.273	0.403	-0.497***	-0.304	0.515*	0.913**
	(0.439)	(0.611)	(0.182)	(0.261)	(0.281)	(0.460)
Northeast	-0.129		0.059		-0.131	
	(0.174)		(0.064)		(0.114)	
South	0.061		0.021		-0.042	
	(0.109)		(0.042)		(0.085)	
Midwest	-0.007		-0.078		-0.048	
	(0.138)		(0.068)		(0.070)	
Observations	528	480	528	440	527	455
Log Likelihood	-123.58	-81.49	-140.10	-103.06	-178.85	-128.39
Pseudo R-Squared	0.6472	0.7478	0.5567	0.6285	0.4553	0.5648

Notes: The table reports marginal effects of logit regressions. Robust standard errors, clustered at the state level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table ii: Regional vs. State Fixed Effects (Skill Specification)

	Colombia		Panama		Korea	
Variables	**Regional**	**State**	**Regional**	**State**	**Regional**	**State**
Skill Level	0. 407	-0.017	0.563*	0.752*	0.800	0.658
	(1.057)	(1.159)	(0.322)	(0.390)	(0.723)	(1.033)
Republican	0.552***	0.709***	0.322***	0.414***	0.358***	0.479***
	(0.074)	(0.082)	(0.052)	(0.082)	(0.064)	(0.090)
House	0.109	0.041	0.072	0.040	-0.065	-0.131**
	(0.126)	(0.130)	(0.050)	(0.052)	(0.054)	(0.054)
Labor PAC	-0.289***	-0.278***	-0.135***	-0.145***	-0.140***	-0.155**
	(0.084)	(0.076)	(0.042)	(0.050)	(0.047)	(0.037)
Corp. PAC	0.0788***	0.080***	0.047***	0.051***	0.076***	0.073***
	(0.020)	(0.019)	(0.013)	(0.014)	(0.017)	(0.017)
Unemployment	-3.995*	0.150	-1.663*	0.186	-4.647***	-3.826*
	(2.169)	(3.142)	(1.001)	(1.745)	(1.692)	(2.310)
Northeast	-0.052		0.004		-0.147	
	(0.116)		(0.033)		(0.105)	
South	0.142**		0.052*		0.071	
	(0.069)		(0.031)		(0.052)	
West	0.132*		0.069**		-0.040	
	(0.069)		(0.032)		(0.084)	
Observations	528	480	528	440	527	455
Log Likelihood	-134.94	-98.21	-151.91	-115.42	-186.71	-134.73
Pseudo R-Squared	0.6148	0.6960	0.5193	0.5840	0.4313	0.5434

Notes: The table reports marginal effects of logit regressions. Robust standard errors, clustered at the state level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table iii: Regional vs. State Fixed Effects (High Skill Services Dropped)

	Colombia		Panama		Korea	
Variables	**Regional**	**State**	**Regional**	**State**	**Regional**	**State**
Skill Level	1.576*	1.055	0.977***	1.144***	0.373	0.232
	(0.935)	(0.815)	(0.276)	(0.391)	(0.746)	(1.02)
Republican	0.568***	0.736***	0.322***	0.406***	0.416***	0.547***
	(0.089)	(0.074)	(0.057)	(0.077)	(0.084)	(0.096)
House	0.453**	0.768***	0.337**	0.206	-0.063	-0.131
	(0.197)	(0.236)	(0.167)	(0.209)	(0.084)	(0.089)
Unemployment	-3.888*	-0.243	-2.432***	-0.558	-5.291***	-4.656*
	(2.042)	(3.188)	(0.854)	(1.391)	(1.609)	(2.518)
Agriculture	6.996***	5.362***	3.306***	2.531**	3.228***	3.523**
	(1.369)	(1.193)	(1.206)	(1.029)	(1.249)	(1.654)
Mining	-2.278	19.712***	-1.400	4.442	-0.892	0.026
	(3.881)	(5.088)	(1.272)	(3.070)	(2.548)	(5.379)
Utilities	-12.528	-45.478**	-0.669	-7.051	-3.694	-13.161
	(13.665)	(20.849)	(6.161)	(9.297)	(13.235)	(14.430)
Construction	5.257	2.938	-1.788	-3.636	-0.589	-1.326
	(3.715)	(4.959)	(1.367)	(2.309)	(1.708)	(2.290)
Manufacturing	-1.051	-2.695**	-0.321	-0.214	-1.470**	-1.199
	(0.892)	(1.093)	(0.330)	(0.791)	(0.597)	(0.887)
W/R Trade	1.224	4.057***	0.568	1.402**	-0.468	0.258
	(1.495)	(1.447)	(0.757)	(0.662)	(0.969)	(1.406)
Labor PAC	-0.301***	-0.289***	-0.127***	-0.128***	-0.135***	-0.152**
	(0.076)	(0.061)	(0.038)	(0.043)	(0.049)	(0.070)
Corp. PAC	0.084***	0.085***	0.046***	0.047***	0.076***	0.096***
	(0.018)	(0.016)	(0.013)	(0.012)	(0.016)	(0.018)
Hispanic	0.310*	0.559**	0.163**	0.100	0.027	0.021
	(0.160)	(0.270)	(0.078)	(0.095)	(0.117)	(0.191)
Asian	-0.373	0.313	-0.529***	-0.350	0.468*	0.784*
	(0.466)	(0.560)	(0.194)	(0.249)	(0.263)	(0.432)
Northeast	-0.178		-0.011		-0.220**	
	(0.130)		(0.029)		(0.098)	
South	-0.015		0.078***		-0.083	
	(0.120)		(0.026)		(0.079)	
West	-0.015		0.054*		-0.049	
	(0.144)		(0.033)		(0.085)	
Observations	528	480	528	440	527	455
Log Likelihood	-123.58	-82.10	-140.10	-105.90	-178.85	-130.76
Pseudo R-Squared	.6472	0.7459	.5567	0.6183	.4553	0.5568

Notes: The table reports marginal effects of logit regressions. Robust standard errors, clustered at the state level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table iv: Schools in a State			
Variables	**Colombia**	**Panama**	**Korea**
Schools	-0.000753	-0.000204	0.000144
	(0.000984)	(0.000857)	(0.00106)
Republican	3.504***	3.301***	2.739***
	(0.681)	(0.593)	(0.569)
House	1.822**	1.469**	-0.777
	(0.860)	(0.691)	(0.725)
Unemployment	-20.99	-28.13***	-36.67***
	(12.90)	(9.299)	(11.19)
Agriculture	48.87***	54.70***	27.83***
	(10.68)	(16.15)	(9.371)
Mining	-11.19	-15.30	-3.808
	(24.66)	(18.37)	(18.32)
Utilities	-53.29	56.52	-1.059
	(81.12)	(79.28)	(97.26)
Construction	28.07	-19.64	-0.613
	(22.15)	(12.78)	(11.66)
Manufacturing	-3.022	1.807	-8.582**
	(6.449)	(5.070)	(4.202)
Wholesale/Retail Trade	10.28	12.93*	0.881
	(8.948)	(7.486)	(6.791)
High Skill Services	13.82*	22.72***	8.333
	(7.551)	(6.270)	(6.139)
Labor PAC	-1.806***	-1.614***	-0.974***
	(0.361)	(0.289)	(0.302)
Corp. PAC	0.506***	0.598***	0.543***
	(0.0924)	(0.107)	(0.110)
Hispanic	1.490	1.067	-0.135
	(0.983)	(0.686)	(0.942)
Asian	-0.412	-5.908**	3.087
	(2.660)	(2.433)	(1.981)
Northeast	-0.644	-0.676	-0.878
	(0.852)	(0.660)	(0.598)
South	0.280	0.221	-0.237
	(0.742)	(0.624)	(0.586)
Midwest	0.0371	-0.815	0.406
	(0.889)	(0.670)	(0.577)
Constant	-4.667	-3.118	2.716
	(2.933)	(2.340)	(2.106)
Observations	528	528	527
Log-Likelihood	-122.82	-135.42	-177.50
Pseudo R-Squared	0.6492	0.5715	0.4594

Robust standard errors, clustered at the state level, in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table v: Acres of Farmland in State			
Variables	**Colombia**	**Panama**	**Korea**
Acres	-5.72e-06	3.14e-06	4.00e-06
	(6.01e-06)	(6.36e-06)	(6.14e-06)
Republican	3.493***	3.320***	2.785***
	(0.687)	(0.606)	(0.583)
House	1.862*	1.059	-1.062
	(1.042)	(0.792)	(0.933)
Unemployment	-25.34*	-29.15***	-35.46***
	(14.06)	(9.831)	(10.41)
Agriculture	45.92***	53.59***	28.26***
	(9.097)	(17.07)	(10.15)
Mining	-12.51	-17.09	-5.274
	(24.77)	(18.08)	(18.22)
Utilities	-38.03	52.88	-6.561
	(82.82)	(80.03)	(96.34)
Construction	33.82	-17.24	-2.127
	(23.13)	(13.90)	(12.73)
Manufacturing	-4.315	2.224	-8.397*
	(6.057)	(4.950)	(4.295)
Wholesale/Retail Trade	17.62	14.64	-1.502
	(20.77)	(14.20)	(12.14)
High Skill Services	11.43	20.20***	8.166
	(7.019)	(5.948)	(6.007)
Labor PAC	-1.784***	-1.579***	-0.960***
	(0.372)	(0.290)	(0.294)
Corp. PAC	0.498***	0.588***	0.543***
	(0.0917)	(0.109)	(0.110)
Hispanic	1.613	0.668	-0.429
	(1.185)	(0.847)	(1.175)
Asian	-1.271	-6.192**	3.280
	(2.772)	(2.612)	(2.265)
Northeast	-0.756	-0.582	-0.822
	(0.862)	(0.635)	(0.597)
South	0.349	0.255	-0.262
	(0.731)	(0.630)	(0.600)
Midwest	-0.00431	-0.887	0.367
	(0.895)	(0.671)	(0.579)
Constant	-3.375	-1.087	3.152*
	(2.325)	(1.788)	(1.836)
Observations	528	528	527
Log-Likelihood	-122.82	-135.42	-177.50
Pseudo R-Squared	0.6492	0.5715	0.4594

Robust standard errors, clustered at the state level, in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table vi: Number of Farms in State			
Variables	**Colombia**	**Panama**	**Korea**
Farms	-0.00356	0.00106	0.00256
	(0.00327)	(0.00319)	(0.00315)
Republican	3.508***	3.308***	2.785***
	(0.690)	(0.602)	(0.580)
House	1.945*	1.142	-1.115
	(1.120)	(0.783)	(0.905)
Unemployment	-24.74*	-29.61***	-35.60***
	(13.80)	(9.552)	(10.20)
Agriculture	46.54***	53.45***	27.82***
	(9.361)	(17.07)	(9.974)
Mining	-12.82	-16.68	-4.892
	(24.35)	(18.02)	(18.07)
Utilities	-39.73	55.08	-6.860
	(84.20)	(80.10)	(95.89)
Construction	32.22	-16.18	-1.078
	(22.65)	(13.28)	(12.58)
Manufacturing	-3.738	1.980	-8.655**
	(6.181)	(4.976)	(4.250)
Wholesale/Retail Trade	17.04	15.05	-1.395
	(20.96)	(14.15)	(12.09)
High Skill Services	11.50	20.25***	8.168
	(7.082)	(5.925)	(6.046)
Labor PAC	-1.784***	-1.583***	-0.956***
	(0.376)	(0.290)	(0.293)
Corp. PAC	0.500***	0.588***	0.541***
	(0.0937)	(0.109)	(0.110)
Hispanic	1.683	0.763	-0.468
	(1.245)	(0.833)	(1.148)
Asian	-0.959	-6.322**	3.114
	(2.819)	(2.679)	(2.234)
Northeast	-0.707	-0.615	-0.844
	(0.834)	(0.626)	(0.595)
South	0.468	0.232	-0.331
	(0.789)	(0.667)	(0.633)
Midwest	0.104	-0.908	0.295
	(0.909)	(0.681)	(0.595)
Constant	-3.481	-1.168	3.176*
	(2.424)	(1.777)	(1.831)
Observations	528	528	527
Log-Likelihood	-122.82	-135.42	-177.50
Pseudo R-Squared	0.6492	0.5715	0.4594

Robust standard errors, clustered at the state level, in parentheses*** p<0.01, ** p<0.05, * p<0.1

Acronyms

FTA: Free Trade Agreement
TPA: Trade Promotion Agreement
KORUS FTA: Korea-US Free Trade Agreement (2011)
NAFTA: North American Free Trade Agreement (1994)
CUSTA: Canadian-US Trade Agreement (1989)
GATT: General Agreement on Tariffs and Trade (WTO, most recently Uruguay Round concluded in 1994; Doha began in 2001 and is on-going)
TPP: Trans-Pacific Partnership (on-going negotiations in 2013)
PNTR: Permanent Normal Trade Relations
PAC: Political Action Campaign
H-O: Heckscher-Ohlin
S-S: Stolper-Samuelson
THOMAS: not actually an acronym, the Library of Congress database is named in the spirit of Thomas Jefferson, who was the third President of the United States.
DR-CAFTA: Dominican Republic-Central America FTA
MFN: Most Favored Nation
ITA: International Trade Administration
USTR: United States Trade Representative