

# Rethinking the Rogowski Model: Taiwan's Trade Policy and Domestic Political Alignment 1996-2008\*

*Mark W. Lai*\*\*

收稿日期：2015 年 10 月 14 日

接受日期：2015 年 11 月 3 日

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\* DOI:10.6164/JNDS.15-1.3

\*\* Associate Professor Department of International affairs Wenzao Ursuline University of Languages.

Expertise: International Political Economy, International Relations, Foreign Policy.

B.A. in Philosophy, National Taiwan University.

M.A. in Political Economy, New York University.

Ph. D. in Political Science, State University of New York at Albany.

E-mail: markjrlai@hotmail.com

## **Abstract**

The political economic relationship between Taiwan and China moved in a positive direction after the KMT returned to power in 2008. The launching of the Economic Cooperation Framework Agreement (ECFA) in September 2010 symbolized the prospect of economic and political reconciliation across the Taiwan Strait. Several years later, in light of the scholarly debate and waves of street protests by the opposition party and dissenters, it has become apparent that scholars ought to reexamine the validity of Rogowski's model of trade policy and domestic political alignment, specifically with regard to its ability to explain the transformation of cross-strait political and economic interaction.

This study conducts an empirical analysis of the effects of economic liberalization on domestic political alignments and offers some hypotheses using updated data for testing. Highlighting certain policy implications with regard to disputes surrounding the ECFA issue, the study provides a new perspective for explaining cross-strait economic interaction and its implications for domestic politics.

Keywords: Rogowski Model, ECFA, Cross-Strait Relations, Trade Policy

The political economic relationship between Taiwan and China moved in a positive direction after the KMT returned to power in 2008. The launching of the Economic Cooperation Framework Agreement (ECFA) in September 2010 symbolized the prospect of economic and political reconciliation across the Taiwan Strait (Wei, 2010: 32-36). Several years later, in light of the scholarly debate and waves of street protests by the opposition party and dissenters, it has become apparent that scholars ought to reexamine the validity of Rogowski's model of trade policy and domestic political alignment, specifically with regard to its ability to explain the transformation of cross-strait political and economic interaction.

Building on certain well-known economic theorems—such as those by Heckscher-Ohlin and Stolper-Samuelson—political scientist Ronald Rogowski offered a model that asserted that as a closed economy faces opening of international trade, the endowment factors inside the economy will shift: the abundant factor will be impacted positively from the international market and the scarcity factor will be impacted negatively because of competition created through liberalizing outside trade relations. Thus, the abundant factor tends to support political parties that welcome free trade, while the scarcity factor supports protectionism (Rogowski, 1989; Rogowski, 1987: 1121-1137; Rogowski, 1987: 203-223). In Taiwan's case, the enormous increase of cross-strait economic interaction from 1989 to 2008 had established a strong interdependence and this case fits the close-to-open economy scenario. In this case, China, rather than the international market at large, has become the factor of liberalization. From the viewpoint of Rogowski's model, the scarcity endowment in Taiwan, such as land and labor factors, has been impacted negatively, and therefore has tended to support an anti-China political position. The abundant capital factor has taken a pro-China stance (Keng and Chen, 2003: 1-29).

This study will reexamine this notion and conduct an empirical test

using three steps. First, previous research that has applied Rogowski's model has explained Taiwan's regional politics by proposing that the winners and losers in cross-strait economic relations could be discerned by a North-South political orientation. By contrast, this study suggests that the basic inferences of Rogowski's model, along with Jefferey Frieden and Peter Trubowitz's application to the Taiwan case ("RFT" Model), have logical and empirical problems. This study will show that with proper adjustments, the RFT model can generate better predictions for the Taiwan case. Second, scholars Paul Midford, Edward Leamer, Michael J. Hiscox and Jeffrey W. Ladewig, among others, have provided an alternative approach that can enrich the RFT model. Examining the arguments of these scholars, this study will further scrutinize the effect of economic liberalization on domestic political alignments. Third, this study will offer some hypotheses using updated data for testing. The time frame of this empirical study focuses on the years from 1996 to 2008 for three reasons. First, Taiwan did not have its first direct presidential election until 1996 and the results of the elections were the only direct and strong material for testing. Second, when the pro-China KMT political party returned to power in 2008, Taiwan's industrial development and political alignment had entered a different phase. Both business and political sectors had accepted the necessity of integration with China while debating only the pace of integration. Compared with her former bosses-former presidents Lee Teng-hui and Chen Shui-bian- Tsai Ing-wen, the anti-China political DPP party's presidential candidate in 2012 and 2016, has adopted a moderate and compromising attitude and policy toward China. Third, these facts made the years between 1996 and 2008 an interesting time period for researchers to study why under the great attraction of China's money and even greater threat of China's guns, Taiwanese still elected independence-leaning presidents who adopted anti-China policies.

In summary, this study will highlight certain policy implications with regard to disputes surrounding the ECFA issue and it will provide a new

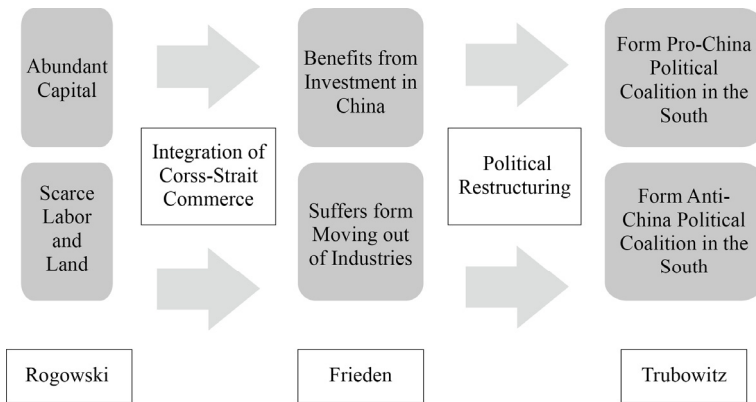
perspective for explaining cross-strait economic interaction and its implications for domestic politics.

Finally, it should be noted that though the present study seeks to understand the possible connections between national trade policy and domestic political alignment and therefore focuses on cross-strait relations, the significant correlations between these two factors do not imply the exclusion of other important factors in explaining cross-strait relations, nor the denial of other important factors in determining domestic political alignment.

### **Literature Review: The RFT Model**

Even as some scholars of international trade have downplayed the political effects and political reactions to the changing international commercial environment (Ellis *et al.*, 1949; Corden, 1997), the early works of some political economists such as E. E. Schattschneider and Peter Gourevitch, have helped to establish research on the connection between special business interests and related political movements (Schattschneider, 1935; Gourevitch, 1986). Following this line of research, analyses of trade, economic policy and political developments in advanced economies have reached a significant critical mass worthy of summation (Yang, 1995: 956-963; Rankin, 2001: 351-376; Samuelson, 2004: 135-146; Baker, 2005: 924-938). However, the application of this line of analysis to the commercial and political context across the Taiwan Strait remains in the early stages. In 1999, Wu and Yen were among the first to use a statistical model to analyze the relationship between political influence and cross-strait commerce (Wu and Yen, 1999: 43-62; Wu and Yen, 2001: 135-166). Keng and Chen later argued that northern Taiwan benefits most from cross-strait economic interaction and therefore favors a pro-China political coalition while southern Taiwan tends toward an anti-China stance because its economy is concentrated in agriculture and labor-intensive

industries. Central Taiwan shows no significant trend in terms of its political alignment due to its mixed economy (Keng and Chen, 2003: 5). Lai's doctoral dissertation established a statistical model explaining the correlation between Taiwan's domestic political reforms and fluctuations in cross-strait hostilities (Lai, 2006). Keng & Chen's and Lai's research adopted theories from three sources: Ronald Rogowski's theory in trade policy and domestic political alignment, Jefferey Frieden's emphasis on globalization and investment, and Peter Trubowitz's categorization of regional interests in analyzing foreign policy. Figure 1 below illustrates the inferences and synergy of these three theoretical models.



**Figure 1: Rogowski, Frieden and Trubowitz's (RFT) Models in Taiwan's Case**

Nevertheless, these three theoretical models share similar problems in their empirical modeling. First, Ronald Rogowski linked political alignment and free trade policy only under the simplified economic model and universal generalization was not his intention in developing the model (Rogowski, 1989:175-177). The excessive parsimony of a three-factor model makes it difficult to explain specific historical facts. For example, in Taiwan's case, Rogowski's model cannot explain why labor-intensive industries did not form effective political coalitions to promote a

protectionist policy toward Chinese imports. The reason for this was that under the long period of KMT authoritarianism, union organization in Taiwan was restricted to state-owned enterprises and a small number of KMT-backed conglomerates. When cross-strait commerce began to endanger local jobs and income, there was no consolidated labor union to act as a political counter-weight.<sup>1</sup> Moreover, for the Taiwan case, Rogowski's model cannot explain why certain capital-intensive industries do not support a pro-China commercial policy. For example, pro-green companies have long supported government restrictions on Chinese imports.<sup>2</sup> Such pro-green companies target different markets in the global economy and the further integration of the China-Taiwan market would create competition that would threaten their economic interests. In sum, Rogowski's model oversimplified the factor of production and it sometimes fails to provide comprehensive explanations for specific historical cases.

Making allowances for Taiwan's special economic relations with China (significant in both trade and investment), Keng and Chen applied Jeffrey Frieden's theory concerning the politics of capital mobility under globalization. Frieden's argument has two main dimensions. First, international financial integration tends to favor capital over labor/land because the former is easily movable, thus creating a significant advantage in a fast-paced international investment environment. In Taiwan's case, after the enlargement of cross-strait commercial integration, the abundant capital factor became a favored investment target. On the other hand, the scarce labor and land factor proved difficult to move, and was not favored for investment in mainland China. The relative gain between the abundant

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<sup>1</sup> The total labor force in Taiwan is approximately 10 million people. The biggest labor organization in Taiwan, Chinese Federation of Labor (CFL) has only 1.1 million members. Therefore, labor in Taiwan does not possess political influence proportionate to the size of the labor force. <http://www.cfl.org.tw/page1.aspx?no=100100125181730296>.

<sup>2</sup> Pro-green companies refer to businesses which support the DPP. They have generally held an anti-China political stance.

factor and scarcity factor meant that capital became a beneficiary and labor/land became a victim of capital's rise in importance. Combining the theoretical perspectives of Rogowski and Frieden indicates that the estimation of Taiwan's economic restructuring must take into account not only what is traded across the Strait, but also what is invested.

On the other hand, as the second argument of Frieden's investment theory notes, national investment policy is influenced by tensions such as those between internationally diversified and undiversified, tradable and non-tradable, and capital-mobile and non-mobile divisions (Frieden, 1991:426). Frieden's theory on international investment is modest and his evidence is limited. He calls for further empirical testing and the adaptation of the theory to different cases (Frieden, 1991:451). It should be noted that cross-strait investment differs from ordinary FDI or capital investment. It is better understood as akin to an enlargement of Taiwan's market, widening to meet the Chinese market. While many industries, businesses and investors are trying to find long-term opportunities in China, cross-strait investment is more similar to the moving-out of economic resources. This moving out of resources has impacted Taiwan's economy and has forced it to move to the next level of economic restructuring. The different industry preferences for mainland China investments and their political effects must be discerned through careful examination.

The research of Keng & Chen and Lai both support the Trubowitz model, which rests on a division of interests to explain differences in regional political alignments (Keng and Chen, 2003: 6-7; Trubowitz, 1998:4). Basically, according to the Trubowitz model, conflicts over national policies must be understood in the context of larger domestic struggles for regional economic advantage and political power (Trubowitz, 1998:6). Nevertheless, a problem with this model is that it does not account for whether a local region represents a unified economy, or whether certain constituents or political representatives would even



prioritize economic policy, as possibly revealed in their voting patterns. Certain scholars have raised doubts with regard to these issues and they have called for a more careful categorization of economic and political blocs (Fordham and McKeown, 2003: 520; Goff and Grier, 1993: 5-20).

In terms of the Taiwan case, the conventional understanding of regional politics has been based on a standard geographical division of North and South (Lee and Hsu, 2002: 61-84). Keng and Chen's research has also adopted this approach, claiming that northern and southern Taiwan have opposing political stances while the central and eastern regions are neutral (Keng and Chen, 2003: 10, 15, 17). However, there remain certain anomalies that arise from these simplistic geographical divisions. For example, Taipei City and Taipei County are neighbors in northern Taiwan and thus should share similar socio-economic features. However, the city and county have different political cultures and voting preferences. For about half of the past two decades, the mayor of these two administrative units belonged to opposing political parties.<sup>3</sup> With respect to southern Taiwan, the metropolitan city of Kaoshiung is relatively distinct compared to the agriculture-based counties surrounding it.<sup>4</sup> Though differing in social-economic features, the voting preferences in the South are generally similar. These inconsistencies show the need for a more accurate way to discern political economic units when applying Trubowitz's model to the Taiwan case. Table 1 summarizes and lists the major problems arising from applying the RFT model to the Taiwan case.

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<sup>3</sup> Appendix 1.

<sup>4</sup> Differences in income, education, and other social-economic resources are apparent. See Appendix.

**Table 1: Propositions and Problems of RFT’s Theory in Taiwan case**

Scholars	Rogowski	Frieden	Trubowitz
Proposition	Capital, labor and land form political coalition based on their loss or gain in international commerce	International capital investment is a very important factor in analyzing commercial policy and political reaction	Conflicts over national policies must be viewed in the context of larger domestic and regional struggles.
Problems	Excessive parsimony in defining the factor endowments neglects the specifics of different economies.	The differences among capital investment, foreign direct investment, moving-out of industries and outsourcing are not stressed.	Simplistic geographical designations are only effective in regions with high homogeneity. Careful selection and definition of the geo units is necessary.
In Taiwan	As an economy depending on foreign trade, most factors favor open trade policy	The nature of investment from Taiwan to China is the moving-out of industries. The corresponding political effect is complicated.	The simplistically defined North and South designations are problematic because the composition of the regions is not homogeneous.

In sum, the RFT model offers a generally correct prediction with regard to Taiwan’s political alignment under globalization and its changing national trade policy. However, a further refinement of the theoretical perspective is required and further empirical testing is also needed.

**Research Design: The Modified RFT Model**

Addressing the deficiencies noted above, Paul Midford and Edward Leamer have offered a similar but more sophisticated model. Paul Midford

has noted a major flaw in the Rogowski model: every economy has specific spatial-temporal conditions and thus requires more detailed categorical endowments. Unlike a simplified or primitive economy, an advanced economy with a democratic polity requires more sophisticated categorization that can address its size and complexity (Midford, 1993: 546). In the face of the liberalization of international trade, there are conflicts of interest between different elements of the capital factor in Taiwan: capital embedded in foreign trade will benefit from liberalization while capital exclusively embedded in domestic markets (e.g., in certain service sectors) will suffer because of more competition from inside and outside. Low-skilled labor is in favor of protectionist policy while high-skilled labor (e.g., management and white collar jobs) “can” support the opposite stance. Land with commercial usage will benefit from the economic growth brought by liberalization and the agricultural/industrial land will suffer from the import of cheaper food and products. These distinctions further clarifying the three major factors can help us better understand the aftermath of political alignments.

Leamer has provided an alternative model that features detailed factor endowments. He was one of the first economists to have noted the different effects of high innovation and low innovation industries newly exposed to international trade. His work addressed in greater detail the division of labor in each endowment and elaborated on how the factors have been established. He also innovatively employed the multi-factor model to examine possible combinations of over six factors (Leamer, 1984). For the Taiwan case, Leamer’s work can inspire the formulation of several combinations of factor endowments: labor-capital industry (e.g., Taiwan’s high-tech Science Parks), land and low-skilled labor (e.g., mining industry), domestic capital and high-skilled labor (e.g., financial sector) and others. The political stances of these combinations provide a counter-balance to the limited predictive capability of the Rogowski model.

In addition to addressing the factors of production found in the Leamer and Midford models, the present study also treats the important issues of mobility and conflict inside Taiwan's economy, in particular, conflict between one factor and another, between one sector and another, or between employer and employee. For example, the abundant capital factor may not benefit from the liberalization of cross-strait commerce, despite what the Rogowski model suggests: immobile capital such as that found in the energy and petroleum industries would suffer from cheaper imports, employees in mobile capital-intensive industries would suffer, and the interests between mobile capital and immobile labor would clash and generate further political struggle. This type of more detailed analysis within the scope of production endowments would improve the application of the Rogowski model to the Taiwan case.

Since 1989 when cross-strait economic integration began to gradually increase and create a greater China economic sphere, the issue of mobility has increasingly been applicable to the domestic economy, which is affected by cross-strait commerce. A theory related to this issue, as stated by Michael J. Hiscox, says "if factors are mobile between industries, the income effects of trade divide individuals along class lines, setting owners of different factors (such as labor and capital) at odds with each other regardless of the industry in which they are employed. If factors are non-mobile between industries, the effects of trade can divide individuals along industry lines, setting owners of the same factor in different industries at odds with each other over policy (Hiscox, 2001: 2)." In other words, the industry with mobility is likely to increase competition among different endowments and the industry without mobility is likely to encourage rivalry between rich and poor. In Taiwan's case, industries with high mobility can move out to mainland China to pursue higher profit and more expansion opportunities. This moving-out trend would give rise to political conflict among the factors of production (e.g., labor vs. capital, or more specifically, between laid-off workers and business owners who shift investments to China). On the other hand, industries with low mobility

might remain, but then face competition from imports, giving rise in turn to political conflict between rich and poor within the same endowment (e.g., between labor and owners of state-owned enterprises, and labor and owners of private heavy industries).

How will those who are impacted negatively and positively react to trade policy? Jeffrey W. Ladewig's empirical tests support the proposition that globalization has dramatically brought mobility to industries. Thus, U.S. non-mobile industries have tried to influence Congressional politics to block the further integration of mobile international commerce (Ladewig, 2006: 69). By contrast, Gyung-Ho Jeong has examined the voting record of the U.S. Congress, showing that trade policy is defined by class-based politics, though the links between policies, political parties and political maneuvering are weak (Jeong, 2009: 519-540). More specific to the conflict issue, Gene Grossman's model of Partially Mobile Capital underscores how factors of production can shift from sector to sector, and shows how mobility depends on the different adjustment costs and the margins created (Grossman, 1983: 1-17). This approach helps to reveal conflicts not only among the factors but also among the sectors. Moreover, the cost and benefit analysis from the perspectives of the industries can help to identify the winners and losers and their political stances with regard to national trade policy. Mark R. Brawley has distinguished the economic and political concerns of employers and employees, focusing on, "two results from trade policy—the employment effect, and the effect on the price of their output (Brawley, 1997: 640)." In other words, the cost benefit analysis encompasses the different concerns of both employees and employers in response to varying trade policies.

In summary, based on these theories, the issues generated by the enormous volume of cross-strait commerce should be examined and the complex connection among industries and factors has to be identified. The present study takes Taiwan as a case study and tests the theories reviewed above. Table 2 below illustrates various scholarly responses to the RFT

model.

In the table, the column entitled “Breakdown of Endowments” represents an elaboration of the Midford and Leamer models as applied to the Taiwan case. The capital, labor and land factors are further broken down into sub-categories based on the winner/gainer ratio.

- Capital Factor: Capital (C) refers to financial capital investment. High technology (HTC) is capital-intensive high-technology industries. Traditional industry (TIC) refers to labor or land-intensive sectors.
- Labor Factor: Professionals (PL) are workers with competitive skills, and many are self-employed or with stable job positions. Highly-skilled labor (HL) and Low-skilled labor (LL) work for HTC and TIC respectively.
- Land Factor: High-profit land (HPL) located in urban areas and mostly utilized by the service sector. Low-profit land (LPL) is for agricultural and industrial use and is located in rural areas.

The middle-right section shows that when the factor of mobility was introduced to the picture (based on the theories of Hiscox and Ladewig), the relationships among sub-categories can be further identified. Mobile factors are C, PL; immobile factors are HTC, TIC, HL, LL, HPL, LPL.

**Table 2: Modifying RFT Model**

Scholars	Proposition	Research Design for Taiwan Case
Midford, Leamer	<p><b>Specification of Factors</b> Every economy has its spatial-temporal conditions and needs specific categorical endowments. The cross endowments combination such as labor-capital factor or new factor such as innovation can be adopted.</p>	<p><b>Breakdown of Endowments</b> Capital Factor: Capital(C), High technology(HTC) and traditional industry(TIC) Labor Factor: Professional(PL), Highly-skilled labor(HL) and Low-skilled labor(LL) Land Factor: High profit land(HPL) and less profit land: industrial and agricultural(LPL)</p>

Scholars	Proposition	Research Design for Taiwan Case
Hiscox, Ladewig	<b>Issue of Mobility</b> A mobile industry is likely to generate rivalry among different endowments and a non-mobile industry is likely to generate rivalry between rich and poor.	<b>Mobility in the Factor Endowments</b> Mobility: C, PL. Rivalry among factors: C-PL Immobility: HTC, TIC, HL, LL, HPL, LPL. Rivalry among classes: HTC-TIC, HL-LL, HPL-LPL
Grossman, Brawley	<b>Detecting Conflicts</b> The degree of mobility depends on the different adjustment cost and the margin created. Therefore, there are conflicts between employer and employee, one factor and another, and one sector and another.	<b>Complexity of Conflicts</b> Mobility/Employer/Rich/Service Capital(C) Professional(PL) Delete HTC Immobility/Employee/Poor/IndAgri Traditional Industry(TIC) Highly and low skilled labor(HLLL) Low profit land(LPL) Delete HPL

- Along the Factor Line: Capital clashes with Professionals. The latter earn their living by irreplaceable and competitive skills while the former depend on financial benefits. Although both easily adapt to the changing international commercial environment, there is tension between them.
- Along the Class Line: HTC clashes with TIC because of disparity in income standards. HL – LL and HPL – LPL are rivals for the same reason.

With regard to the issue of mobility, the identification of rivalries differs from the original Rogowski model. For example, the capital factor would not necessarily conflict with the labor factor—this is because both would be negatively impacted by off-shoring of industries. The land and labor factors do not necessarily get along when they compete for public resources.

In the table, the bottom–right quadrant focuses on conflicts among

factors: for example, between the Mobility/Employer/Rich/Service group and the Immobile/Employee/Poor/IndAgri group. For the Taiwan case, the more visible and valid political rivalry is between people with capital investment (C) and professionals (PL) who favor economic integration with China and people in traditional industries (TIC), high and low skilled labor (HL, LL), and low profit land (LPL) who are against pro-China commercial policies.

Among the factors, HTC and HPL have not been included as rivals because they are between mobility and non-mobility, rich and poor; their political stance in trade policy will not be as comparatively significant.

### **The Empirical Test: Model Specification, Variables, Findings, and Discussion of Model Specification**

The empirical test in this study is intended to examine the possible correlation between industry differences in administrative units and their diverse political reactions. The dependent variable is the outcome Taiwan's presidential election. Constituent voting behavior was influenced by independent variables generated from RFT and the new model, and controlled variables include education level, ethnic background, income level, age, political orientation of the administrative unit and the VC in the last time period (time series variable). The probability of more votes cast for an anti-China political coalition at a certain time point is  $VC_t$ . As the value of  $VC_t$  increases, the likelihood of more votes cast for an anti-China political coalition ought to increase. This process may be represented by:

$$VC^t = \alpha + \beta_1 X^t + \beta_2 E^t + \beta_3 ETH^t + \beta_4 I^t + \beta_5 A^t \\ + \beta_6 PO + \beta_7 (VC)^{t-1} + e^t$$



In light of the nature of the dependent variable- the ratio of votes in the presidential election across time periods- the empirical test adopted for this study is the Tobit model (censored regression model) (Long, 1997:187-216). The Tobit regression is able to analyze censored or truncated data, particularly when the range of the dependent variable is constrained. The Tobit model sets the seemingly numeric dependent variable in between certain values, which, for this study, is between 0% and 100%. This range in the data alters the linearity assumption of the least square regression (Damore and Hansford, 1999: 376-377).

This model has its limitations and weaknesses. The obvious shortcoming is the possibility of reductionism brought by the single independent variable. The purpose of the empirical test using Tobit regression is to pinpoint the correlation between variables generated by theoretical analysis. The formation of the hypothesis could not include all the possible causes because every relation among variables needs further discussion. This paper argued that the industrial background decisively influenced Taiwanese voters' preferences in choosing their top leader. However, one could easily argue that the results of the Presidential elections were caused by alternate reasons, and these reasons might have their inner correlation. (ex. industrial background were determined by its income level) Therefore, the finding of this empirical test can only provide statistical evidence to suggest the importance of industrial background in explaining the political attitude of Taiwan, but not to prove that the industrial background is the sole factor resulting in a pro-China or anti-China political stance.

## **Variables**

The dependent variable is the political preference as revealed through the votes cast (VC) in different cities and counties of Taiwan through

time.<sup>5</sup> The voting record was drawn from a national election which featured a host of national policy issues, and which directly involved cross-strait commercial policy issues. Due to the limited data, the left-hand side variable will be selected from different time periods to increase the sample size. The pool includes the presidential elections in 2000, 2004, and 2008.<sup>6</sup> Since the China trade factor has played a crucial role in many of Taiwan's national elections, these presidential elections represent the basic political preference of the Taiwanese people with regard to trade and commercial policies with China. In the appendix section, Chart 1 lists the descriptive statistic of this dependent variable. The ratio is the percentage of total votes for the anti-China political parties and coalition.<sup>7</sup>

The controlled variables are E (education), ETH (ethnicity), I (income), A (age), PO (political orientation of administrative unit) and  $(VC)_{t-1}$  (political preference as revealed through election voting records through time/time series variable). Based on research on Taiwan's electoral behavior, it is clear that these five variables can play significant roles in explaining election results (Wang, 2001: 95-123; Cheng, 2009: 23-49). In general, voters that support the anti-China DPP party have lower education levels, belong to the Taiwanese ethnic group, have lower income levels, and belong to a higher age group. Moreover, the political leaders of cities and counties can exert relatively significant power to influence presidential elections. The last variable is equivalent to the

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<sup>5</sup> There are 25 administrative units under the polity of Republic of China, Taiwan. However, this research excluded the offshore islands of Quemoy and Matsu because of the large disparity of scale and institutional arrangement between these islands and the main island of Taiwan.

<sup>6</sup> Limitation of data refers to the fact that Taiwan's national statistics of all industries across cities and counties is collected once in five years and the direct presidential election only began in 1996. The test has to be restrained by the limitation.

<sup>7</sup> Candidates of the Democratic Progressive Party in these elections represented the anti-China political coalition.

dependent variable, but it applies to past time periods. This is the controlled variable in the time series test. In the appendix section, Chart 2 shows the descriptive information pertaining to the control variables.

For the present study, the group of hypotheses and independent variables are drawn from Rogowski's model (H1 and H2) and the modified model (H3, H4, and H5). This series of tests check the validity of RFT and modified models. The independent variables (explaining the outcome of the election) are as follows:

H 1 (SLR: Service Labor Ratio): The abundant capital factor is positively impacted by an open trade policy. The administrative units with a higher concentration of service sectors (based on capital investment and flow) are more likely to vote for a political coalition that supports an open trade policy toward China.

H 2 (ILR: Industry Labor Ratio, ALR: Agriculture Labor Ratio): The scarcity factors of labor and land are negatively impacted by an open trade policy. The units with higher concentration of industrial and agricultural sectors (relying on mass employment of labor and the usage of land) are more likely to vote for an anti-China coalition.

The test adopts as the operational variable the percentage of the population in industrial and agricultural sectors relative to the total population in the administrative unit. The population ratio, rather than the GDP ratio, has a direct relationship to the voting record. In the appendix section, Chart 3 illustrates the data for these three operational variables.

The second group of hypotheses and variables are drawn from the modified model:

H3 (MR: Manufacture Ratio, ALDR: Agriculture Land Ratio): The Immobility/Employee/Poor/IndAgri factors are negatively impacted by an open trade policy. The administrative units with a higher concentration of traditional industry (TIC), high and low skilled labor (HLLL) and low profit land (LPL) are more likely to vote for an anti-China political coalition. In this hypothesis, the operational variables are the MR, representing all the labor factors and traditional industry, and the ALDR, representing the cheap land variable.

H4 (PR: Professionals Ratio—population in financial sector, insurance companies, real estate and professional services sectors): Mobility/Employer/Rich/Service factors are positively impacted by an open trade policy. The administrative units with higher concentrations of C (Capital) and PL (Professionals) are more likely to vote for a pro-China political coalition. The PR variables both represent capital and professional factors.

In the appendix section, Chart 4 presents the data for these three operational variables.

The test was run six times with six sets of independent variables, plus five controlled variables and one time series variable.

## **Finding and Discussion**

Below, Table 3 illustrates the study findings.

**Table 3: Tobit Regression Analysis of Trade Policy and Domestic Political Alignment**

Hypothesis	H1	H2	H3			H4
Independent Variables	SLR	ILR	ALR	MR	ALDR	PR
Coef.	-0.264*** (0.087)	0.129 (0.085)	0.251* (0.132)	0.127** (0.051)	0.002*** (0.000)	-0.738* (0.383)
Constant	0.352*** (0.069)	0.225*** (0.083)	0.233*** (0.076)	0.318*** (0.088)	0.250*** (0.068)	0.360*** (0.086)
Number of Obs	69	69	69	46	69	46
Log-likelihood	97.130	93.929	94.549	64.220	96.514	63.127
Pseudo R2	-0.666	-0.611	-0.622	-0.714	-0.655	-0.685

Dependent Variable: The ratio of votes for the anti-China political force in different administrative units

Details of the empirical tests are in Appendix 1: Statistics Sheet

\*p<0.1, \*\*p<0.05, \*\*\*p<0.01

The log likelihood of each of the models is large enough to reflect the observation numbers. The p values of the constant are all under 0.01. The models are in general a fit. The results of the Tobit analysis generally reflect the assertions of the hypotheses, although the level of significance varies. Thus, the study findings suggest two main points. First, hypotheses based on the RFT model (H1 and H2) show mixed results. The SLR (Service Labor Ratio) variable shows that counties and cities with higher service sector concentration tended to support a pro-China political coalition that would assure an open commercial policy toward China. With relatively less significance (p value less than 0.1), the ALR (Agriculture Labor Ratio) variable shows that counties and cities with higher agricultural sector concentration tend to support an anti-China political coalition. On the other hand, the ILR variable does not show enough significance in this test. The present study underscores the assertion that the different sectors inside the industry do make a difference in their overall political stance toward Taiwan's trade policy. For example, high-skilled and low-skilled laborers have different preferences with

regard to national trade policy toward mainland China.

Moreover, the overall results of the new model (H3 and H4) show a consistent and strong correlation. The MR (Manufacture Ratio) variable represents the population of the manufacturing sector inside the industries. These are most likely to be negatively impacted by liberalized cross-strait commerce. The study findings indicate a notable significance (p value less than 0.05) in support of the hypothesis that cities and counties with higher manufacturing sector concentration are more likely to vote for an anti-China political coalition. The variable ALDR (Agriculture Land Ratio) shows a strong correlation (p value less than 0.01) between the negatively-impacted agricultural sectors and their antagonism toward an open trade policy with China; thus, the higher the percentage of agricultural land, the higher the tendency to vote for an anti-China political coalition. Finally, the variable PR shows a moderate significance (p value less than 0.1); cities and counties with higher concentrations of the professional class are less likely to vote for an anti-China political coalition.

In sum, the findings support the main argument of this paper. The RFT model indicates a good direction of possible correlation between Taiwan's trade policy toward China and its domestic political alignment. Moreover, the new model generated by the present study provides more consistent theoretical inferences and more significant statistical results. Overall, in Taiwan, the administrative units with higher manufacturing and agricultural sector concentration and higher ratios of agricultural land tend to support an anti-China political coalition that holds a conservative attitude toward deepening cross-Strait commerce. And, administrative units with a higher service sector concentration and a larger population of professional workers will tend to support a political coalition that advocates an open trade policy with China.

## **Conclusion: Implications**

With the impact of globalization, the relationship between trade and domestic politics is becoming increasingly complicated (Ocampo, 1998: 1523). Future research should examine the more complicated domestic realignments that result from the further integration of commercial relationships across borders.

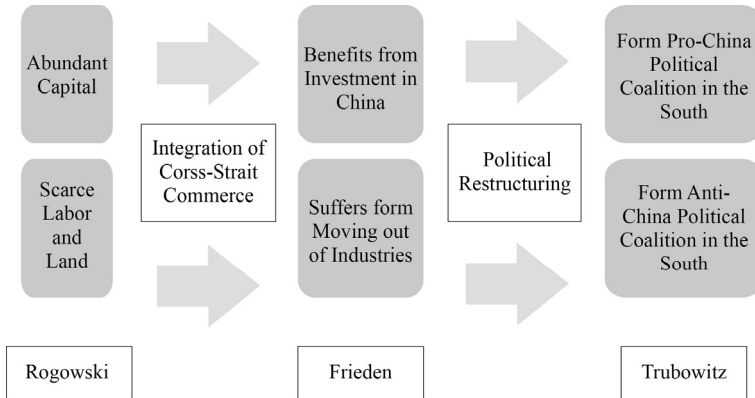
Based on the findings of the empirical tests conducted, this study can shed light on at least one important policy implication. National trade policy has generated winners and losers in globalized economic competition. Citizens mobilize their political influence through interest groups, votes or street riots to alter the result of this global economic competition. Yet, this process can sometimes be destructive to the society at large. Clearly, cross-strait commerce impacts not only economic growth; it also impacts social, political, and economic inequality. Processes of political restructuring—and the ensuing social conflicts, protests, and upheavals they generate—arise in the wake of rapid economic transformation. Addressing these conflicts and smoothening economic development can be accomplished through public policy when it plays a constructive role in facilitating productive competition and when it protects innocent victims and consolidates a more open and plural society.

Paul Samuelson, the founding father of modern trade theory, Mancur Olson Jr., the renowned economist and political scientist, and Dani Rodrik, a well-regarded scholar of globalization, have all argued that the state should intervene to mitigate the negative impacts of free trade and improper trade, especially political confrontations between classes and sectors (Samuelson, 2004: 135-146; Olson, 1996: 3-24; Alesina and Rodrik: 1994, 465-490). Other researchers have noted how trade liberalization has brought overall poverty to politically unstable countries (Winters *et al.*, 2004: 72). Research has suggested that a welfare system is

the remedy to the problem (Rudra, 2002: 411). Indeed, the present study underscores how national trade policies can reshapes domestic politics and engender political confrontation. Future research should focus on government policies with the aim of contributing to an understanding of how to alleviate the negative impacts of free trade policies.



## Figure and Tables



**Figure 1: Rogowski, Frieden and Trubowitz's (RFT) Models in Taiwan's Case**

**Table 1: Propositions and Problems of RFT’s Theory in Taiwan case**

<b>Scholars</b>	<b>Rogowski</b>	<b>Frieden</b>	<b>Trubowitz</b>
<b>Proposition</b>	Capital, labor and land form political coalition based on their loss or gain in international commerce	International capital investment is a very important factor in analyzing commercial policy and political reaction	Conflicts over national policies must be viewed in the context of larger domestic and regional struggles.
<b>Problems</b>	Excessive parsimony in defining the factor endowments neglect the specifics of different economies.	The differences among capital investment, foreign direct investment, moving-out of industries and outsourcing are not stressed.	Simplistic geographical designations are only effective in regions with high homogeneity. Careful selection and definition of the geo units is necessary.
<b>In Taiwan</b>	As an economy depending on foreign trade, most factors favor open trade policy	The nature of investment from Taiwan to China is the moving-out of industries. The accordingly political effect is complicated.	The simplistically defined North and South designations are problematic because the composition of the regions is not homogeneous.

**Table 2: Modifying RFT Model**

<b>Scholars</b>	<b>Proposition</b>	<b>Research Design for Taiwan Case</b>
<b>Midford, Leamer</b>	<b>Specification of Factors</b> Every economy has its spatial-temporal conditions and needs specific categorical endowments. The cross endowments combination such as labor-capital factor or new factor such as innovation can be adopted.	<b>Breakdown of Endowments</b> Capital Factor: Capital(C), High technology(HTC) and traditional industry(TIC) Labor Factor: Professional(PL), Highly-skilled labor(HL) and Low-skilled labor(LL) Land Factor: High profit land(HPL) and less profit land: industrial and agricultural(LPL)
<b>Hiscox, Ladewig</b>	<b>Issue of Mobility</b> A mobile industry is likely to generate rivalry among different endowments and a non-mobile industry is likely to generate rivalry between rich and poor.	<b>Mobility in the Factor Endowments</b> Mobility: C, PL. Rivalry among factors: C-PL Immobility: HTC, TIC, HL, LL, HPL, LPL. Rivalry among classes: HTC-TIC, HL-LL, HPL-LPL
<b>Grossman, Brawley</b>	<b>Detecting Conflicts</b> The degree of mobility depends on the different adjustment cost and the margin created. Therefore, there are conflicts between employer and employee, one factor and another, and one sector and another.	<b>Complexity of Conflicts</b> Mobility/Employer/Rich/Service Capital(C) Professional(PL) Delete HTC Immobility/Employee/Poor/IndAgri Traditional Industry(TIC) Highly and low skilled labor(HLLL) Low profit land(LPL) Delete HPL

**Chart 1: Descriptive Statistics of the Voting Record**

Unit and Year	1996	2000	2004	2008
Taipei	0.7083	0.3673	0.4694	0.3894
Yilan	0.8448	0.4703	0.5771	0.4858
Taoyuan	0.7101	0.3172	0.4468	0.3536
Hsinchu	0.7731	0.2475	0.3594	0.2598
Maioli	0.8057	0.2681	0.3925	0.2901
Taichung	0.7637	0.3651	0.5179	0.4116
Chunghua	0.8176	0.4005	0.5226	0.4241
Nantao	0.4814	0.3449	0.4875	0.3797
Yunlin	0.8546	0.4699	0.6032	0.5153
Chiayi	0.8864	0.4949	0.6279	0.5444
Tainan	0.8752	0.5378	0.6479	0.5615
Kasohsiung	0.8418	0.4714	0.584	0.5141
Pingtung	0.8838	0.4628	0.5811	0.5025
Taitung	0.818	0.232	0.3448	0.2668
Hualien	0.7529	0.2142	0.298	0.2252
Penghu	0.8253	0.3679	0.4947	0.4207
Keelung	0.6798	0.3084	0.4056	0.3227
Hsinchu City	0.6983	0.3379	0.4488	0.353
Taichung City	0.66	0.3686	0.4734	0.3826
Chiayi City	0.8039	0.4701	0.5606	0.4761
Tainan City	0.8043	0.4606	0.5777	0.4929
Taipei City	0.6324	0.3764	0.4347	0.3697
Kaohsiung City	0.7794	0.4579	0.5565	0.4841

\* The ratio is the percentage of votes that DPP candidates gained in the presidential election. The ratio in 1996 is the combination of votes for KMT and DPP candidates because both parties adopted a strong anti-China stance in the campaign due to intense cross-Strait rivalry at the time caused by Beijing's military exercises.

\*\* The model will test 69 cases including 00, 04 and 08. The data for 1996 will be the control variable in the time-series model.

\*\*\* Source: Central Election Commission, Executive Yuan, ROC.

**Chart 2: Descriptive Statistics of the Controlled Variables**

Year and Unit	E(00, 04, 08)	ETH(00, 04, 08)	I(00, 04, 08)	A(00, 04, 08)	PO(00, 04, 08)
Taipei 00	0.2342	0.752	251463	6.37	1
Yilan 00	0.1482	0.848	221787	10.2	1
Taoyuan 00	0.2063	0.517	253976	7.46	1
Hsinchu 00	0.2124	0.259	247438	9.69	1
Maioli 00	0.1492	0.336	201061	10.98	0
Taichung 00	0.187	0.742	208790	7.16	1
Chunghua 00	0.155	0.898	187578	9.42	0
Nantao 00	0.1611	0.829	196614	10.6	1
Yunlin 00	0.1374	0.921	221841	11.61	0
Chiayi 00	0.1248	0.851	205662	12.41	0
Tainan 00	0.172	0.918	200202	10.75	1
Kasohsiung 00	0.1663	0.791	197184	8.35	1
Pingtung 00	0.156	0.699	222350	10	1
Taitung 00	0.0856	0.488	202942	11.27	0
Hualien 00	0.1549	0.462	226182	10.73	0
Penghu 00	0.1898	0.879	228628	14.4	0
Keelung 00	0.2033	0.778	250981	8.81	1
Hsinchu City 00	0.2801	0.678	288539	8.46	1
Taichung City 00	0.3411	0.755	257604	6.49	1
Chiayi City 00	0.3243	0.819	233729	8.67	1
Tainan City 00	0.2913	0.864	234188	7.69	1
Taipei City 00	0.4232	0.679	338190	9.67	0
Kaohsiung City 00	0.2824	0.807	273281	7.16	1
Taipei 04	0.2886	0.752	258607	6.86	1
Yilan 04	0.2048	0.848	207785	11.54	1
Taoyuan 04	0.2608	0.517	260039	7.62	0
Hsinchu 04	0.2573	0.259	240242	10.58	0
Maioli 04	0.1958	0.336	202884	12.19	0
Taichung 04	0.2311	0.742	204780	7.9	0
Chunghua 04	0.201	0.898	206502	10.65	1
Nantao 04	0.2047	0.829	220406	11.96	1
Yunlin 04	0.1751	0.921	200515	13.26	0
Chiayi 04	0.1592	0.851	193479	13.98	1
Tainan 04	0.2123	0.918	208152	11.82	1
Kasohsiung 04	0.21	0.791	214761	9.16	1
Pingtung 04	0.1963	0.699	219940	11.13	1
Taitung 04	0.1241	0.488	203125	12.01	0
Hualien 04	0.2067	0.462	236692	11.41	0

Year and Unit	E(00, 04, 08)	ETH(00, 04, 08)	I(00, 04, 08)	A(00, 04, 08)	PO(00, 04, 08)
Penghu 04	0.2303	0.879	229485	14.78	0
Keelung 04	0.2543	0.778	253161	9.71	0
Hsinchu City 04	0.3559	0.678	328112	8.81	0
Taichung City 04	0.4146	0.755	252330	7.15	0
Chiayi City 04	0.3954	0.819	223909	9.7	1
Tainan City 04	0.3511	0.864	240756	8.46	1
Taipei City 04	0.5013	0.679	380465	10.92	0
Kaohsiung City 04	0.3458	0.807	275576	8.24	1
Taipei 08	0.3472	0.735	285062	7.76	0
Yilan 08	0.2599	0.836	258516	12.83	0
Taoyuan 08	0.3183	0.56	271965	8.05	0
Hsinchu 08	0.3138	0.265	284478	11.2	0
Maioli 08	0.2474	0.367	219287	13.21	0
Taichung 08	0.2786	0.787	220907	8.68	0
Chunghua 08	0.2532	0.884	206670	11.79	0
Nantao 08	0.2504	0.797	212894	13.22	0
Yunlin 08	0.223	0.86	217561	14.73	1
Chiayi 08	0.2048	0.866	228268	15.35	1
Tainan 08	0.2603	0.884	222458	12.75	1
Kasohsiung 08	0.261	0.785	237839	10.11	1
Pingtung 08	0.2425	0.68	223284	12.26	1
Taitung 08	0.1699	0.527	196147	12.93	0
Hualien 08	0.2623	0.438	227134	12.26	0
Penghu 08	0.2734	0.806	244150	14.91	0
Keelung 08	0.3117	0.801	261760	10.77	0
Hsinchu City 08	0.4204	0.674	330721	9.29	0
Taichung City 08	0.4695	0.782	277705	7.92	0
Chiayi City 08	0.4544	0.823	247958	10.64	0
Tainan City 08	0.4027	0.873	273897	9.33	1
Taipei City 08	0.5719	0.694	386340	12.31	0
Kaohsiung City 08	0.4039	0.789	292349	9.57	1

\* E refers to the ratio of citizens over the age of 15 with a college degree or above in different administrative units. ETH refers to Taiwanese (Hoklo) identification ratio (vs. Mainlander, Hakka or Aboriginal groups) in different administrative units. The survey was conducted in 2004 and 2008. Because there was no valid national survey data before 2004, the independent variables for 2000 will be substituted with those of 2004. I refers to the average income in each administrative unit. A is the ratio of the population above 65 years old in different administrative units. PO stands for political orientation and is represented by the mayors' political party affiliation in the administrative unit—1 stands for an anti-China political coalition and 0 for the opposite.

\*\* Sources: E: Department of Statistics, Ministry of The Interior, Executive Yuan, ROC. ETH: National Survey of Ethnic Groups in Taiwan, 2004, 2008, Council for Hakka Affairs, Executive Yuan ROC. I: Directorate General of Budget, Accounting and Statistics, Executive Yuan, ROC. A: Department of Statistics, Ministry of The Interior, Executive Yuan, ROC. PO: Central Election Commission, Executive Yuan, ROC.

**Chart 3: Descriptive Statistics of H1 and H2**

Unit and Year	SLR(00, 04. 08)	ILR(00, 04. 08)	ALR(00, 04. 08)
Taipei 00	0.576	0.4107	0.0133
Yilan 00	0.5465	0.3623	0.0912
Taoyuan 00	0.4611	0.5063	0.0326
Hsinchu 00	0.4181	0.5308	0.0511
Maioli 00	0.4154	0.4756	0.109
Taichung 00	0.4279	0.4946	0.0775
Chunghua 00	0.3999	0.4477	0.1524
Nantao 00	0.485	0.3081	0.2069
Yunlin 00	0.4088	0.3382	0.2529
Chiayi 00	0.3789	0.3137	0.3074
Tainan 00	0.4212	0.4393	0.1394
Kasohsiung 00	0.4956	0.397	0.1073
Pingtung 00	0.4824	0.2883	0.2293
Taitung 00	0.4582	0.2606	0.2812
Hualien 00	0.6058	0.2643	0.13
Penghu 00	0.7448	0.1927	0.0626
Keelung 00	0.7031	0.2833	0.0136
Hsinchu City 00	0.539	0.4428	0.0182
Taichung City 00	0.713	0.2757	0.0113
Chiayi City 00	0.7027	0.2648	0.0325
Tainan City 00	0.5941	0.3846	0.0212
Taipei City 00	0.7886	0.2086	0.0027
Kaohsiung City 00	0.6653	0.3194	0.0153
Taipei 04	0.6142	0.3774	0.0084
Yilan 04	0.5665	0.3432	0.0902
Taoyuan 04	0.5058	0.4735	0.0207
Hsinchu 04	0.4735	0.4878	0.0387
Maioli 04	0.4587	0.4537	0.0876
Taichung 04	0.4705	0.4721	0.0574
Chunghua 04	0.4319	0.4498	0.1184
Nantao 04	0.5369	0.2624	0.2007
Yunlin 04	0.4601	0.3027	0.2372
Chiayi 04	0.4305	0.3008	0.2688
Tainan 04	0.4383	0.4281	0.1336
Kasohsiung 04	0.5144	0.3844	0.1012
Pingtung 04	0.5255	0.2693	0.2052
Taitung 04	0.5301	0.2204	0.2496

Unit and Year	SLR(00, 04. 08)	ILR(00, 04. 08)	ALR(00, 04. 08)
Hualien 04	0.6478	0.2382	0.114
Penghu 04	0.735	0.1837	0.0813
Keelung 04	0.7064	0.2884	0.0053
Hsinchu City 04	0.5857	0.4032	0.0111
Taichung City 04	0.7234	0.2655	0.0112
Chiayi City 04	0.7521	0.2314	0.0165
Tainan City 04	0.6289	0.3511	0.02
Taipei City 04	0.8045	0.193	0.0025
Kaohsiung City 04	0.6778	0.3129	0.0093
Taipei 08	0.6168	0.3776	0.0056
Yilan 08	0.6017	0.3281	0.0703
Taoyuan 08	0.5131	0.4732	0.0137
Hsinchu 08	0.4652	0.5076	0.0272
Maioli 08	0.4766	0.4724	0.051
Taichung 08	0.4609	0.4958	0.0432
Chunghua 08	0.4249	0.4739	0.1012
Nantao 08	0.5228	0.2862	0.191
Yunlin 08	0.4578	0.3315	0.2107
Chiayi 08	0.4466	0.3469	0.2065
Tainan 08	0.4381	0.4608	0.1011
Kasohsiung 08	0.4982	0.4329	0.0689
Pingtung 08	0.5146	0.3144	0.171
Taitung 08	0.5492	0.2221	0.2287
Hualien 08	0.6578	0.2497	0.0925
Penghu 08	0.7131	0.2195	0.0674
Keelung 08	0.6925	0.3001	0.0074
Hsinchu City 08	0.5712	0.4214	0.0074
Taichung City 08	0.7002	0.2926	0.0073
Chiayi City 08	0.7196	0.269	0.0114
Tainan City 08	0.6003	0.3859	0.0138
Taipei City 08	0.8098	0.1879	0.0023
Kaohsiung City 08	0.684	0.3073	0.0087

\* SLR refers to the ratio of the population in the service sector to the total population. ILR is the ratio of population in the industrial sector to the total population. ALR is the ratio of population in the agricultural sector to the total population.

\*\*Source: Department of Statistics, Ministry of The Interior, Executive Yuan, ROC



**Chart 4: Descriptive Statistics of H3 and H4**

Unit and Year	ALDR(00, 04. 08)	Unit and Year	MR(01, 06)	PR(01, 06)
Taipei 00	16.71	Taipei 01	0.479588	0.047092
Yilan 00	12.94	Yilan 01	0.298063	0.055065
Taoyuan 00	32.87	Taoyuan 01	0.551441	0.037904
Hsinchu 00	21	Hsinchu 01	0.628642	0.029596
Maioli 00	19.27	Maioli 01	0.455147	0.045412
Taichung 00	25.78	Taichung 01	0.571492	0.044701
Chunghua 00	60.8	Chunghua 01	0.5649	0.04095
Nantao 00	16.02	Nantao 01	0.313759	0.053607
Yunlin 00	65.27	Yunlin 01	0.367189	0.051838
Chiayi 00	40.43	Chiayi 01	0.498781	0.030074
Tainan 00	46.62	Tainan 01	0.59458	0.03407
Kasohsiung 00	18.56	Kasohsiung 01	0.45702	0.044877
Pingtung 00	27.58	Pingtung 01	0.223631	0.063335
Taitung 00	13.57	Taitung 01	0.071941	0.077318
Hualien 00	9.93	Hualien 01	0.151403	0.076707
Penghu 00	43.65	Penghu 01	0.041326	0.066522
Keelung 00	5.57	Keelung 01	0.157746	0.054721
Hsinchu City 00	25.67	Hsinchu City 01	0.526828	0.060326
Taichung City 00	23.83	Taichung City 01	0.197538	0.18134
Chiayi City 00	42.48	Chiayi City 01	0.146857	0.106601
Tainan City 00	19.49	Tainan City 01	0.286881	0.086248
Taipei City 00	12.51	Taipei City 01	0.138176	0.160913
Kaohsiung City 00	5.96	Kaohsiung City 01	0.251535	0.097422
Taipei 04	16.55	Taipei 06	0.417386	0.061882
Yilan 04	12.76	Yilan 06	0.268284	0.057567
Taoyuan 04	31.83	Taoyuan 06	0.548579	0.043661
Hsinchu 04	20.81	Hsinchu 06	0.625583	0.036265
Maioli 04	18.82	Maioli 06	0.463409	0.044913
Taichung 04	24.59	Taichung 06	0.572926	0.030056
Chunghua 04	59.88	Chunghua 06	0.548266	0.041846
Nantao 04	16.24	Nantao 06	0.338101	0.051672
Yunlin 04	62.81	Yunlin 06	0.391818	0.053232
Chiayi 04	39.56	Chiayi 06	0.445385	0.03526
Tainan 04	46.04	Tainan 06	0.588213	0.034392
Kasohsiung 04	17.92	Kasohsiung 06	0.4457	0.036784
Pingtung 04	26.93	Pingtung 06	0.224159	0.06409
Taitung 04	13.57	Taitung 06	0.063555	0.068275
Hualien 04	10.01	Hualien 06	0.12229	0.074691
Penghu 04	45.53	Penghu 06	0.045301	0.062298

Unit and Year	ALDR(00, 04, 08)	Unit and Year	MR(01, 06)	PR(01, 06)
Keelung 04	5.54	Keelung 06	0.130274	0.054117
Hsinchu City 04	24.93	Hsinchu City 06	0.54177	0.057068
Taichung City 04	18.41	Taichung City 06	0.218965	0.112751
Chiayi City 04	42.22	Chiayi City 06	0.124083	0.107705
Tainan City 04	18.7	Tainan City 06	0.278128	0.087568
Taipei City 04	12.48	Taipei City 06	0.104973	0.203952
Kaohsiung City 04	3.67	Kaohsiung City 06	0.238721	0.089267
Taipei 08	15.46			
Yilan 08	12.7			
Taoyuan 08	30.66			
Hsinchu 08	20.46			
Maioli 08	18.66			
Taichung 08	24.1			
Chunghua 08	59.22			
Nantao 08	16.01			
Yunlin 08	62.6			
Chiayi 08	39.09			
Tainan 08	45.54			
Kasohsiung 08	17.82			
Pingtung 08	26.17			
Taitung 08	13.66			
Hualien 08	9.85			
Penghu 08	44.78			
Keelung 08	5.54			
Hsinchu City 08	24.08			
Taichung City 08	18.28			
Chiayi City 08	34.5			
Tainan City 08	18.16			
Taipei City 08	12.18			
Kaohsiung City 08	3.47			

\* ALDR refers to the ratio of agricultural land to total land. MR is the ratio of population in the manufacturing industrial sector (製造業) to the total working population. PR is the ratio of population in the financial sector, insurance companies, real estate and professional services sectors (金融保險不動產與專業科學技術) to the total working population. The data of the latter two variables were only available in 2001 and 2006. Therefore, the empirical test adjusts to the sample number of 46, and the control and dependent variables shift to the years 2000 and 2004.

\*\*Source: Department of Statistics, Ministry of The Interior, Executive Yuan, ROC, Directorate General of Budget, Accounting and Statistics, Executive Yuan, ROC

**Table 3: Tobit Regression Analysis of Trade Policy and Domestic Political Alignment**

Hypothesis	H1	H2		H3		H4
Independent Variables	SLR	ILR	ALR	MR	ALDR	PR
Coef.	-0.264*** (0.087)	0.129 (0.085)	0.251* (0.132)	0.127** (0.051)	0.002*** (0.000)	-0.738* (0.383)
Constant	0.352*** (0.069)	0.225*** (0.083)	0.233*** (0.076)	0.318*** (0.088)	0.250*** (0.068)	0.360*** (0.086)
Number of Obs	69	69	69	46	69	46
Log-likelihood	97.130	93.929	94.549	64.220	96.514	63.127
Pseudo R2	-0.666	-0.611	-0.622	-0.714	-0.655	-0.685

Dependent Variable: The ratio of votes for the anti-China political party or coalition in different administrative units.

Details of the empirical tests is in Appendix 1: Statistics Sheet

\*p<0.1, \*\*p<0.05, \*\*\*p<0.01

## Appendix 1: Statistics Sheet

. tobit pv pvt1 po ed i tr slr, ll(0) ul(1)

Tobit regression		Number of obs	=	69
		LR chi2(6)	=	77.65
		Prob > chi2	=	0.0000
Log likelihood = 97.130151		Pseudo R2	=	-0.6659

pv	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
pvt1	-.1746077	.0450673	-3.87	0.000	-.2646675	-.0845478
po	.0601017	.016047	3.75	0.000	.0280344	.092169
ed	.2349847	.1465588	1.60	0.114	-.0578897	.5278592
i	-2.62e-07	3.24e-07	-0.81	0.421	-9.10e-07	3.85e-07
tr	.4108102	.0474682	8.65	0.000	.3159527	.5056678
slr	-.2641312	.0869607	-3.04	0.003	-.4379082	-.0903542
_cons	.3518271	.0685406	5.13	0.000	.2148597	.4887945
/sigma	.0592125	.0050405			.0491399	.0692852

Obs. summary:      0 left-censored observations  
                      69 uncensored observations  
                      0 right-censored observations

. tobit pv pvt1 po ed i tr ilr, ll(0) ul(1)

Tobit regression		Number of obs	=	69
		LR chi2(6)	=	71.25
		Prob > chi2	=	0.0000
Log likelihood = 93.929467		Pseudo R2	=	-0.6110

pv	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
pvt1	-.1723048	.0473766	-3.64	0.001	-.2669795	-.0776302
po	.0593218	.0170819	3.47	0.001	.0251863	.0934572
ed	.0847109	.14589	0.58	0.564	-.206827	.3762487
i	-3.75e-07	3.37e-07	-1.12	0.269	-1.05e-06	2.97e-07
tr	.4086921	.0517193	7.90	0.000	.3053394	.5120448
ilr	.1291181	.0852332	1.51	0.135	-.0412069	.2994431
_cons	.2253529	.0830212	2.71	0.009	.0594483	.3912575
/sigma	.0620239	.0052796			.0514735	.0725744

Obs. summary:      0 left-censored observations  
                      69 uncensored observations  
                      0 right-censored observations

```
. tobit pv pvt1 po ed i tr a1r, ll(0) ul(1)
```

```
Tobit regression                Number of obs =      69
                               LR chi2(6) =      72.49
                               Prob > chi2 =      0.0000
Log likelihood = 94.548677      Pseudo R2 =      -0.6217
```

	pv	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
	pvt1	-.1581687	.0467536	-3.38	0.001	-.2515983 -.064739
	po	.07031	.0168765	4.17	0.000	.0365851 .1040349
	ed	.2478633	.1654505	1.50	0.139	-.0827631 .5784896
	i	-3.97e-07	3.32e-07	-1.20	0.236	-1.06e-06 2.66e-07
	tr	.3586379	.0499461	7.18	0.000	.2588286 .4584472
	a1r	.2506038	.1323383	1.89	0.063	-.0138533 .5150608
	_cons	.2337059	.0757542	3.09	0.003	.0823231 .3850887
	/sigma	.0614698	.0052327			.0510132 .0719264

```
Obs. summary:      0 left-censored observations
                   69 uncensored observations
                   0 right-censored observations
```

```
. tobit pv pvt1 po ed i tr ALDR, ll(0) ul(1)
```

```
Tobit regression                Number of obs =      69
                               LR chi2(6) =      76.42
                               Prob > chi2 =      0.0000
Log likelihood = 96.514258      Pseudo R2 =      -0.6554
```

	pv	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
	pvt1	-.1844778	.0459165	-4.02	0.000	-.2762346 -.092721
	po	.0759822	.0166419	4.57	0.000	.042726 .1092384
	ed	.0829941	.1404394	0.59	0.557	-.1976516 .3636398
	i	-2.19e-07	3.31e-07	-0.66	0.511	-8.80e-07 4.43e-07
	tr	.3290221	.0507069	6.49	0.000	.2276924 .4303518
	ALDR	.0015277	.0005456	2.80	0.007	.0004375 .0026179
	_cons	.2499768	.0684636	3.65	0.001	.1131633 .3867903
	/sigma	.0597434	.0050856			.0495807 .0699062

```
Obs. summary:      0 left-censored observations
                   69 uncensored observations
                   0 right-censored observations
```

```
. tobit PV1 PVT1 ED1 INC1 TIR1 PO1 MR1, ll(0) ul(1)
```

Tobit regression Number of obs = 46  
 LR chi2(6) = 53.50  
 Prob > chi2 = 0.0000  
 Log likelihood = 64.220667 Pseudo R2 = -0.7140

PV1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
PVT1	-.1731644	.0477935	-3.62	0.001	-.2697587	-.0765701
ED1	.3655027	.1862668	1.96	0.057	-.0109566	.741962
INC1	-8.70e-07	4.04e-07	-2.15	0.038	-1.69e-06	-5.28e-08
TIR1	.3975663	.0556462	7.14	0.000	.285101	.5100315
PO1	.0186735	.0202703	0.92	0.362	-.0222944	.0596414
MR1	.1268717	.0512213	2.48	0.018	.0233495	.2303939
_cons	.3181449	.0881421	3.61	0.001	.1400031	.4962867
/sigma	.0599023	.0062452			.0472803	.0725244

Obs. summary: 0 left-censored observations  
 46 uncensored observations  
 0 right-censored observations

```
. tobit PV1 PVT1 ED1 INC1 TIR1 PO1 PR1, ll(0) ul(1)
```

Tobit regression Number of obs = 46  
 LR chi2(6) = 51.32  
 Prob > chi2 = 0.0000  
 Log likelihood = 63.12654 Pseudo R2 = -0.6848

PV1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
PVT1	-.1433787	.0515233	-2.78	0.008	-.2475113	-.0392462
ED1	.5590403	.2249769	2.48	0.017	.104345	1.013736
INC1	-8.63e-07	4.15e-07	-2.08	0.044	-1.70e-06	-2.52e-08
TIR1	.3762184	.0561687	6.70	0.000	.2626971	.4897396
PO1	.0211402	.0207267	1.02	0.314	-.0207501	.0630305
PR1	-.7378035	.3828621	-1.93	0.061	-1.511597	.0359898
_cons	.3604524	.0863986	4.17	0.000	.1858343	.5350705
/sigma	.0613442	.0063945			.0484204	.074268

Obs. summary: 0 left-censored observations  
 46 uncensored observations  
 0 right-censored observations

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# 再審羅哥斯基模式：

## 台灣的貿易政策與國內政治結盟 1996-2008

賴文儀\*

### 摘 要

2008 國民黨執政之後，兩岸政治經濟關係獲得長足發展，2010 年簽訂兩岸經濟合作架構協議之後，代表了兩岸在政經合作上的里程碑。然而，在之後不斷的學界辯論、反對黨杯葛以及街頭抗議之中，我們亟需重新審視國家貿易政策與國內政治結盟之間的複雜關係，以釐清經濟政策是否得以實施、是否產生正向效果的假設。

本文章以實證方法分析經濟自由化對於國內政治結盟產生的影響，經過一連串的統計方法檢證之後，本研究提供對於後續台灣貿易政策的建議，並且討論國內政治結盟對於貿易政策制定的關鍵地位，全文主要論點為，若是貿易政策無法妥善處理因為自由化而受害的經濟族群，則其政治阻力將超越經濟考量，狀似不合理，其實是政經互動的必然現象。

關鍵字：羅哥斯基模式、兩岸經濟合作架構協議、兩岸關係、貿易政策

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\* 文藻外語大學國際事務系副教授，E-mail: markjrlai@hotmail.com。

