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# Occasional Paper

CHUNG-HUA INSTITUTION FOR ECONOMIC RESEARCH

75 Chang-Hsing St., Taipei, Taiwan 106

Republic of China

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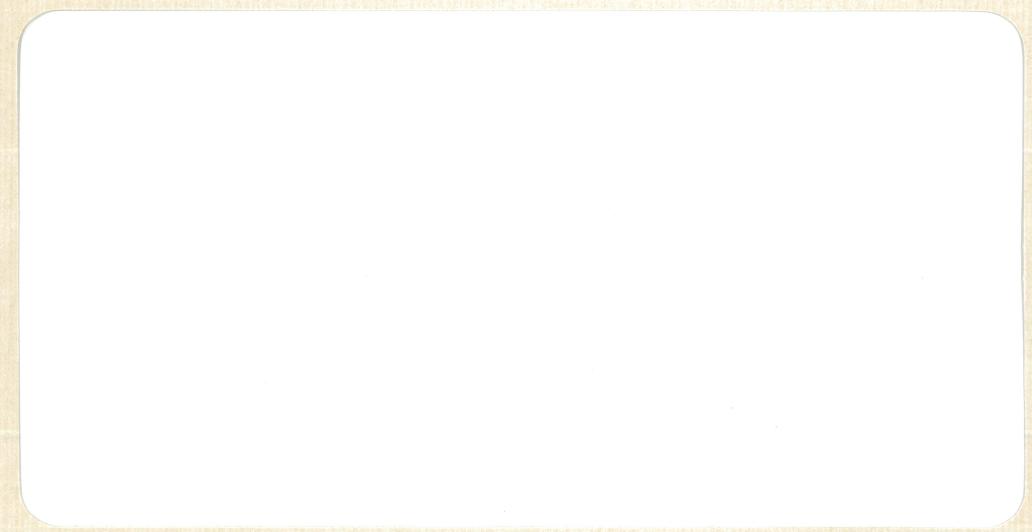
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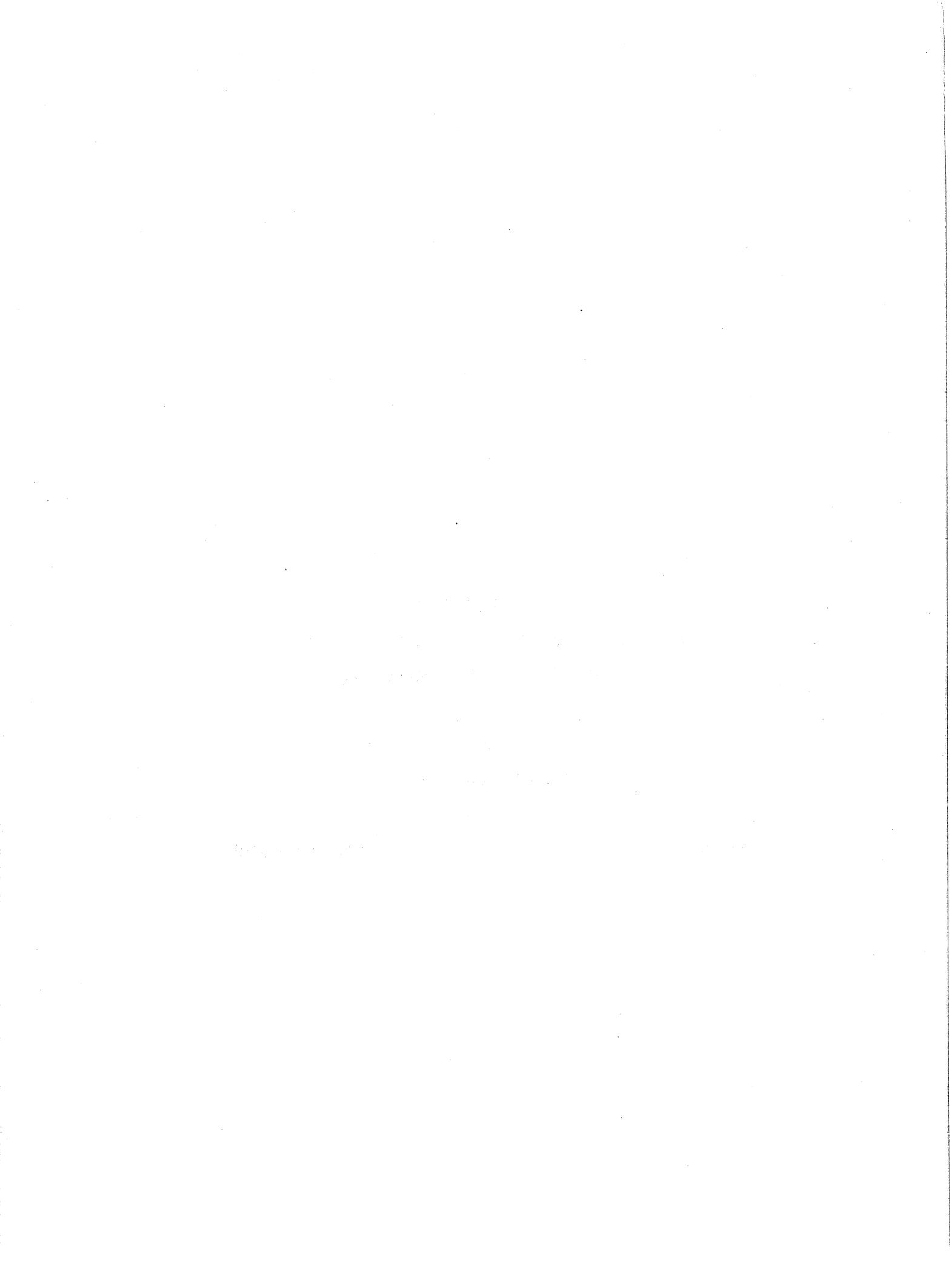
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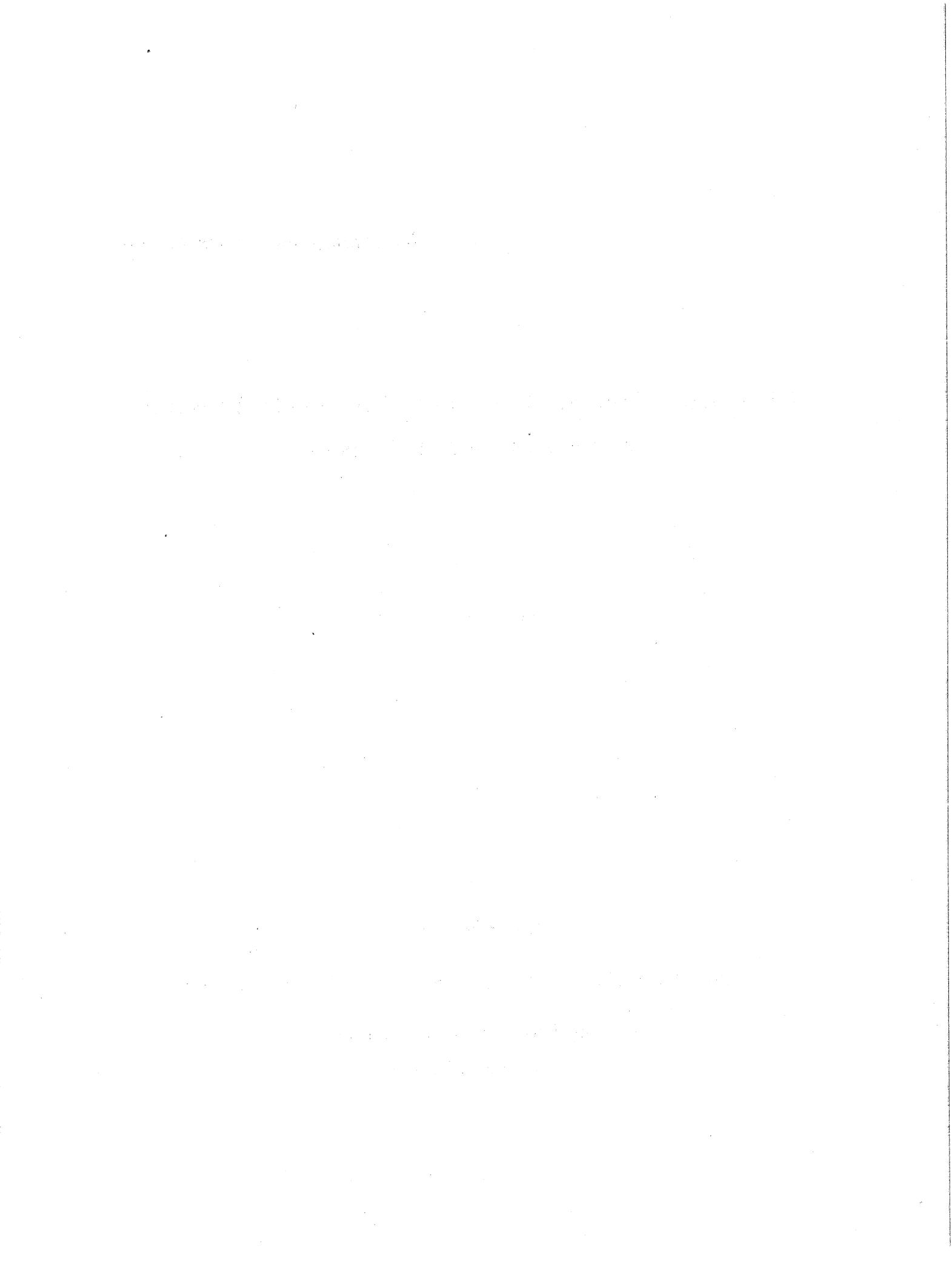
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# **The Impact of the North American Free Trade Agreement on the ROC and Its Response**

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## ***Abstract***

*The North American Free Trade Agreement (NAFTA) between the United States, Mexico, and Canada is expected to be implemented on January 1, 1994. According to the terms of the agreement, the three countries will phase out barriers to trade in goods and services in North America, eliminate investment barriers, and strengthen the protection of intellectual property rights and the environment. For an export-oriented, U.S. market-dependent economy such as the Republic of China (ROC), NAFTA is a big concern. This paper analyzes the consequences of NAFTA on the ROC, which can be summarized as follows: (1) NAFTA will benefit Mexico's competitive position and divert trade from the ROC over the medium to long term, (2) stringent rules of origin may create a form of hidden protectionism, and (3) the elimination of tariff exemptions on the Maquiladoras will increase the cost of investments in the Maquiladoras. Furthermore, the ROC's electrical machinery and equipment industry as well as the apparel and clothing industry will face strong*

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*competition from Mexico in the U.S. market.*

*Engaging in more R&D investment in order to avoid fierce competition with Mexican products in the same market segments is a necessary strategy to counter the negative impacts. Due to the high rules of origin and weak coordinating industries, except for industries which can modify their sourcing strategy to qualify for NAFTA tariff benefits and aim at the potential North American market, we do not suggest that ROC firms rush their decision to invest in Mexico.*

## **I. Introduction**

The United States, Mexico, and Canada completed negotiation of a North American Free Trade Agreement (NAFTA) on August 12, 1992. NAFTA is expected to be implemented on January 1, 1994 when the three countries' legislators ratify the agreement. In the agreement, these three countries promise to phase out barriers to trade in goods and services in North America, eliminate investment barriers, and strengthen the protection of intellectual property rights and the environment. However, such a regional arrangement and the strict rules of origin in the agreement, particularly in automobiles and textiles, arouse fears of a protectionist trend which may be to the detriment of the existing free trade regime. As a consequence, for an export-oriented and U.S. market-dependent economy like that of the Republic of China (ROC), NAFTA is an important concern for the government as well as industry leaders.

In terms of the trade perspective, in 1992, the ROC's merchandise exports to the

United States were U.S. \$23.57 billion, about 29% of total ROC exports, and represented 12.8% of the ROC's GNP. Before the ROC government can find ways to reduce the U.S. export market concentration ratio, NAFTA and its further development will have a critical impact on the ROC's economic development and long-term prospects. Among NAFTA member countries, Mexico is a labor-abundant country, and its average wage level is about half that of the ROC. In addition to the wage advantage, NAFTA removes many tariff and nontariff barriers to trade and investment among member countries, which will benefit Mexico's competitive position. The U.S. market expansion for Mexico definitely will cause some trade diversion away from the ROC's U.S.-bound exports.

Under such circumstances, what the ROC can do to offset the disadvantages of NAFTA is a serious issue for government and firms. Direct investment in Mexico to avoid trade barriers and to take advantage of preferential tariff treatment in the free trade area is one strategic response, but the stringent rules of origin discourage investment from companies that want to source offshore. Extra adjustment cost is needed if firms try to qualify for tariff-free treatment in the North American market. Additionally, language barriers, cultural differences, and infrastructure deficiencies will inhibit ROC firms investing in Mexico. These concerns are legitimate and need to be addressed.

As such, the purpose of this study is to identify several major issues of NAFTA, provide ROC industry and government with an understanding of the consequences of NAFTA for the ROC economy, and offer some policy recommendations to counteract the adverse effects NAFTA may have on the ROC.

We begin in Section II by analyzing the consequences of NAFTA on the ROC.

In Section III, we explore the possible impact of NAFTA on the ROC's exports. The ROC's responses to NAFTA are presented in Section IV, and our conclusions and policy recommendations are summarized in Section V.

## **II. The Consequences of NAFTA on the ROC**

The main objective outlined in NAFTA is to ensure free trade, fair competition, and increased intra-regional investment opportunities and to enforce property rights protection within the North American market. The agreement focuses on the following major issues: market access, rules of trade and services, investments, intellectual property, and dispute settlement. The salient features of NAFTA can be summarized as follows.

1. Tariff elimination: for most goods, existing customs duties will either be eliminated immediately or phased out in five or ten equal annual stages, while for some critical items, tariffs will be phased out over a period of up to 15 years.
2. Rules of origin establishment: rules of origin are methods used to define which goods are considered to have been produced within a free trade area and eligible for preferential tariff treatment. In the automobile industry, for instance, goods must contain up to 62.5% North American content to satisfy the rules of origin criterion.
3. Facilitating cross-border trade in services: NAFTA establishes a set of basic rules and obligations to facilitate trade in services between the three NAFTA

participants.

4. Enforcement of intellectual property rights: NAFTA creates a high level of obligation for the respecting of intellectual property. Adequate and effective protection of intellectual property rights and effective enforcement of these rights against infringement are required for contracting members.
5. Institutionalized dispute settlement procedures: the agreement established a Trade Commission and Secretariat to settle any disputes between NAFTA countries and ensure effective and joint management of the free trade area.

According to the agreement, the removal or relaxation of each of these barriers will affect the economies of the three countries. The initial impact of NAFTA will occur on investment flows, and this has already taken place before NAFTA negotiations were completed. Due to the international specialization of production, a significant amount of foreign capital will relocate to Mexico in order to take advantage of cheap land costs, lower wages and lax environmental standards. Accordingly, this will stimulate production in the labor-intensive sectors in Mexico, and the U.S. and Canada will shift to capital-intensive production. Following investment flows, a significant stimulus to trade flows will occur in the longer term.

Moreover, Mexico will become a stronger competitor in several labor-intensive sectors due to the following two factors. First, the removal of trade barriers under NAFTA will allow Mexican firms access to U.S. technologies, capital goods, and managerial expertise, which can modernize their production processes. Second, the U.S. market will provide opportunities for Mexican firms to take advantage of economies of scale. Consequently, the potential competition from Mexico will shrink the ROC's U.S. market share and have a major influence on ROC-U.S. trade.

Based on this analysis of NAFTA, the implications of NAFTA for the ROC are outlined below:

1. NAFTA will divert trade from non-NAFTA countries over the medium term:

According to an empirical study by Brown, Deardorff & Stern (1991), intra-regional trade in North America will increase in comparison to a non-NAFTA scenario, and the market shares of the three participants in North America are expected to increase. The market share growth of each member country will be at the expense of the rest of the world (see Table 1), while low-cost producing Asian countries may be hurt most.

**Table 1 Summary Results of a North American Free Trade Area**

unit: million U.S. dollars

Country	Imports	Exports	Welfare Effects	Wage Rate (percent change)
United States	9,374.8	8,595.9	13,226.6	0.2%
Canada	5,537.9	6,107.7	3,662.9	0.4%
Mexico	2,951.7	2,984.2	6,298.5	0.7%
31 other major trading countries	-830.0	-475.8	-2,081.2	-0.1%

Note: The above figures are derived under the assumption of removal of tariffs on trade among the three NAFTA countries, plus a 25% expansion of U.S. import quotas imposed on Mexican exports of agriculture, food, textiles, and clothing.

Source: Brown, Deardorff & Stern (1991).

After NAFTA's implementation on January 1, 1994, all non-NAFTA countries will face higher relative prices in the North American market as a result of the relaxation of tariff barriers exclusive to the member countries. Even though this is a common disadvantage for all non-NAFTA suppliers, many of the ROC's less industrialized competitors still hold a Generalized System of Preference (GSP) status, enjoying preferential tariff access to the U.S. and Canada. Consequently, this will put the ROC in a more adverse position in specific product areas. Brown, Deardorff & Stern also show that the market share of Mexico's electrical machinery, clothing, and textile products in the U.S. market will increase 102.18%, 24.90%, and 14.10%, respectively, after integration (see Table 2). These three industries happen to be the ROC's major industries and will have a negative impact on the ROC's competitiveness in the stated industries.

2. High rules of origin may create a form of hidden protectionism: Under NAFTA, unless foreign producers are willing to comply with NAFTA's rules of origin, they may find themselves in a disadvantageous position to compete with tariff-free NAFTA countries' products. Theoretically speaking, ROC producers can relocate their production to Mexico to benefit from its cheap labor and qualify for preferential tariff treatment. However, firms will be forced to modify their sourcing and manufacturing strategies, as well as other resulting adjustment costs in order to meet minimum local content requirements simply to benefit under NAFTA. Textile and apparel goods can be looked at as an example. The "yarn (fiber) forward" criterion means that

**Table 2 Sectoral Effects on the United States of North American Free Trade**

unit: percent change

Sector	Exports	Imports	Bilateral Imports	
			Canada	Mexico
Agriculture	0.07	2.03	4.28	10.81
Food	1.87	1.71	9.98	12.22
Textiles	7.73	0.23	15.54	14.10
Clothing	10.01	1.47	46.59	24.90
Leather Products	1.16	1.93	11.75	14.47
Footwear	11.16	2.52	29.17	10.53
Wood Products	1.92	0.86	1.20	0.67
Furniture, Fixtures	9.80	3.58	12.99	8.94
Paper Products	2.35	0.09	-0.00	5.12
Printing, Publishing	1.70	0.17	-0.37	-2.20
Chemicals	3.73	-0.48	-1.44	-3.76
Petroleum Products	-0.05	0.52	1.27	-4.73
Rubber Products	6.15	0.54	9.85	-9.26
Nonmetal Mineral Products	4.83	0.73	2.52	-0.12
Glass Products	-1.91	57.64	173.47	19.10
Iron, Steel	6.49	1.51	10.48	-4.84
Nonferrous Metals	-0.89	5.32	12.11	27.60
Metal Products	6.02	2.71	13.25	2.25
Nonelectrical Machinery	3.94	0.01	2.62	-24.56
Electrical Machinery	1.86	9.97	14.03	102.18
Transport Equipment	-0.18	2.13	7.47	-9.00
Miscellaneous Manufactures	4.05	-0.76	-1.80	-7.92

Note: Same assumption as Table 1.

Source: Brown, Deardorff & Stern (1991).

they must be produced from yarn (fiber) made in a NAFTA country in order to receive preferential treatment. But the weak coordinating industries will put ROC firms which seek investment opportunities in a difficult position, forcing them to purchase more expensive and lower quality inputs to obtain preferential tariff benefits.

3. The elimination of tariff exemptions on the *Maquiladoras* will increase the cost of investment in *Maquiladoras*: Under the *Maquiladora* program, the Mexican government exempts all duties on imported components and machinery as long as the assembled products are reexported. Since the *Maquiladoras*' preferential trade status will be lifted before January 1, 2001, the cost of all foreign firms located in the Mexican border area will increase if they source inputs overseas. Otherwise, they will have to adjust their manufacturing and sourcing strategies to comply with NAFTA's rules of origin to receive tariff reduction benefits. In addition, GSP privileges will also be phased out in five years under NAFTA, and 35% local content which is required for GSP treatment, is not enough to satisfy NAFTA's rules of origin (most are 50%, but some are up to 62.5%). GSP-receiving ROC firms which invest in Mexico will lose their tariff reduction privilege, or they will have to adjust to meet new rules of origin to remain competitive. ROC firms looking for investment opportunities must thus recognize the new requirements before they make a move.
4. Labelling requirements in textile and apparel products may create another invisible trade barrier: Under NAFTA, a joint government and private sector committee will establish a work program to develop a uniform labelling

requirement (including symbols, care instructions, fiber content information and methods for attachment of labels) for textile and apparel products. This may increase ROC firms' transaction costs to export to the North American market or delay the delivery schedule, and serve as a form of hidden protectionism. Consequently, its further development should be carefully watched.

5. Adequate protection of the environment and intellectual property must be followed for ROC firms which will or currently engage in investment in Mexico: During NAFTA's negotiation process, the U.S. and Canada consistently complained to the Mexican government that it did not effectively enforce the protection of intellectual property and the environment. Thus, Mexico is expected to enforce stringent rules on the protection of these two areas. As a consequence, those planning to relocate to Mexico simply to take advantage of lax environmental standards and intellectual property rights enforcement must be cautious and reevaluate their decision before they make investments in Mexico.

### **III. The Impacts of NAFTA on ROC Exports**

#### ***3.1. The Status of U.S.-ROC Trade***

Since 1982, the U.S. has been the ROC's largest trading partner. Although the ROC has made tremendous efforts to diversify its export market in recent years, the ROC product U.S. export market concentration ratio remains very high. In 1992, the

ROC's merchandise exports to the United States were U.S. \$23.57 billion and 29.3% of total ROC exports (see Table 3). If we take the ROC's outward investment in

**Table 3 ROC's Trade Structure with Major Trading Partners**

Year	Exports				Imports		
	EC	U.S.	Japan	Hong Kong	EC	U.S.	Japan
1982	10.7	39.5	10.7	7.0	9.9	24.2	25.3
1983	10.1	45.1	9.9	6.5	9.5	22.9	27.5
1984	9.2	48.8	10.5	6.9	8.9	23.0	29.3
1985	8.9	48.1	11.3	8.3	10.3	23.6	27.6
1986	10.8	47.7	11.4	7.3	11.3	22.4	34.2
1987	13.2	44.1	13.0	7.7	12.4	21.8	33.9
1988	14.6	38.7	14.5	9.2	12.4	26.2	29.9
1989	14.6	36.3	13.7	10.6	12.5	23.0	30.7
1990	16.1	32.4	12.4	12.7	13.5	23.0	29.2
1991	16.3	29.3	12.1	16.3	12.2	22.4	30.3
1992	--	28.9	10.9	18.9	--	21.9	30.3

Note: Numbers in the Table represent the percentage market share.

Source: *Taiwan Statistical Data Book*, 1992 (Bureau of Economic Planning and Development).

mainland China and ASEAN countries that are aimed at the U.S. market into account, U.S. export market dependence could easily reach 40% or more. Consequently, for a trade-oriented economy, the ROC's economic growth hinges on the U.S. export market.

From the perspective of the world trade environment for the ROC, after the unification of the European Community (EC), its intra-regional trade is expected to increase from the current 63.4%, which may thwart the ROC's market expansion efforts in the EC. Moreover, the existing sophisticated marketing channels and various nontariff barriers in the Japanese market make it very difficult to penetrate. However, the North American market has a population of 362 million and a U.S. \$6.1 trillion GNP with a growing market. Considering the need for consolidating the U.S. export market and the market potential, the impact of NAFTA is important to the overall ROC economy.

### ***3.2 The impact of NAFTA on ROC exports***

With the removal of tariff and nontariff barriers to trade and investment, the NAFTA member countries are expected to boost their trade shares in the North American market at the expense of non-NAFTA exporters. We are anxious to figure out the impact of NAFTA on ROC exports.

In doing so, we thus analyze the competitive position between the ROC, Mexico, and Canada in the U.S. market. Wang and Liu, et al. (1993), based on the Harmonized System (HS) four-digit classification, first selected 63 ROC U.S.-bound export items with a value over U.S. \$0.1 billion. Then, they employed both market share difference and unit price ratio criterions to figure out the competition between the three countries in the U.S. market.<sup>1</sup> In the study, 25 export items from the ROC are considered to face strong

competition from either Mexico or Canada.

When we take a close look at these 25 export items, most of them belong to the electrical machinery and equipment industry (HS85) and the apparel and clothing industry (HS62). This finding implies that these two industries face competition from Canada and Mexico and are expected to face even stronger competition after the implementation of NAFTA.

#### **IV. ROC Response**

From the microeconomic analysis, the electrical machinery and equipment industry and the apparel and clothing industry will face strong competition in the long term. Under such a circumstance, what should ROC firms do to offset competitive pressure from Mexico when NAFTA takes effect? Here we provide several policy recommendations to deal with the adverse impacts of NAFTA.

First, ROC firms should make direct investments in NAFTA countries to circumvent protectionist trade barriers and to seize market opportunities. Since labor costs in both the U.S. and Canada are quite high and not suitable for most ROC labor-intensive investments, the focal point should be on foreign direct investment (FDI) in Mexico.

Even though Mexico has lower wages and laxer labor and environment standards, very few ROC companies currently engage in investments there because of deficient coordinating industries, the language barrier, cultural differences, and the high labor movement rate. In the textile and apparel industry, rules of origin require that such products must be made from fabric which is woven or knitted from yarn spun in North

America in order to take advantage of the tariff preferences of NAFTA... This strict requirement and relatively high labor costs (four times that of mainland China) discourage ROC companies in the textile and apparel industry from setting up plants in Mexico. Additionally, the quota for the ROC's U.S.-bound textile and apparel exports are basically not 100% filled. Hence, except for those who aim at the potential market of Mexico and the rest of the Latin American countries, we do not suggest that ROC companies in this industry become involved in FDI in Mexico.<sup>2</sup>

In the electrical machinery and equipment industry, the 50% (net cost method) or 60% (transaction value method) rules of origin requirement is easier to meet than for the textile and apparel industry. However, the non-NAFTA firms' semi-knock down (SKD) procedure will have to change; they will be forced to utilize local resources (for instance, purchase CPU motherboards and other key components locally) and modify their manufacturing strategies to qualify for tariff benefits, thereby increasing adjustment costs to meet NAFTA's rule of origin. Therefore, ROC firms in the electrical and electronic industry should evaluate the trade-off between investing in Mexico, sourcing locally and enjoying tariff reduction even though they suffer some adjustment costs, or sourcing offshore but paying a tariff.

Second, engage in more R&D investment and facilitate technology upgrading. In terms of research manpower, design, machinery equipment and flexibility, ROC firms have a comparative advantage over their Mexican competitors in the short term. However, in the medium to long term, the expected persistence of Mexican cost competitiveness, coupled with its improved labor productivity and production efficiency, will compete with their ROC counterparts in several key industries. Thus ROC firms must facilitate their R&D efforts, upgrading their technologies to avoid head-to-head competition

with Mexican firms in the same low value-added product segments. Above all, after Mexico becomes a production site for famous companies from Japan and the U.S., Mexican products with a "U.S." or "Japan" name brand will outcompete ROC products if ROC firms forego R&D efforts. The freer flow of merchandise under NAFTA will speed up the transaction time of high-tech products and shorten their product life cycle. This tendency will intensify competition, bring down profit margins and hurt ROC firms' competitiveness in the North American area. Therefore, to boost R&D investment and facilitate research efficiency to stay ahead of competition is a necessary strategy to counter the negative impact of NAFTA.

Third, cooperate with U.S. or Canadian high-tech companies through joint ventures or technology alliances.<sup>3</sup> From the Canadian perspective, it has abundant well-trained research manpower, especially in the areas of telecommunications, rapid transit systems, and environmental protection-related industries. ROC firms, on the other hand, have capital but lack technology and research manpower. Therefore, this is a perfect marriage for both sides through joint venture to facilitate technology development. In the cooperation process, ROC firms can obtain technology transfer and utilize their high-quality research staff to promote the ROC's own economy.

Fourth, establish marketing channels in the North American market. Besides the U.S. and Canada, Mexico, Chile, and Brazil are also potential markets with big purchasing power. Therefore, if ROC firms can set up marketing channels in Mexico, they can explore the Latin American market and penetrate the North American market as well.

## V. Conclusion

As an export-oriented country, the ROC's economic growth hinges on the world trade environment. While the ROC's market share in the European Community is declining and the Japanese market is hard to penetrate due to complicated marketing channels and nontariff barriers, this serves to highlight the importance of the U.S. market to the ROC. In 1992, the ROC's merchandise exports to the United States were \$23.57 billion, about 29% of total ROC exports. If we take the ROC's direct investment in mainland China and ASEAN countries aimed at the U.S. market into consideration as well, ROC products' U.S. market dependence could easily be over 40%. Considering the strong market dependence and market potential, the ROC is certainly concerned with the impact of NAFTA's implementation.

We have attempted to identify some important consequences which arise in the analysis of NAFTA and provide an assessment of some economic impacts involved. Overall, the formation of NAFTA will have adverse effects as follows:

1. NAFTA will divert trade from non-NAFTA countries over the medium term.
2. High rules of origin may create a form of hidden protectionism.
3. The elimination of tariff exemptions on the *Maquiladoras* will increase the costs of investment in the *Maquiladoras*.
4. Labelling requirements for textile and apparel products may create another invisible trade barrier.

5. Adequate protection of the environment and intellectual property must be followed for ROC firms which will or currently make investments in Mexico.

According to the market share and unit price ratio criteria, it is also found that NAFTA will benefit Mexico's competitive position in the electrical machinery and equipment industry and the apparel and clothing industry in the U.S. market. This imposes a threat to ROC exports to the U.S. market for the above two industries in the long term.

To respond to the pressure resulting from NAFTA, one of the strategies for ROC companies is to make direct investments in Mexico to enjoy preferential tariff benefits as well as to avoid trade barriers in the North American area. However, before they invest, they should consider the indirect costs due to deficient infrastructure, weak coordinating industries, language barriers, cultural differences, and the high labor movement rate. In addition, the strict rules of origin under NAFTA may force non-NAFTA companies to modify their sourcing strategies and therefore increasing extra costs is another big concern.

Upon implementation of NAFTA, the inflow of capital coupled with modernized technologies and management to Mexico will strengthen its competitiveness in the medium to long term. Under such circumstances, ROC firms must facilitate their R&D efforts to upgrade production strategies in order to stay ahead of competition. In addition to its own research and development, cooperating with U.S. or Canadian high-tech companies through joint venture or technological alliance can also speed up ROC firms' technological development, thereby promoting ROC products' competitiveness over Mexican products in the U.S. market.

## **Footnotes**

1. In the view of Wang, Liu, et al. (1993), market share difference and unit price ratio are two important indexes to measure competitive pressure in a certain market. They use the following two criteria to measure competition: (1) the share in the U.S. market of a specific product from the ROC, Mexico, or Canada within 20 percent, and (2) the unit price ratio of ROC products over Mexican or Canadian products ranging between 0.5 to 1.5. As long as the ROC's export items fulfill these two criteria, they are considered to be facing strong competition from Mexico and/or Canada.
2. The advantages of investing in Mexico can be summarized as follows. First, the proximity of Mexico to the U.S. market can reduce transportation, managerial and inventory costs for foreign firms whose output is destined for the U.S. market. Second, Mexico offers labor and land cost advantages to foreign companies located in Mexico. Third, after the implementation of NAFTA, foreign firms will obtain tariff exemptions to the U.S. market if they satisfy the rules of origin requirement. Fourth, Mexico is expected to open its large, growing market providing marketing opportunities for firms from member and nonmember countries.  
However, there are also several disadvantages for foreign companies to investing in Mexico. These include cultural differences, the language barrier, deficient coordinating industries, and strict rules of origin. These disadvantages may outweigh the stated benefits, and discourage foreign firms from relocating to Mexico.

3. There are many kinds of inter-country technical cooperation, such as joint venture, strategic alliance, consortium, and so on. For more details about the distinction of these forms of technical cooperation, see Wang (1991b). However, what forms of technical cooperation are most appropriate between the ROC, Canada, and the U.S. deserves further study.

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