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Exploring Solutions for the Trade Barriers in Taiwan

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Abstract

Due to the recent global economic depression, especially the US subprime mortgage crisis in 2008 and the European sovereign debt default in 2016, Taiwan's economy was threatened. Exports and imports were declined after the worldwide economic fluctuations, the trade in Taiwan was weakened. In this paper, we attempt to determine the cause of threats to trade and the main trade barrier in Taiwan. We examine several possible solutions for trade barriers in Taiwan via the Delphi technique and the Analytic Hierarchy Process, synthesizing judgements from experts. We aimed at exploring solutions for the trade barriers in Taiwan. We concluded that there are three main elements to eliminate trade barriers and increase the development and competitiveness of products in Taiwan, which we label separately, "The Solution Mechanism for Disputes with the WTO," "Bilateral trade negotiations," and "Market commodity development." The empirical results point out that lessening trade obligations through bilateral consultancy is the predominant main criteria, and producing products that meet national inspection standards and negotiating unreasonable trade requirements between countries through the WTO are important sub-criteria. Most notably, bilateral trade negotiations and negotiating unreasonable trade requirements between countries through the WTO correspond with trade policies implemented by many countries.

JEL classification numbers: C02, F13, F14, F15.
Keywords: Trade barriers, Bilateral trade negotiations.

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1. Introduction

Taiwan relies heavily on international trade. However, the U.S. subprime mortgage crisis in 2008 and the European debt financial crisis in 2011 put the worldwide economy in danger and further formed more obstacles to international trade in Taiwan due to conservative governance policies. Figure 1 illustrates the import and export volume trends in Taiwan from 2004-2017. It can be seen that exports and imports were declined after the US subprime mortgage crisis in 2008 and the European sovereign debt default in 2016. The trade in Taiwan was weakened by worldwide economic fluctuations. In this paper, we attempt to determine the cause of threats to trade in Taiwan and the main trade barrier in Taiwan.

Trade barriers in Taiwan include both tariff barriers and non-tariff barriers[3]. A tariff barrier is a tax on imports, restricting increases in selling price for domestic markets and lowering the competitiveness of imports. A non-tariff barrier interferes with proper allocations of resources worldwide, shrinking the international trade volume and lowering real GDP (Antras and Staiger, 2012; ITC, 2016; Staiger, 2012).

Up to the present time, there have been no definite laws or rules followed by each country, and many more new non-tariff trade barriers have appeared, for example, technical obstacles, green obstacles, and social obstacles. These new trade barriers are not only border measures, but also involve interior policies and rules. As a result, there have lots of problems in Taiwan's international trade, resulting in shrinking of both imports and exports in Taiwan.

Synthesizing expert opinions, we concluded that there are three main elements to eliminate trade barriers and increase the development and competitiveness of products in Taiwan, which we label separately, "The Solution Mechanism for Disputes with the WTO," "Bilateral trade negotiations," and "Market commodity development."

Through the use of the analytic hierarchy process (hereafter, the AHP) and the Delphi technique, used to extract weights and the relative importance of the causes, we expect to determine the most prominent factors that contribute to the trade barriers in Taiwan.

[3] Tariff obstacle includes "Tariff Peaks," "Tariff Escalation,"" Tariff Quotas," "Specific Duty "and "Ad Valorem Duty." Non-tariff obstacles include" Administrative intervention and interference by government,"" Tariff assessment and administrative procedures,"" Identification of various specifications, standards, and certificates," and "Special restrictions on import and export and import and export restrictions based on price function."

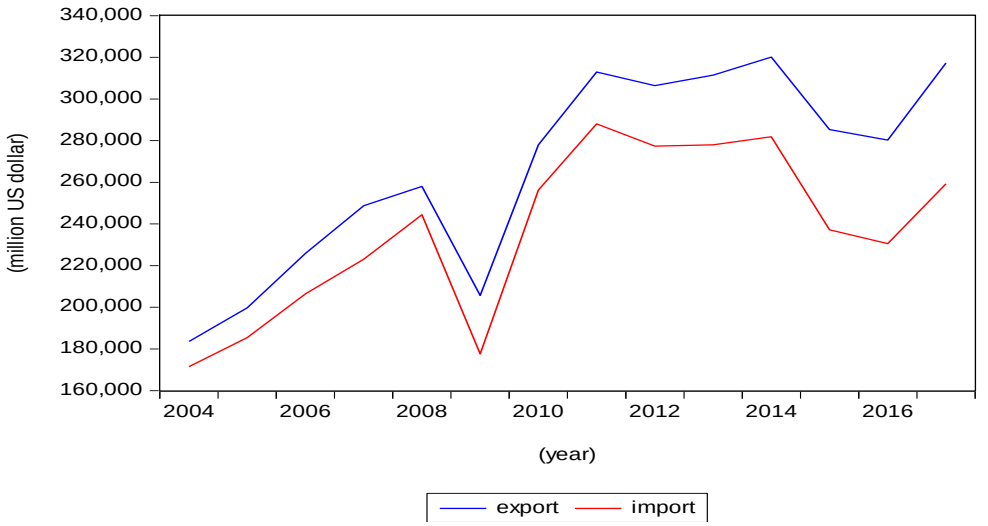

Figure 1: The Export and Import in Taiwan (2004-2017)
(Source: Ministry of Finance, R.O.C.)

2. Literature Review

According to Ministry of Economic Affairs, R.O.C. (2002,2016), generally speaking, the main trade barriers in Taiwan are, separately "anti-dumping," "trade-relief," and "technical barriers to trade."

1. Anti-dumping is a protection tariff that a domestic government imposes on foreign imports believed to be priced at unfair market values. This economic measure is aimed at eliminating unfair trade behavior. However, regulations for anti-dumping do not always meet the principle of fairness and transparency of trade policy, and turn out to be trade barriers. Anderson and Wincoop (2004), Aghion et al.(2007), Limao and Tovar(2011) and Maggi and Rodriguez-Clare (1998) figured out the efficient solutions of anti-dumping, which are "Responding to dumping complaints" and "Lessening trade obligations through bilateral consultancy."
2. Trade-relief comprises protection measures adopted by governments intended to protect domestic industries against threats imposed by foreign goods priced at lower prices than domestic goods based on damage from such behavior to Taiwan's economy.
3. Technical barriers to trade are executive technical rules set by import countries that are unreasonable limitations to importing and create entering interruptions.

There is also uncertainty in the exporting trade and various developmental issues between countries that make identification and enforcement different, which are the so-called technical barriers to trade. Antras and Staiger (2012), Staiger (2012) and WTO Secretariat (2017) recommended solutions of technical barriers to trade, that's "Dispute settlement by the WTO" and "Producing products that meeting national inspection standards."

Apart from those solutions, Aghion et al. (2007) and Bagwell and Staiger (2010,

2011) also proposed some suggestions for eliminating trade barriers, which are "Enhancing the international competitiveness of products," "Promoting cross-border industrial cooperation," "Actively responding to trade information from other countries," "Trade Policy Review Mechanism (TPRM)," and "Negotiating through the WTO."

As mentioned above, based on the literature, we summarize the main nine solutions for eliminating trade barriers, that's "Negotiating through the WTO,"" Trade Policy Review Mechanism (TPRM),"" Dispute settlement by the WTO,"" Actively responding to trade information from other countries,"" Responding to dumping complaints,"" Lessening trade obligations through bilateral consultancy,"" Producing products that meeting national inspection standards,"" Enhancing the international competitiveness of products," and " Promoting cross-border industrial cooperation." They could be further classified into three goals for trade barriers in Taiwan, which are labeled, separately, "The Solution Mechanism for Disputes with the WTO," "Bilateral trade negotiations," and "Market commodity development," shown in Table 1.

Table 1: Solutions for eliminating trade barriers

Goal	Option	Reference
The Solution Mechanism for Disputes with the WTO	Negotiating through the WTO	[3],[4],[5]
	Trade Policy Review Mechanism (TPRM)	
	Dispute settlement by the WTO	[23]
Bilateral trade negotiations	Actively responding to trade information from other countries	[23]
	Responding to dumping complaints	[3]
	Lessening trade obligations through bilateral consultancy	[1],[9], [11]
Market commodity development	Producing products that meeting national inspection standards	[2],[21]
	Enhancing the international competitiveness of products	[2],[21]
	Promoting cross-border industrial cooperation	[3]

2.1 The Solution Mechanism for Disputes with the WTO

"Negotiating through the WTO" and "the Trade Policy Review Mechanism (TPRM)" are regarded as WTO dispute settlements intended to remove or lower trade interruptions through cooperation, multilateral trade negotiations, and fair

settlement of trade debates among member countries. They also develop rules for management of product safety intended to maintain the security of member countries. Based on global trade liberalization, the WTO offers member countries security management and also sets rules to prevent violations of trade fairness at the same time. Member countries can control the safety of products through these trade measures, which have no limitations and make it easy to get into trade disputes. When market institutions or manpower intervention are involved, industries with weak constitutions are more easily eliminated, with further damages the trade benefits and economic environment of a country (Aghion et al., 2007; Bagwell and Staiger, 2010, 2011).

WTO Secretariat (2017) also places stress on dispute settlement by the WTO. Before 2006, the WTO supported the Doha Round Multilateral Negotiations. However, due to the slow progress of the Doha Round Multilateral Negotiations, the WTO began to aim at eliminating tariffs on goods and opening trade markets, the removal of supervisory control of and entrance measures imposed on the service trade market, the quarantine of commodities and foods, and investment and intellectual property rights. These so-called non-tariff domestic obstacles should aim at extracting non-tariff barriers, service trade liberalization, lowering investment obstacles, and strengthening the transparency of the regulatory system. Hence, it is important to analyze solution mechanisms for disputes with the WTO both theoretically and empirically.

We treat "Negotiating through the WTO,"" Trade Policy Review Mechanism (TPRM)," and "Dispute settlement by the WTO" as sub-criteria for "The Solution Mechanism for Disputes with the WTO."

2.2 Bilateral trade negotiations

The WTO provides a secure, stable international trade environment and effectively presents international trade information. Dispute settlement by the WTO helps exclude trade friction, provides equal reciprocal status under the law, establishes communication channels, and in addition, supports effective forecasting of future trends in trade and investment among member countries. Hence, actively determining each country's economic and trade information is important and enables each country to get a fairer, more reasonable, and more secure situation by which to compete with other countries (WTO Secretariat, 2017).

Anti-dumping is a legal trade protection measure; whose purpose is to protect the rights of countries. When a country encounters trade obstacles and faces an anti-dumping investigation, the country's benefits can be protected through active responses (Aghion et al., 2007).

Several measures and government support mechanisms can be used to make contact with the appropriate authorities, thus maintaining the information channel effectively. Hence, responding to dumping complaints is important.

When met with huge trade obstacles, Taiwan needs to modify domestic rules or trade barriers through bilateral consultation. Some countries thus far engage in

routine bilateral consultations in which they can communicate and technically support each other (Anderson and Wincoop, 2004; Limao and Tovar, 2011; Maggi, and Rodriguez-Clare, 1998).

Taking the trade negotiations between countries, Taiwan proposes its objectives through negotiations, which are, separately, labeled as "Tariff concessions," "Non-tariff barriers exclusion," and "Service market development." These negotiations are expected to lower trade obligations and help countries effectively cooperate with each other through bilateral consultancy. Hence, lessening trade obligations through bilateral consultancy is important.

We thus treat "Actively responding to trade information from other countries," "Responding to dumping complaints," and "Lessening trade obligations through bilateral consultancy" as sub-criteria for "Bilateral trade negotiations."

2.3 Market commodity development

Market commodity development is aimed toward resolving technical trade obligations in the non-tariff category. The proposed solution is producing products that meet national inspection standards. Conformity certifications cover system certification and certified products, and so far, advanced countries have their own inspection standards for international trade, where each country can get a certification mark through a standard inspection process (Antras and Staiger, 2012; Staiger,2012).

The second method to remove trade barriers is enhancing the international competitiveness of products. In the past, governments and enterprises have put a lot of effort into industry R&D, promotion of upgrades in traditional industries, improving corporate image, enhancing international competitiveness, and providing high quality merchandise and services to consumers. Since the accession of the WTO, the resulting enormous market and business opportunities have triggered increases in domestic and foreign investment, technology, the transforming of traditional industries, acceleration of the progress of high-tech industries and service industries, and increases in Taiwan's international competitiveness. The government and enterprises ought to grasp these chances by actively increasing R&D in new products and technology and by making full use of the international superiority of Taiwan's industries (Antras and Staiger, 2012; Staiger,2012).

The third method to overcome trade barriers is promoting cross-border industrial cooperation. Enterprises can eliminate the trade obstacles and exchange information in alliance with other similar industries or through cross-industry cooperation, thus better understanding the pulse of international business and the acquisition of business information between industries (Aghion et al., 2007).

We thus treat "Producing products that meet national inspection standards," "Enhancing the international competitiveness of products," and "Promoting cross-border industrial cooperation" as sub-criteria for market commodity development.

3. Empirical Methods

Our procedure follows two stages. In the first stage, the Delphi technique is applied to choose the initial criteria combined with the judgements of experts to determine methods for eliminating trade barriers in Taiwan. In the second stage, we use the analyses from the first stage as a foundation for the AHP to extract the weights of the criteria.

3.1 First Stage: The Delphi Technique

The Delphi technique is a communication method, an interactive forecasting method relying on experts' answers to questionnaires. It is suitable for backgrounds with insufficient information and uncertain circumstances, which couldn't do forecast in quantitative research method (Linstone and Turoff, 1975; Mai, 1981). The facilitator designs a questionnaire that is sent to a group of experts, and the results are summarized after the questionnaires are returned. Then, the facilitator develops a new questionnaire for a respondent group based on the results, and the experts then fill out questionnaires in two or more rounds. A communication process is structured, and the process is effective in allowing experts to revise their earlier answers based on the replies of others in this group.

The facilitator provides an anonymized summary of the experts' forecasts from the previous round at each round. During this process, the number of answers will decrease, and the experts will converge towards the "correct" answer. After a predefined stop criterion, the process is stopped, and the mean scores of the final rounds determine the results.

3.2 Second Stage: The Analytic Hierarchy Process (AHP)

The AHP measures priority scales through pairwise comparisons and relies on the judgements of experts. Because the AHP is used to evaluate the weights of each criterion, the results of the questionnaires can depend on priority scales to extract which important criterion is dominant over another with respect to a given attribute. The alternatives of a decision are ranked according to many criteria and sub-criteria. Because the criteria may be intangible, it might be not easy to weigh the priorities of alternatives to obtain their rankings. The design of the questionnaires can be accomplished through pairwise comparisons for the convenience of calculating weights, and the consistency can also be tested. Hence, the foundation of the second stage is the AHP.

If decision making involves many intangibles, then we measure using pairwise comparisons and judgements from experts to derive priority scales. The scales measure intangibles in relative terms through a scale of absolute judgements by comparing one criterion to another, with respect to a given attribute.

Because the judgements may be inconsistent, it is important to measure inconsistencies and improve the judgements. The relative importance between two criteria is numerically scaled from 1 to 9, where those located in a range from 5 to 9 are considered to be the proper results (Miller, 1965). The relative scores for the

criteria in this study are shown in Table 2.

Table 2: Relative Scores

Value	Interpretation	Value of a_{jk}
1	Equal Importance	(1,1,2)
2	Between	(1,2,3)
3	Weak Importance	(2,3,4)
4	Between	(3,4,5)
5	Essential Importance	(4,5,6)
6	Between	(5,6,7)
7	Very Strong Importance	(6,7,8)
8	Between	(7,8,9)
9	Absolute Importance	(8,9,9)

(Source: Miller, 1965)

The evaluation procedures for eliminating the trade barriers in Taiwan are as follows:

Step 1: *Checking consistency*
When pairwise comparisons are made, inconsistencies may easily occur. Therefore, it is necessary to check consistency via a consistency index (C.I.). Saaty (1980) proposed checking consistency using a consistency index (C.I.) and a consistency ratio (C.R.), where the consistency index is defined as follows:

$$CI = (\lambda_{\max}^{K} - N)/(N-1) \quad (1)$$

CI: Consistency Index
$\lambda_{\max}^{K}$: the maximum eigenvalue of Matrix $\tilde{A}$
N : the number of evaluation criteria considered

In a random index (RI), the consistency index of a randomly generated reciprocal matrix ranging from 1 to 9 with reciprocals forced for each matrix size. Table 3 provides the values of the random index. If the consistency ratio is $C.R. = C.I./R.I.$, where C.R.<0.1 indicates tolerable inconsistencies, a reliable result may be expected from the AHP. Otherwise, it should be revised and adjusted accordingly.

Table 3: Random Index

Matrix order	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RI.	0	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.59

(Source: Satty,1990)

Step 2: *Hierarchy structuring*
The hierarchy is structured with the decision goal at the top, followed by the intermediate levels to the lowest level, with the objectives being derived from a broad perspective. To get a perfectly consistent comparison judgment and perform a pairwise comparison more easily, there should be fewer than 7 elements in each level.

Step 3: *Design an answer questionnaire for experts*
We designed the questionnaires as a pairwise comparison by synthesizing the responses from the experts to form a pairwise comparison matrix.

Step 4: *Form a square pair-wise comparison matrix,*

$$\tilde{A} = [a_{ij}] \tag{2}$$

Synthesize pair-wise comparison responses to form a square pair-wise comparison matrix, where $\tilde{A}$. $\tilde{A}$ is positive and is a reciprocal if the paired comparison judgment is perfectly consistent. That is,

$$\tilde{a}_{ij} = \frac{1}{\tilde{a}_{ji}}, \forall i, j = 1,2,..., n \tag{3}$$

In matrix $\tilde{A}$, each entry a_{ij} represents the importance of the ith criterion relative to the jth criterion. If $a_{ij} < 1$, then the ith criterion is less important than the jth criterion; otherwise, the ith criterion is more important than the jth criterion if $a_{ij} > 1$.
$a_{ij} = 1$ if two criteria have the same importance.
$\tilde{A} = [a_{ij}]$, $\tilde{A}$: a square pair-wise comparison matrix,

$$\tilde{a}_{ij} = (l_{ij}, m_{ij}, u_{ij}) \tag{4}$$

Step 5: *Synthesize judgements*
The geometrical mean average method is used to synthesize the judgements by the experts, for which the equation is as follows:

$$\tilde{a}_{ij} = (\tilde{a}_{ij}^{1} \otimes \tilde{a}_{ij}^{2} \otimes .... \otimes \tilde{a}_{ij}^{n})^{\frac{1}{n}} \quad (5)$$

$\tilde{a}_{ij}^{\ n}$:"judgement of $\tilde{a}_{ij}$ " from the Nth expert

Step 6: *Computing the vector of criteria weights*
We use the geometrical mean average method to weight the criteria. In this way, we can also obtain normalization.

$$r_i = (\tilde{a}_{i1} \otimes \tilde{a}_{i2} \otimes .... \otimes \tilde{a}_{in})^{\frac{1}{n}} \quad (6)$$

$$\tilde{w}_i = r_i \otimes (r_1 \oplus r_2 \oplus ... \oplus r_n)^{-1} \quad (7)$$

r_i : geometrical mean in matrix $\tilde{A}$

$\tilde{w}_i$: weights of each row in the reciprocal matrix

Step 7: *Eliminate intangibles*
To optimize each criterion, we must eliminate intangibles. The advantage of adopting is objectivity, where the experts' preferences can be ignored.

$$DF_{ij} = \frac{a+b+c}{3} \quad (8)$$

a, b, and c: are the upper value u_{ij} , middle value m_{ij} , and lower value l_{ij} , respectively.

Step 8: *Normalization*
To compare the importance of various criteria, we normalize the weights.

$$NW_i = \frac{DF_{ij}}{\sum DF_{ij}} \quad (9)$$

Step 9: *The final priorities*
Then, use the priorities obtained from the comparisons to weigh the criteria in the level immediately below. Do this for each element in the level below, and add its

weight to obtain this overall priority. By continuing to weigh and add in this manner, we can obtain the final priorities of the alternatives in the bottom level.
From steps 1 to 8, we get NW_i and NW_{ij}, and the final priorities of the alternatives in the bottom level, as follows:

$$NW_i = NW_i \times NW_{ij} \tag{10}$$

4. Empirical Methods

4.1 Analysis of expert results

First, the questionnaires are constructed using the Delphi technique, and then we analyze the judgements from experts. Evaluation standards are averages that should be larger than 3, and the variation coefficients should be less than 0.5. In the first round, we issued 93 questionnaires, returning 70 effective questionnaires[4], and the response rate was 75.27%. We issued questionnaires to 22 professors[5], 48 experts[6] (in international trade corporations and customs), for which the percentages were respectively 31.42% and 68.57%. In the second round, the questionnaires constructed in the AHP, we issued 93 questionnaires, returning 69 effective questionnaires, for which the response rate was 74.19%. We issued questionnaires to 22 professors and 47 experts, and the percentages were, respectively, 31.88% and 68.12%.

4.2 Results of the questionnaires using the Delphi technique

We synthesized the responses for the pairwise comparison and used the geometrical mean average method to weight the factors, corresponding to the major criteria and the sub- criteria. Through ranking, we chose the top 9 factors. The results of the questionnaires are shown in Table 4. If the result is ○, this indicates that the experts had consistent opinions. Otherwise, X indicates they had different opinions.

[4] We chose the effective questionnaires, which are providing the complete reply without missing.
[5] The professors come from several national universities, national universities of science and technology, and private universities in Taiwan.
[6] Lots of experts come from the international trade corporations and small-sized trading companies in southern Taiwan, covering trading company owners, marketing officers and senior staff. We also found few experienced experts in customs, who are in charge of the import and export business affairs.

Table 4: Results for methods chosen using the Delphi technique

Item	Option	Average	Coefficient of Variation	Result
1	Negotiating through the WTO	4.3	0.12	O
2	Trade Policy Review Mechanism (TPRM)	3.9	0.17	O
3	Dispute settlement by the WTO	4.3	0.12	O
4	Actively responding to trade information from other countries	4.6	0.1	O
5	Responding to dumping complaints	4.9	0.06	O
6	Lessening trade obligations through bilateral consultancy	4.7	0.09	O
7	Producing products that meeting national inspection standards	4.9	0.06	O
8	Enhancing the international competitiveness of products	4.7	0.09	O
9	Promoting cross-border industrial cooperation	4.5	0.1	O

(Source: Authors)

The 9 items selected using the Delphi technique are shown in Table 4. Their coefficient variations are all smaller 0.5, representing the consistency of the experts' opinions. For the next step, we designed a questionnaire using the AHP method, structured with three criteria and 9 sub-criteria.

4.3 Results of the questionnaire using the AHP method

Since the expert judgements achieved consistency, we created a pairwise comparison matrix, evaluating the weights of each criteria. The results are shown in tables 5 and 6.

Table 5: Weight of major criteria and sub-criteria

Goal	Weight			Option	Weight		
	Lower bound	**Median**	**Upper bound**		**Lower bound**	**Median**	**Upper bound**
The Solution Mechanism for Disputes with the WTO	0.65	0.82	1.06	Negotiating through the WTO	0.63	0.85	1.17
				Trade Policy Review Mechanism (TPRM)	0.7	0.92	1.28
				Dispute settlement by the WTO	0.94	1.26	1.59
Bilateral trade negotiations	0.92	1.17	1.41	Actively responding to trade information from other countries	0.67	0.8	0.99
				Responding to dumping complaints	0.52	0.6	0.82
				Lessening trade obligations through bilateral consultancy	1.43	1.99	2.45
Market commodity development	0.82	1.04	1.36	Producing products that meeting national inspection standards	1.08	1.52	1.94
				Enhancing the international competitiveness of products	0.66	0.84	1.04
				Promoting cross-border industrial cooperation	0.58	0.81	1.14

(Source: Authors)

Table 6: Relative weight and ranking

Goal	Weight	Option	Weight	Eliminate intangibles	Ranking
The Solution Mechanism for Disputes with the WTO	0.27	Negotiating through the WTO	0.29	0.06	8
		Trade Policy Review Mechanism (TPRM)	0.32	0.07	7
		Dispute settlement by the WTO	0.39	0.12	3
Bilateral trade negotiations	0.4	Actively responding to trade information from other countries	0.24	0.08	6
		Responding to dumping complaints	0.16	0.05	9
		Lessening trade obligations through bilateral consultancy	0.6	0.22	1
Market commodity development	0.33	Producing products that meeting national inspection standards	0.49	0.17	2
		Enhancing the international competitiveness of products	0.26	0.1	4
		Promoting cross-border industrial cooperation	0.25	0.09	5

(Source: Authors)

Among the main criteria for exploring solutions for the trade barriers in Taiwan, "Bilateral trade negotiations (0.40)" was found to be the most important main criteria; then, sequentially, in order of importance were "Market commodity development (0.33)," and "The Solution Mechanism for Disputes with the WTO (0.27)."

As for the sub-criteria, the top 5 were "Lessening trade obligations through bilateral consultancy (0.22)," "Producing products meeting national inspection standards (0.17)," "Dispute settlement by the WTO (0.12)," "Enhancing the international competitiveness of products (0.10)," and "Promoting cross-border industrial cooperation (0.09)."

The results of the AHP are shown in Table 7, where we examine the consistency using CI and CR by showing the C.R. and C.R.H. of the returned questionnaires to all be smaller than 0.1, indicating the overall consistency of the expert judgements.

Table 7: Checking of Consistency Index and Consistency Ratio

	C.I.	Qualified	C.R.	Qualified
The Solution Mechanism for Disputes with the WTO	0.016	Yes	0.033	Yes
Bilateral trade negotiations	0.019	Yes	0.036	Yes
Market commodity development	0.001	Yes	0.002	Yes
Overall consistency	C.R.H.=0.047 <0.1, satisfying the overall consistency			

(Source: Authors)

The experts concluded that the most important criterion is to resolve "Bilateral trade negotiations," and three important sub-criteria were, respectively, "Lessening trade obligations through bilateral consultancy," "Producing products meeting national inspection standards," and "Dispute settlement by the WTO."

The implications of our empirical results are as follows. At first, about the two sub-criteria, "Lessening trade obligations through bilateral consultancy," and "Dispute settlement by the WTO," their importance is stressed. This outcome describes that the experts emphasize on eliminating resistance to entering international organizations is the best way to overcome trade obstacles. That's to say, reciprocal agreements between countries could eliminate trade barriers and further strengthen multilateral economic and trade cooperation. For instance, the European Free Trade Agreement had promoted and broadened the trade transactions between European countries, thus generating effective trade cooperation.

Also, the experts emphasize on the importance of criterion, "Bilateral trade negotiations." This criterion and the two important sub-criteria, as mentioned above, are correspondent with each other. They all aimed at lessening bilateral international trade obstacles via reciprocal agreements between countries.

Secondly, "Producing products meeting national inspection standards," the important sub-criteria suggest making efforts to upgrade the quality of products, thus contributing the market expansion. The experts put stress on upgrading the domestic enterprises, through modifying internal law and rules via bilateral consultancy, thus making multiple certifications easier. Through mutual technical assistance, the domestic product could be promoted and easily meet mutual national inspection standards. That's to say, the experts put stress on promoting the domestic enterprises through bilateral consultancy and multilateral trade cooperation.

Overall, our empirical results show the proper ways for Taiwan to eliminate trade barriers, are separately promoting multilateral trade communication, and enhancing economic cooperation via bilateral consultancy.

5. Conclusion

We assess methods for eliminating trade barriers in Taiwan, applying the AHP to measure priority scales, using pairwise comparisons and relying on the judgements of experts. Our results show the most important main criterion was “Bilateral trade negotiations.” And, three important sub-criteria were, respectively, “Lessening trade obligations through bilateral consultancy,” “Producing products meeting national inspection standards,” and “Dispute settlement by the WTO.”

In brief, our empirical results summarize the valuable suggestions from experts. The main conclusions lie on excluding trade obstacles in Taiwan ought to overcome barriers. The appropriate ways are separately, enhancing mutual economic and trade cooperation between countries through reciprocal agreements, and upgrading the domestic enterprises. We expect our conclusions to offer useful suggestions.

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