Political feasibility and empirical assessments of a Pacific free trade area

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1 Toward a Free Trade Agreement in East Asia or the Pacific Basin?

During the past quarter-century intraregional trade has expanded dramatically in East Asia and the Pacific Basin. In 1970, 29.8 percent of gross trade (the sum of exports and imports) was intraregional among ten selected countries in East Asia — Japan, China, the newly industrialized economies (NIEs: South Korea, Taiwan, Hong, and Singapore), and the ASEAN-4 (Malaysia, Thailand, Indonesia, and the Philippines). By 1995, intra-East Asian trade accounted for 49.2 percent of gross trade flows. Similarly, intraregional trade among the countries of Pacific Basin — the ten East Asian countries, along with the United States, Canada, Mexico, Australia, and New Zealand — climbed from 58.4 percent in 1970 to 72.1 percent in 1995.[1] Emerging in tandem with the formation of the European Union (EU) in 1992, this expansion in intraregional trade led many analysts to ponder the possibility of an East Asian or a Pacific free trade agreement.[2]

While much has been written about the significance of expanded intraregional trade flows in East Asia and the Pacific Basin (e.g., Drysdale and Garnaut, 1993; Frankel, 1993; Krugman, 1991; Petri, 1993; Saxonhouse, 1993; Yamazawa, 1992, 1994), considerably less attention has been paid to the political feasibility and the economic benefits and costs of such. Is an East Asian free trade area (EAFTA) agreement politically feasible? What

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[1] The calculation is based upon the International Monetary Fund's *Direction of Trade Statistics* data.

[2] An FTA can be defined as a "group of two or more customs territories in which duties and other restrictive regulations of commerce... are eliminated on substantially all trade between constituent territories in products originating in such territories" (GATT Article XXIV: 8b). An FTA differs from a customs union in that the latter is "the substitution of a single customs territory for two or more customs territories" and "substantially the same duties and other regulations of commerce are applied by each of the members of the union to trade of territories not included in the union" (GATT Article XXIV: 8a).

about a Pacific free trade area (PAFTA)? How likely is it that the governments of the various countries of the region can successfully negotiate an agreement establishing a free trade area? Which countries would stand to benefit economically and which will lose in the event that trade barriers are removed in conjunction with the creation of one or the other of the proposed free trade agreements? What about the effects of possible retaliation by the United States against EAFTA member countries? n this paper, we seek to provide answers to these and other related questions.

A brief word about our analytic itinerary is in order. Section 2 is devoted to consideration of the factors that bear upon the political feasibility of the creation of an FTA in East Asia or the Pacific Basin.[3] We seek to illuminate the relevant issues by looking at the salient transnational and national-level considerations through the eyes of a negotiator charged with representing the interests of a hypothetical country in the region. We begin by identifying three sets of regional-level conditions that must be solved in order to enable the creation of a regional free trade agreement. Specifically, the transnational feasibility of a free trade agreement is facilitated by the existence of mechanisms to delineate and facilitate cooperation among candidate countries, similar or compatible political regime and regime-objectives among the governments of the candidate countries, and relatively similar levels of economic development. The remainder of Section 2 is devoted to consideration of the sort of domestic political objective function confronting a negotiator as he or she explores the pros and cons of possible participation in an FTA from the perspective of his or her country. This political objective function considers aggregate national welfare in the absence of nonmember retaliation, the interests of important industry lobbies, and the aggregate welfare in the event of nonmember retaliation.

Section 3 summarizes the results of empirical assessments using a computable general equilibrium model for four separate scenarios. Scenario 1 considers the effects that would accompany the removal of tariff and nontariff barriers by the EAFTA countries among themselves in the event that these countries maintain existing trade barriers against nonmember countries. We find that, under this scenario, all four East Asian regions (Japan, China, the NIEs, and the ASEAN-4) would experience gains in welfare (measured in Hicksian equivalent variations) and real gross domestic product (GDP), while welfare and real GDP of nonmember countries are affected very little. Scenario 2, which considers the

[3] The focus in this chapter is on the conditions conducive to the creation of a formal free-trade agreement, in contrast to less elaborate or informal arrangements such as export processing zones, "growth triangles," and ethnic business networks. These other arrangements are discussed in Lloyd (1996) and Peng (1996).

consequences of American retaliation in response to East Asian FTA followed by a U.S.-East Asian trade war, unfolds in six steps. We find that, the U.S. experiences welfare increases if it seeks to maximize its welfare by imposing optimal tariffs on imports from the four East Asian regions. However, U.S. gains would be more than offset by welfare loses in East Asia. In Step 2 of this scenario, East Asia would retaliate by imposing optimal tariffs on imports from the United States. This would result in smaller welfare losses for the East Asian countries (although they would not be able to recover losses incurred in Step 1), in addition to losses for American and as well as global welfare. The U.S. and East Asia take turns in imposing optimal tariffs in the final four steps. By the sixth iteration, equilibrium is attained (i.e., no change in solution values beyond the sixth iteration). As expected, all four East Asian regions and the U.S. would become worse off compared with the initial situation, and global welfare losses are substantial. However, owing to the increased demand for their exports, Canada, Mexico, and EU would actually experience some welfare gains.

Scenario 3 focuses on the effects of the formation of an FTA among the countries of the Asia Pacific Economic Cooperation (APEC) group. We find that trade liberalization among the APEC members will produce benefits for each country, while global welfare gains will also be realized. Finally, Scenario 4 assesses the effects of nondiscriminatory liberalization by the APEC members. In this scenario, the Asian NIEs, Australia, New Zealand, and the North American countries realize greater welfare gains than under the third scenario, whereas smaller gains are realized by Japan, China, and the ASEAN-4. Nevertheless, the APEC region as a whole will benefit by expending liberalization to all imports. In addition to the fact that this scenario is more in keeping with the spirit of the multilateral trade liberalization process envisioned under the World Trade Organization (WTO), it also creates substantial global welfare increases.

2 Is a Free Trade Agreement Politically Feasible?

Two sets of concerns confront a chief negotiator in weighing the pros and cons of a free trade agreement. First, it is necessary to solve for the conditions under which the country represented would enter into an FTA with a specific group of other countries. At the same time, and perhaps more importantly, the negotiator must consider the situation "back home." From the negotiator's perspective, therefore, the political feasibility of an FTA is a "two-level game" (Putnam, 1988 and Evans et al, 1993; Grossman and Helpman, 1995, employ a variation of this framework). In other words, that negotiator must assess

political and economic conditions at the regional level, while being attentive to what will fly with the political elite and the key demand claimants on the home front.

2.1 Conditions at the Regional Level

At the regional level, the fulfillment of three sets of conditions increases the likelihood of successful negotiations leading to the creation of an free trade agreement. First, it is necessary to determine the members states. In this regard, it is reasonable to assume that the likelihood of the achievement of such an accord is greater when the candidate countries are: located in relatively close geographic proximity to one another, beset by few if any significant disputes, and bound together by some existing organizations or institutions at the regional level. Second, the establishment of an FTA is more likely among countries with compatible political regimes and regime-objectives. And, thirdly, the realization of an FTA is facilitated when candidates countries are at similar levels of economic development. The dismantling of barriers alters trade flows, resulting in a redistribution of income and employment among member countries. As Schott (1991, p. 2) explains, trading blocs "with wide disparities in national incomes face difficulties because producers in the richer countries are invariably seen as swamping those in the poorer countries (while the reverse is seen to occur with regard to labor)."

To what extent would the negotiator representing a hypothetical candidate country find these regional-level conditions fulfilled among the prospective member countries of an East Asian or Pacific free trade agreement? Regarding the matter of delineating member countries, the first condition, it is instructive to compare the state of affairs in East Asia with that in the European Union. As for the presumably lower intraregional transportation costs derived from close geographic proximity to one another, the candidate countries of East Asia are markedly more dispersed than the EU countries.[4] In contrast to the EU, where country capitals lie, on average, 575 miles from Brussels, the average distance from the East Asian capitals to Singapore (home to the Secretariat of the Asia Pacific Economic Cooperation, the closest equivalent to the EU) is 1,900 miles. And the EU is even more geographically compact than would be the case with a Pacific free trade area, where an average of more than 4,000 miles separates country capitals from APEC's headquarters. Nevertheless, it bears stressing that in this day and age lower transportation costs are not as important as comparative advantage in determining trading patterns (Lloyd, 1996).

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[4] It is also well to recognize the number of prospective member states as a variable in facilitating or hindering the creation of a trading bloc. Indeed, more prospective members means more coordination problems and greater difficulties — i.e., higher transaction costs — in achieving consensus.

Moreover, relations among the East Asian countries are not entirely rosy as reflected in the relative large number of intraregional territorial disputes. The only conflicting territorial claims among EU countries involve the Rockall continental shelf (claimed by Denmark, Ireland, and the United Kingdom), Northern Ireland (claimed by Ireland and the UK), and Gibraltar (claimed by Spain and the UK). On this score, the average EU country is involved in 0.67 territorial disputes with other countries in the region. In contrast, the average East Asian state is embroiled in 2.2 territorial disputes with its neighbors in the region. Indeed, only Singapore has no territorial conflicts, while Malaysia is at odds with no less than five other East Asian countries. However, bringing the North American countries, Australia, and New Zealand into the picture, the only additional controversy involves the disputed maritime boundary between the United States and Canada. This does not imply that, in and of itself, the existence of a comparatively large number of conflicting territorial claims forecloses the possibility a free trade agreement in East Asian or on the Pacific Rim. Rather, the point to be made is that such disputes represent an additional barrier that must be surmounted in negotiations aiming to fashion such an agreement.

Perhaps more importantly, East Asia is beset with enduring historical animosities, the most visceral of which involve lingering tensions concerning Japan's imperialist legacy. In Europe, the German government has taken visible steps to atone for past aggression, and in North America resentment of U.S. economic and cultural "imperialism" tend to be a relatively minor irritant in intraregional relations. In contrast, the Japanese political leadership has refused to offer an unambiguous apology for actions taken during the country's period of imperialist expansion. Generally speaking, the image of Japan as a "restive marauder" is more pronounced in Northeast Asia (Calder, 1991), although Singapore's Lee Kuan Yew has stated that no leader in the East favors a yen bloc. As long as Japan's political leaders denounce foreign criticism of historical interpretations found in Japanese high school history textbooks, the visits of cabinet ministers to Yasukuni Shrine, and the enslavement of Asian "comfort women" during World War II, suspicions will persist concerning Tokyo's capability to assume de facto regional leadership (Woodall, 1993). Indeed, most East Asian leaders find comfort in an American security presence to counterbalance Japan's "legitimacy deficit," although recent downsizing of the U.S. armed forces and scandals involving American forces in Okinawa raise doubts about the future of the country's role as regional constable. This, coupled with the heavy dependence on American markets for East Asian exports, points to a widespread preference for a Pacific free trade area, in the event that a formal regional trading bloc becomes reality.

In terms of its regional institutional infrastructure, East Asia lags far behind the European Union. The idea of a European "community" dates back at least to the interwar period, and the creation of a "single market" in 1992 was predated by the establishment of the European Community in 1958 and the European Free Trade Agreement (EFTA) in 1960.[5] The passage of time has witnessed the creation of a European Parliament and an impressive array of formal institutions intended to facilitate increased regional integration. While numerous problems remain to be solved, it is clear that regional economic and political integration in Western Europe has progressed much further than in any other regions of the world.

In contrast, the existing institutional infrastructure in East Asia and on the Pacific Rim is markedly primitive. It is fair to say that present-day East Asia is the least "regionalized" of the world's regions (e.g., Lloyd, 1996). Although the idea of an East Asian "community" also dates back to the interwar period, it is embodied in the Greater East Asian Co-Prosperity Sphere, the geopolitical masterplan to replace Western imperialism with an Asian empire ruled by Japan. Indeed, all other pre-World War II institutional antecedents aimed to foster intraregional social and cultural exchange (e.g., the Pan-Pacific Union), rather than economic integration (Yamaoka, 1996). In fact, the oldest existing regional organization, the Association of Southeast Asian Nations (ASEAN), was formed in 1967 to address security concerns. Yet ASEAN did not produce a free trade agreement until 1992, and a common preferential tariff scheme among the seven member states will not be fully implemented until 2003 (Tan, 1997). APEC, the broadest and most ambitious regional institution on the Pacific Rim, was founded in 1989 and established a modest secretariat three years later. Even if APEC is able to keep to its current goal, the day of "free and open trade and investment" among the 18 member countries will not dawn until the year 2020.[6]

A second regional-level condition assumes that the creation of a free-trade agreement is less complicated in a setting in which the candidate countries have similar political structures and compatible regime-objectives. Empirical fodder for this reasoning is found in an extensive literature in which it is demonstrated that democracies are unlikely to conflict with one another (Bueno de Mesquita and Lalman, 1992; Russett, 1993; Ray, 1993). For instance, a recent study argues that while not necessarily more peace-loving

[5] The original member countries included Belgium, France, West Germany, Italy, Luxembourg, and the Netherlands. The EFTA member countries included Austria, Denmark, Finland, Norway, Portugal, Sweden, Switzerland, and the United Kingdom.

[6] The developed members have committed to trade and investment liberalization by 2010.

than non-democratic polities, democracies tend not to fight one another (Rousseau et al, 1996). Employing similar logic, it is reasonable to assume that it would be easier for a set of advanced industrialized democracies to negotiate a formal free-trade agreement than would be the case if the candidate countries included a mixture of authoritarian as well as democratic polities. In the case of the latter, for example, one might anticipate conflicts arising from differing conceptions of human rights and environmental protection policies.

Although regime categorization is far from an exact science, it can be said that all fifteen member-states of the European Union are parliamentary democracies in which political leaders are chosen through relatively upright elections. Such is not the case with the East Asian countries. According to the thoughtful categorization proposed by Ichimura and Morley (1993, p. 27), it is possible to identify no less than four separate regime types: eroding Leninist (China), authoritarian (Indonesia and Singapore), quasi-democratic (Malaysia, Taiwan, and Thailand), and democratic (Japan, South Korea, and the Philippines).

In a related vein, it is logical to assume that the likelihood of achieving a free-trade agreement is enhanced when candidate countries have similar or compatible trading regimes. While the existence of trading regimes with similar trade laws and regulations - contributes to the durability of an FTA, it is also likely to demand the forfeiture of some degree of national sovereignty to a regional body. Subordinating national sovereignty in favor of broader regional interests generally, but not always, requires political commitment at the highest political level and among the country's political elite (Schott, 1991, p. 3). At any rate, the latitude of a negotiator is greater in the event that his or her top political "boss" is unequivocally committed to the empowerment of a regional organization to serve as traffic cop in regulating trade flows and referee in mediating disputes. In this regard, it is well to note the proposals for regional institutions advocated, respectively, by Malaysian Prime Minister Mahathir Mohamad and former Australian Prime Minister Bob Hawke.[7] On this score, it is difficult to say whether or not the political commitment in East Asia and the Pacific Rim is more or less lukewarm and occasionally wavering than the political resolve that led to the creation of the EU and NAFTA.

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[7] Mahathir originally proposed an East Asian Economic Group that included ASEAN, China, Japan, and the newly industrialized economies. The proposal was later recast as the East Asia Economic Caucus that also included Vietnam and an apparent commitment to "open regionalism." The Hawke proposal called for the creation of a regional body whose membership includes Australia, New Zealand, ASEAN, Japan, China, South Korea, Canada, and the United States.

More importantly, the candidate countries for an East Asian FTA embody a far broader range of economic development levels than is the case in Western Europe. In 1994, the unweighted average of purchasing power parity (PPP) estimates of per capita GNP for the ten East Asian countries was $11,321, as compared with $17,627 for the EU-12 countries.[8] The standard deviation in per capita GNP was perceptibly wider among the East Asian states ($7,836) than was the case with the EU states ($4,425). More to the point, the ratio of the country with the highest per capita GNP to that with the lowest per capita GNP in PPP was 8.7 among the East Asian countries and 2.5 among the EU countries.[9] According to the World Bank categorization scheme based on per capita GNP in US dollars, all of the EU member states are high-income economies with the exception Greece which is an upper-middle-income economy. In contrast, the East Asian states run the gamut from a low-income economy (China) to lower-middle-income economies (Indonesia, Philippines, Thailand) to upper-middle-income economies (Malaysia, Korea, Taiwan) to high-income economies (Hong Kong, Singapore, Japan).[10] While this diversity represents a potentially salubrious division of labor à la the "flying geese" pattern of East Asian economic development (Akamatsu, 1962), it also contains the seeds of discontent, especially among the region's developing countries, which might harbor suspicions of perpetual subservience to the advanced countries.

The experience of the EU highlights the transnational difficulties that must be surmounted to achieve regional integration. Nevertheless, a single Europe market has been realized and the process of economic and political integration proceeds apace. And, despite numerous obstacles, the trend toward economic regionalization has revealed itself in Western hemisphere in the form of NAFTA and a series of less ambitious accords. In this regard, the European and North American achievements convey a demonstration effect to would-be emulators in other regions of the world. Moreover, the realization of significant degrees of integration in two extremely important regions of the world economy significantly alters the terms of competition in international trade. Hence, an already partially regionalized world economy creates a more compelling incentive for regionalism elsewhere. Indeed, the major proposals for an East Asian free-trade area emerged from

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[8] The three new members of the EU — Austria, Finland, and Sweden — are excluded from the computation since they became members in 1995.

[9] The calculation is largely based on the data from the *World Development Report*, 1996. If per capita GNP measured in US dollars was used instead, then this ratio would become 65.3 for East Asia and 4.6 for the EU-12.

[10] If per capita GNP in PPP is used instead, China will be included in lower-middle-income economies.

suspicions concerning the ultimate intentions of the Europeans and North Americans. In the final analysis, therefore, while the EU benchmark is suggestive, it is well to bear in mind the implications of the demonstration effect and the changed incentive structure in the world economy in assessing the political feasibility of an East Asian and/or a Pacific free trade area.

2.2 Conditions at the National Level

Assuming that the regional conditions are solved for, the chief negotiator must define a political objective function to determine the domestic feasibility of entering into such an accord. This involves a painstaking assessment of the pros and cons of regional free trade for the country's political economy as well as the particular interests of key industrial lobbies. In addition, it is essential to consider the possible consequences of participation in an FTA — i.e., the possibility of retaliation by an important nonmember trading partner or competing regional trading bloc.

In simple terms, a negotiator's domestic political objective function, Y, might take the following form:

$$Y = f\left(W, \sum_i C_i, R, p\right) \tag{5.1}$$

where W is aggregate national welfare in the event that no nonmember country retaliates, C_i is the contribution of the lobby representing industry i, R is the aggregate welfare in the event of retaliation on the part of a nonmember country or union, and p is the probability of retaliation. Of course, quantifying the specific variables and assessing the effects of their interaction in this kind of political objective function is extremely difficult.

What specific domestic concerns demand to be weighed? First, in order to get a tentative sense for the aggregate welfare gains or losses in the absence of any nonmember retaliation (about which more attention is given in Section 3), it is well to take a longitudinal look at changes in intraregional trade shares for each of the East Asian states. For every East Asian country except Indonesia, the share of intraregional trade increased between 1980 and 1995. For example, Japan's trade with other East Asian countries increased from 24 percent of its total trade in 1980 to 39 percent in 1995, while China's intraregional trade grew from 43 to 55 percent during the same period. Although the most dramatic rise is seen in the figures for Hong Kong, whose intraregional trade share jumped from 44 to 63 percent between 1980 and 1995, it is well to bear in mind that those figures may be biased upward owing to the fact that a large share of Chinese exports to Hong

Kong are re-exported to other East Asian countries (and vice versa). Overall, intra-East Asian trade shares increased an average of 7.4 percentage points between 1980 and 1990 and additional 7.9 percentage points between 1990 and 1995.[11]

At the same time, intraregional trade shares increased among nearly all of the Asian Pacific countries. For example, the share of America's overall trade with other Pacific Basin countries grew dramatically from 46 percent in 1980 to 65 percent in 1995, while the figures for Japan rose from 52 to 70 percent during the same period. The average increase in intraregional trade for 15 Asian Pacific countries was 17 percentage points during the 1980-95 period. Only Indonesia witnessed a drop in its intraregional trade share during the period. To the extent that the removal of barriers to intraregional trade contributes to an increase in aggregate national welfare in a country whose share of trade with others countries in the region is rising, there is an incentive for participation in a regional free trade agreement. Still, it remains an open question as to whether preferential liberalization (i.e., removal of trade barriers among member of an exclusive trading bloc) or nondiscriminatory liberalization is preferable.

The negotiator must also weigh the pros and cons of participation in a regional trading bloc for each of the key domestic demand claimants. Special consideration must be paid to the interests of lobbies representing producer interests, which tend to be better organized and more politically potent than is the case with consumer lobbies. Ultimately, this is a complex, and highly "political" matter, whose resolution is shaped by the character of authority relations in the political regime (e.g., legal-rational authority relations in an democratic regime versus authoritarian coercion in a Leninist regime). Regime objectives (e.g., industrial targeting and import substitution versus unilateral liberalization and/or policies to attract foreign direct investment), as well as labor force and industrial structure considerations, also must be given due heed.

A survey of the East Asian scene reveals the complexity posed by regional trade liberalization vis-à-vis the domestic politics of each candidate country. For example, notwithstanding its relatively insignificant contribution to aggregate welfare, the agricultural sector (including agriculture, forestry, fisheries, and food processing) in Japan (which contributed a mere 2.2 percent of GDP in 1992), South Korea (7.1 percent), and Taiwan (3.6 percent) are highly subsidized and shielded against foreign imports by a

[11] See Table 1.2 of the introductory chapter. The increase in the intra-East Asian trade share during the 1980-90 period is partly induced by the reduction in the region's trade share with OPEC countries caused by sharp declines in oil prices.

variety of tariffs, import quotas, and nontariff barriers (NTBs).[12] Among the EAFTA countries in 1992, Japan (73.3 percent) had far and away the highest ad valorem equivalents of tariff and nontariff barriers, while the steep barriers also applied in the Asian NIEs (56.6 percent) and the ASEAN-4 (28.6 percent) (Table 5.1).[13] The protection afforded agriculture — and the concomitant tax burden and higher food prices for consumers — attests to the political clout wielded by the agricultural lobbies in these countries (Anderson and Hayami, 1986). At the same time, agricultural producers are taxed — while tariffs and government policies protect certain manufacturing industries — in China, Indonesia, the Philippines, and Thailand.

<INSERT TABLE 5.1 HERE>

The effects of liberalization also pose problems for certain protected manufacturing industries. Through the acquisition of capital and technology, the East Asian countries — lead by Japan, followed by the NIEs, with China and the developing countries of Southeast Asia taking up the rear — have shifted from primary products to simple and then more sophisticated manufactures. Many countries in the region have employed infant-industry arguments to justify the protection of a number of manufacturing products, such as petrochemicals, steel, passenger cars, and electronics products. Yet, for obvious reasons, even well-established industries that have been shielded from foreign imports by tariffs, quotas, and other devices are loathed to leave the warm embrace provided by government protectionism.

Such has been the case in many of the East Asian countries. Although Hong Kong and Singapore have led the way in a general trend toward free trade, significant barriers remain in other East Asian countries. In the case of simple manufactures in the more industrialized countries, such barriers are imposed to protect unskilled workers. This is illustrated in the case of Japan, where protection for particular footwear and leather products (with tariffs as high as 60 percent) is rationalized as an affirmative action policy to assist a discriminated minority. Nevertheless, the ad valorem equivalents of tariff and nontariff barriers in 1992 for Japan's textile industry (including textiles, apparel, and

[12] By way of comparison, in 1992 agriculture contributed 28 percent of GDP in China, 22 percent in the Philippines, 21 percent in Indonesia, 16 percent in Malaysia, and 12 percent in Thailand.

[13] These countries impose import quota on a number of agricultural products, and ad valorem equivalents of nontariff barriers are significantly higher than the tariff rates. For estimates of Japan's NTBs by commodities, see Sazanami, Urata, and Kawai (1995).

leather) were relatively low (12.7 percent) compared to those figures for China (62.4 percent) and the ASEAN-4 (36.7 percent) (Table 5.1).

As for more advanced manufactures, infant-industry arguments continue to sustain trade barriers in many East Asian countries. Perhaps the paradigmatic illustration is the case of Malaysia, which maintains a short list of prohibited manufactures in the country's "pioneer industries" (e.g., semiconductors) in spite of relatively low import duties on most manufactured goods. Other countries, such as Thailand, employ a policy of import licensing in industries designated for domestic development, e.g., some textiles and machinery, chemicals, paper products, and motor vehicles (World Bank, 1994). Even after China reduced or abolished tariffs and import surcharges on a host of items and product groups in 1992, the unweighted average tariff rate (43 percent) was higher than the 1986 figure. Moreover, numerous tariffs continued to apply to a widely dispersed range of items (Dean et al, 1994). In 1992, China's ad valorem equivalents of tariff and nontariff barriers for transportation equipment and machinery in 1992 were high (37.5 and 29.9 percent, respectively), while the ASEAN-4 also erected steep barriers to protect those sectors (26.7 and 20.5 percent).

While liberalization is opposed by protected industries, it is viewed with suspicion by governments and nationalistic leaders intent upon ramping-up their countries' economies to the next level of industrial sophistication. On the surface, the experience of Japan and Korea, and to a lesser extent that of Taiwan, appear to demonstrate government's ability to reshape a country's comparative advantage through the development of strategic technologies and export promotion. While the debate rages as to whether these governments have been more effective at picking winners or losers, it cannot be denied that economic intervention by the majority of East Asian states has been "strong," if not always "smart" (Amsden, 1989; Beason and Weinstein, 1996; Inoue et al, 1993; Katzenstein, 1985; Wade, 1990). Moreover, as late as the mid-1980s, import duties constituted a significant share of total tax revenue for the governments of certain East Asian countries, specifically, the Philippines (29 percent), Thailand (22 percent), and South Korea (17 percent) (Dean et al, 1994). It would be expected that governments that stand to face diminished tax revenues would oppose liberalization and the creation of a free trade agreement.

In other words, the domestic political feasibility of a free trade area is a function of a complex calculus of conflicting sector-level interests. The agricultural sector in Japan and the Asian NIEs will contract substantially in the event of the creation of an East Asian or Pacific Basin FTA or the achievement of open regionalism. Even though these welfare

losses will be more than offset by expansion in most of the manufacturing sectors, the agricultural lobby is a vocal opponent of liberalization force in each of these countries. While liberalization would level the playing field for the heavily taxed farmers of China and the ASEAN-4, it would mean a loss of tax revenue for their governments and painful adjustment for protected sectors. As for the United States, the creation of PAFTA or open regionalism would produce lower output levels in the textile and machinery sectors (see Table 5.6).[14] Although liberalization will lead to increased aggregate welfare through expanded trade and enhanced economywide efficiency in the more industrialized countries, individual protected sectors — particularly primary-product sectors or highly cartelized manufacturing or service sectors with well-organized producer lobbies — will seek to retain import protection. From the perspective of the less industrialized countries, liberalization threatens to eliminate sources of government revenue and undermine state-sponsored efforts to develop industries deemed strategic to the national interest.

Finally, a negotiator must soberly assess the risk of potential welfare losses in the event of nonmember retaliation. Given their dependence on American markets as a destination for their exports, the East Asian countries might stand to suffer were the United States to retaliate. In 1995, for example, 35.8 percent of the Philippines' exports went to the United States, while Japan (27.5 percent), Taiwan (23.6 percent), Hong Kong (21.8 percent), and Malaysia (20.7 percent) all sent in excess of one-fifth of their exports to American markets. On average, the United States was the destination for 22.5 percent of the exports of EAFTA countries in 1995. In the next section, we employ a general equilibrium model to provide empirical assessments of the various scenarios involving the removal of trade barriers among the East Asian countries (i.e., the formation of EAFTA) and the Pacific Basin countries (i.e., the formation of PAFTA).

3 Empirical Assessments of a Free Trade Agreement in the Asian Pacific

3.1 The Model

There are advantages in using a computable general equilibrium (CGE) model. Most importantly, a CGE model represents an excellent empirical tool with which to assess the impact of alternative trade-policy scenarios. An important advantage of a CGE model it can capture significant indirect effects between countries and regions, such as interindustry

[14] We estimate and discuss the sector-level effects of liberalization in Section 3.3.

linkages between sectors and trade linkages.[15] Inasmuch as it enables assessment of these effects in both member and nonmember countries, a CGE model is particularly well suited for estimating the impact of a new trading arrangement, which, of course, is our central focus in this study.

We have developed a CGE model to assess the aggregate and sectoral effects of various trade policy scenarios on the Pacific Basin economies (the PAC model). The model employed in the present study is a ten-region, ten-sector model which contains four East Asian regions (Japan, China, Asian NIEs, and ASEAN-4), Australasia (Australia and New Zealand), three North American countries (U.S., Canada, Mexico), Latin America, and the European Union (EU).[16] The model is calibrated to the social accounting matrices (SAMs) of the ten regions, which have been constructed from the Global Trade Analysis Project (GTAP) database (Hertel, 1997). The original database provides 1992 data concerning bilateral trade, transport and protection data, as well as individual country data on input-output, value added, and final demand for 24 regions and 37 sectors. In constructing the PAC model, we have aggregated this into a ten-region, ten-sector data set.[17]

Before elaborating the assumptions that undergird our analysis, it is well to point out two fundamental limitations of the PAC model. First, a comparative static model cannot account for capital accumulation, technological change, and other dynamic processes that might result from liberalization. For this reason, our findings may underestimate the magnitude of gains and adjustments resulting from liberalization, particularly in countries and sectors in which long-term investment and innovation are important. Second, a comparative static model does not allow for a process of gradual liberalization or the sort of liberalization timetable between developed and developing countries such as the one agreed upon by leaders of the APEC countries. At the same time, however, our model has the advantage of capturing medium-term structural adjustments to the removal of trade barriers with greater clarity than a dynamic model.

The PAC model is premised upon three important assumptions.[18] First, the model assumes that bilateral trade between all ten regions is fully endogenous, while each region's trade flows with the rest of the world (ROW) are governed by export supply and

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[15] See the introductory chapter by Lee and Roland-Holst in this volume for advantages and limitations of CGE models.

[16] See notes on Table 5.1 for sectoral classifications.

[17] A SAM for the rest of the world was not constructed for the present analysis.

[18] For a complete set of equations describing the model, see Lee and Roland-Holst (1995).

import demand functions whose elasticities depend upon the size of each country in the ROW market. The resulting 110 sets of sectoral trade flows are then governed by an equal number of endogenous price systems.[19]

Second, as with other CGE constructs (e.g., de Melo and Tarr, 1992), the PAC model employs differentiated product specification for the demand and supply for tradeable commodities. Domestic demand is a constant elasticity of substitution (CES) composite of goods differentiated by origin. For each product category,

$$D_i = \overline{A}_{D_i}\left[\sum_k \beta_i^k \left(D_i^k\right)^{(\sigma_i-1)/\sigma_i}\right]^{\sigma_i/(\sigma_i-1)} \tag{5.2}$$

where k includes the ten regions and ROW. D_i^k 's consist of domestic goods, imports from each region including ROW. σ_i are elasticities of substitution between D_i^k 's, and $\overline{A}_{D_i}$ and β_i^k are intercept and share parameters. Similarly, domestic production is supplied to differentiated destinations (domestic market and exports to each region including ROW), which is specified as a constant elasticity of transformation (CET) composite:

$$S_i = \overline{A}_{S_i}\left[\sum_k \delta_i^k \left(S_i^k\right)^{(\tau_i+1)/\tau_i}\right]^{\tau_i/(\tau_i+1)} \tag{5.3}$$

where τ_i are elasticities of transformation between S_i^k 's, and $\overline{A}_{S_i}$ and δ_i^k are intercept and share parameters.

Thirdly, the PAC model specifies labor supply endogenously in order to capture the positive income effects of liberalization on aggregate employment. While most static CGE models assume fixed aggregate employment, a positively sloped labor supply curve is better suited for in the present study. This is particularly evident in the cases of China and the ASEAN countries, both of which have relatively large reservoirs of surplus labor. We assume that a representative consumer maximizes a Stone-Geary utility function over leisure and ten composite product categories. Labor supply then becomes an increasing function of the wage rate and a decreasing function of the marginal budget share for leisure.[20]

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[19] There are $\sum_{i=1}^{r-1} i = 55$ sets of sectoral import and export flows, where r denotes the number of regions including the ROW.

[20] The labor supply function that is consistent with our consumption specification is given by

3.2 Aggregate Results

We conducted four trade-policy experiments using the PAC model. Scenario 1 assumes that an East Asian free trade agreement is formed by the removal of tariffs and NTBs governing trade among four East Asian regions (Japan, China, Asian NIEs, and ASEAN-4) (Table 5.2). Under this scenario, member countries maintain trade barriers on imports from nonmember countries at the base year (1992) levels. In Scenario 2, the United States retaliates against this discriminatory trading bloc by imposing optimal tariffs on its imports from the East Asian regions. The result is a trans-Pacific trade war. We assume that, in Step 1, the U.S. chooses a vector of tariff rates to maximize its equivalent variations, a broadly used measure of domestic welfare, subject to tariff rates of the Asian regions.[21] In Step 2, the East Asian trading bloc retaliates by choosing a vector of tariff rates to maximize the joint welfare of the bloc, subject to American tariff rates. The respective combatants seek to maximize their welfare functions sequentially until a noncooperative (Nash) equilibrium is attained. No changes in endogenous variables result after the sixth iteration, at which point convergence is reached.

<INSERT TABLE 5.2 HERE>

Scenario 3 assumes that the APEC regions (four East Asian regions, the United States, Canada, Mexico, and Australasia) form a Pacific free trade agreement by removing tariff and nontariff protection. Tariffs and NTBs on imports from the European Union, Latin America, and the rest of the world are maintained at base year levels. Finally, in Scenario 4, all the APEC regions remove trade barriers in a nondiscriminatory manner on imports from all countries and regions. If APEC's largely nondiscriminatory trade

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$$LS = \overline{LS}^{\max} - \left(\frac{\beta_0}{w}\right)\left[\frac{Y - \Sigma_{i=1}^{n} p_i \lambda_i}{1-\beta_0}\right], \quad \overline{LS}^{\max} = LS + C_0 - \lambda_0, \quad 0 \le \beta_0 < 1,$$

where β_0 is the marginal budget share for leisure, w is the wage rate, Y is disposable income, p_i are prices of composite goods, λ_i are subsistence minimum consumption levels (λ_0 is the corresponding level for leisure), and C_0 is the amount of leisure consumed. The elasticity of labor supply with respect to wage is

$$\varepsilon_{LW} = \left[(1-\beta_0)\overline{LS}^{\max} / LS\right] - 1.$$

[21] While a common sectoral tariff rate is imposed regardless of the origin country of East Asia, different optimal tariff rates are chosen across commodities.

liberalization plan is realized, this fourth scenario might more closely approximate the process leading to free trade.[22]

3.2.1 Scenario 1: The Formation of an East Asian Trading Bloc

Aggregate results of Scenario 1 are summarized in Tables 5.2. The welfare measure in the first row represents changes in Hicksian equivalent variations (EVs), or changes in real consumer purchasing power, measured in 1992 billions of U.S. dollars.[23] This can be contrasted with the real GDP measure given in the third row, which does not include the terms-of-trade effect. An improvement in the terms-of-trade raises welfare since it allows an increase in real consumption of imported products for a given quantity of exports.

All four East Asian regions would realize gains in both welfare and real GDP from the formation of an East Asian trading bloc although the gains are unevenly distributed across regions. In percentage terms, China would experience a 1.63 percent increase in real GDP. Because of relatively high rates of initial protection, however, its terms-of-trade deteriorates 4.74 percent, resulting in smaller welfare gains (0.78 percent) compared with real GDP. The NIEs experience the largest welfare gains among the four East Asian regions (0.93 percent) while the gains to Japan are substantially smaller (0.18 percent). In absolute terms, the East Asian bloc gains $17.5 billion in EVs while the welfare levels of nonmember countries increase modestly ($1.3 billion). This results in positive improvement in terms-of-trade for all nonmembers except Mexico and Latin America, and the United States where welfare and real GDP are virtually unaffected.

Total imports and exports (rows 6-7 of Table 5.2) of East Asian regions increase substantially, particularly for China. As one might expect, intra-East Asian imports and exports (rows 8-9) would rise by significantly larger percentages than total imports and exports. As East Asian imports of products previously imported from other member countries increase considerably, the extent of trade creation may be substantial. At the same time, however, trade diversion would also occur as some imports from nonmember countries are replaced by higher cost imports from the member countries.

The proposition that a more protected developing member is likely to lose or gain less than a more liberalized developed member (e.g., Panagariya, 1997) does not

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[22] We also conducted a multilateral liberalization experiment even though we did not report the results. Not surprisingly, the global welfare gains were largest under this scenario.

[23] EV is the amount of real income that would have to be taken away from the representative consumer at pre-policy consumer prices to make the individual as well off as he/she would be at post-policy consumer prices.

necessarily hold under a general equilibrium framework. While more protected economies have to undergo greater structural adjustments, the removal of trade barriers leads to economywide efficiency gains and enhancement of competition. The major beneficiaries are consumers, whose purchasing power increases because of lower import prices. This income effect serves as a tonic for many domestic industries. In addition, if developing members import large quantities of parts, materials, and other intermediate inputs from developed members, trade liberalization could lead to a significant reduction in the average production cost. Our results suggest that, when both direct and indirect effects are taken into account, the benefits accrued to the more protected members are greater than the gains realized by more liberalized members.

3.2.2 Scenario 2: U.S.-East Asian Trade War

Given heightened trade tensions in recent years between the United States and the East Asian countries, particularly Japan and China, it is not unlikely that America would at least threaten to retaliate in response to the formation of a discriminatory East Asian bloc. Although the possibility of actual U.S. retaliation may be remote, it is nonetheless useful to examine the consequence of a hypothetical U.S.-East Asian trade war.

Table 5.3 reports the economywide results of trade war simulation experiments. In the first iteration, the terms-of-trade improve for the country initiating trade hostilities. When the U.S. imposes optimal tariffs on East Asian products, its terms-of-trade increase by more than 10 percent (row 5, column 6). Moreover, the gains in terms-of-trade more than offset a reduction in real GDP, resulting in $32.4 billion gains (0.55 percent) in American EVs. On the other hand, American retaliation would prove devastating to the East Asian countries which would suffer $73.9 billion losses in total EVs (row 1, column 11) owing to the loss of American export markets. The newly imposed tariffs sharply alter the relative prices of American imports by country of origin. These tariffs would cause a significant shift in U.S. imports away from East Asia and to the Western Hemisphere and Europe, providing some welfare gains to Canada, Mexico, and the EU. However, this scenario results in a significant trade diversion and a $29.6 billion decrease in global welfare.[24]

<INSERT TABLE 5.3 HERE>

[24] The figures for the global welfare is only approximate since the rest of the world's welfare is not calculated by the PAC model.

Were the U.S. to initiate a trade war, the East Asian countries are likely to retaliate. In Iteration 2, we assume that the East Asian bloc chooses a set of sectoral tariff rates on U.S. products to jointly maximize its EVs, subject to the U.S. tariff rates imposed in the first step. The middle panel of Table 5.3 indicates that the East Asian countries would recover only about 30 percent of the losses incurred in Iteration 1 (losses of $51.3 billion as compared with $73.9 billion), whereas the U.S. would incur $15.2 billion in losses. Meanwhile, global welfare would be reduced by $55.8 billion relative to the benchmark equilibrium value.

Under these conditions, the U.S. and the East Asian bloc would likely take turns retaliating until a noncooperative equilibrium is attained. Our results indicate that such an equilibrium is attained in Iteration 6, after which no change would occur in the endogenous variables. The bottom panel of Table 5.3 shows that the U.S. and all four East Asian regions would suffer substantial losses in a trade war. In particular, China and ASEAN-4 would suffer relatively large losses in EVs (2.59 and 1.91 percent). Although some countries would gain — including Canada, Mexico, and the European Union — the price tag for global welfare would be $57.6 billion.

Although the possibility of American retaliation must be considered, there are conditions under which the U.S. is unlikely to resort to such action. In a simple two-period game, the United States would not be expected to initiate a trade war if

$$U[(1-p)EV_1 + pEV_2] \leq EV_0, \tag{5.4}$$

where U is the U.S. social welfare function ($U' > 0$, $U'' < 0$), and p is the probability of East Asian retaliation in period 2 if the U.S. initiates a trade war (i.e., U.S. retaliation in response to EAFTA) in period 1. EV_0, EV_1, and EV_2 are U.S. equivalent variations when it takes no action in period 1, when it imposes optimal tariffs on East Asian imports in period 1, and if East Asia retaliates in period 2, respectively. If either the U.S. is infinitely risk averse or $p = 1$, equation (5.4) always holds. East Asian negotiators must consider this in evaluating the potential benefits and costs of an East Asian free trade agreement.

3.2.3 Scenario 3: The Formation of a Pacific Free Trade Area

As demonstrated in Scenario 2, the formation of an East Asian FTA may be politically tricky, especially if strong U.S. retaliation is anticipated. But what about the possibility of a free trade agreement that bridges the Pacific (PAFTA)? Scenario 3 considers a situation wherein the eight APEC regions (the four East Asian regions, America, Canada, Mexico, and Australasia) remove all barriers to intraregional trade. In

order to quantify the welfare effects of PAFTA net of NAFTA, we have created a post-NAFTA data set whose base solution values are calculated from the results of NAFTA experiment and the removal of tariffs and NTBs. The aggregate results of this scenario are presented in Table 5.4.

<INSERT TABLE 5.4 HERE>

In the event that a PAFTA were to be created, every member country with the exception of Mexico (which would experience a mere 0.02 percent reduction in its EVs) would stand to benefit. Because America is the largest trading partner for many of the East Asian countries (Table 1.2) and trade diversion would be considerably smaller by including the U.S. in the trading bloc, the gains to the East Asians are substantially larger under this scenario than under the EAFTA scenario. In percentage terms, the welfare of China, the Asian NIEs, and Australasia each increases by over one percent, Japan and the ASEAN-4 by about 0.6 percent, and the U.S. and Canada by about 0.5 percent. Thus, the U.S. would benefit significantly by extending the free-trade agreement from North America across the Pacific Basin. The Pacific region as a whole would gain $68.0 billion in EVs, while welfare of nonmember countries (Latin America and EU) would be little affected.

3.2.4 Scenario 4: Pursuit of Open Regionalism by APEC Countries

It has been suggested that trade liberalization by APEC members should be based on Most-Favored Nation (MFN) principles and that regional integration in the Asian Pacific should be nondiscriminatory toward the rest of the world (Drysdale and Garnaut, 1993; Elek, 1992; Yamazawa, 1994; Yoo, 1995). Hence, it is necessary that a fourth and final scenario consider the case of "open regionalism," wherein the APEC regions remove all trade barriers.[25] Table 5.5 summarizes the aggregate results for this scenario.

<INSERT TABLE 5.5 HERE>

When the APEC regions abolish all import tariffs and nontariff barriers, the result is welfare gains for all the regions, members and nonmembers alike. Open regionalism produces larger real GDP gains for all eight APEC regions than is the case under the

[25] While we use "open regionalism" and "nondiscriminatory liberalization" interchangeably, the former may include liberalization on a reciprocal basis.

discriminatory liberalization (PAFTA) scenario. However, while nondiscriminatory liberalization produces larger welfare gains for the Asian NIEs ($8.5 billion versus $6.4 billion), the gains are smaller for Japan ($18.2 billion versus $20.3 billion), China ($3.3 billion versus $4.5 billion), and the ASEAN-4 ($1.8 billion versus $2.1 billion). The reason for this is that reductions in these countries' terms-of-trade would more than offset additional gains in real GDP relative to the PAFTA scenario. In the meantime, the United States, Canada, and Mexico would all realize additional welfare gains net of NAFTA.

At the same time, global welfare would be enhanced since there would be no trade diversion under open regionalism. Both intra-APEC and inter-APEC trade would expand considerably (rows 6-9). Thus, even though some individual APEC countries might be better off under the discriminatory liberalization of the EAFTA scheme, open regionalism produces greater benefits for the Asia-Pacific region as a whole ($75.5 billion in EVs as opposed to $68.0 billion in EVs under the EAFTA scenario).

One potential sticking point involves the U.S. position concerning most-favored nation treatment for non-APEC members. Indeed, the American side has argued that APEC liberalization be extended only to those nonmember countries that implement matching liberalization on an MFN basis (e.g., Panagariya, 1997; Yamazawa, 1996). The U.S. government is concerned that the European Union would reap free-rider benefits in the event that the APEC countries were to opt for blanket liberalization. In fact, we estimate that the EU would reap $14.8 billion in EVs under this scenario. Nevertheless, our results indicate that the U.S. would gain more from nondiscriminatory liberalization than from discriminatory liberalization ($37.0 billion versus $28.6 billion in EVs). In the event that the EU were to apply reciprocal liberalization, even greater welfare gains would be realized for every APEC member, including the U.S. Thus, APEC members have an incentive to bargain with the EU to accelerate implementation of multilateral liberalization as agreed upon in the Uruguay Round.[26]

3.3 Sectoral Results

While these scenarios demonstrate that greater liberalization produces greater overall welfare gains, it is essential to be recognize that economywide efficiency gains are rarely distributed uniformly across sectors. For this reason, adversely affected sectors are likely to raise challenges to the establishment of free trade agreements. In this section we

[26] During the first Asia-Europe Summit Meeting (ASEM) in Bangkok in March 1996, Asian leaders in fact advocated the EU counterparts to match APEC's accelerated timetable for multilateral liberalization.

discuss the sectoral adjustments in output, demand, and trade flows under the three alternative EAFTA, PAFTA, and open regionalism scenarios.

As shown in Table 5.6, output and trade adjustments vary significantly across sectors. For instance, under the EAFTA scenario the Asian NIEs would experience a contraction in their agriculture and food, energy and resources, trade and transport, and service sectors; meanwhile the textile and apparel sector would expand substantially. The removal of tariff and nontariff barriers leads to an increase in imports of almost every product category in the four East Asian regions. Those sectors with high protection rates (e.g., agriculture in Japan and NIEs, textiles and apparel in China) would experience a sharp increase in imports. Although consumers would shun domestic products for lower priced imports, the removal of import barriers also serves to reduce the cost of imported intermediate inputs for domestic producers. This would result in a decrease in output in many of the highly protected sectors. In some cases, however, the expansionary effect resulting from input cost reductions outweighs the contractionary effect resulting from a substitution from domestic to imported products (e.g., textiles and apparel in China and the ASEAN-4).

<INSERT TABLE 5.6 HERE>

Sectoral adjustments are far more dramatic under a Pacific free trade agreement than under an exclusionary East Asian free trade scenario. For example, Japan's agriculture and food sector would contract by 9.4 percent under the PAFTA scheme, while the textile and apparel sector in the Asian NIEs and the ASEAN-4 would expand by 24.8 and 16.5 percent, respectively. Because Japan imports a relatively large share of its food from the U.S., Canada, and Australia, the removal of high barriers on agricultural and food products among APEC countries would cause an extremely large increase in Japanese imports (58.9 percent), leading to a large contraction in domestic output. Similarly, since the Asian NIEs as well as the ASEAN-4 export large quantities of textiles and apparel to the United States, export expansion in the wake of the formation of PAFTA would sharply raise domestic output.

The liberalization of agricultural trade among APEC countries would have especially strong resource-pull effects in Australasia and Canada. As the agricultural sector expands substantially in these countries, factors of production would be diverted from other sectors,

causing an output contraction in almost all other sectors. However, this assumes that labor is homogeneous and perfectly mobile across sectors. When labor is disaggregated by type and skill, however, limited labor mobility may have prevented contraction in many of non-agricultural sectors.

Liberalization of APEC agricultural trade would serve to expand U.S. agricultural exports, although the resource-pull effects would not be as dramatic as those in Australasia or Canada. This is because the number of workers is smaller in agriculture and food processing as a percentage of economywide employment in the United States (4.2 percent) than in Australasia (7.4 percent) or Canada (5.6 percent). Moreover, some American manufacturing sectors, particularly the aircraft industry (aggregated into transport equipment) and high-technology industries, have a high level of revealed comparative advantage (Balassa and Noland, 1988, p. 34). Nevertheless, output contraction is predicted in four American manufacturing sectors — textiles and apparel, chemicals and rubber, machinery, and other manufacturing.

An open regionalism scenario would demand reinforced comparative advantage and greater sectoral adjustments for each region. This would bring both gain and pain for particular countries and particular sectors. Overall, open regionalism would produce trade expansion in most product categories, especially inexpensive imports at the expense of high-priced domestic products. At the same time, it is well to observe that in the case of some domestic products with comparative disadvantage — such as agriculture in Japan and the NIEs, and textiles and apparel in the United States and Canada — the shares of intra-APEC imports are already extremely high. Thus, even though these sectors would suffer output losses, open regionalism would produce relatively small additional contractions.

Two caveats should be borne in mind in light of the foregoing analysis. First, liberalization of the service trade has been excluded from our experiments. In this regard, the welter of regulations in various categories of services in the APEC countries suggests that barriers to trade in services may be extremely high (APEC and PECC, 1995). However, there is no appropriate method for converting frequency measures into ad valorem equivalents; hence, no attempt to do so has been made in the present study. Service trade accounted for 16.2 percent of APEC's total exports and imports in 1992 (the GTAP database), and its share in gross trade would have been much greater in the absence of regulations. For this reason, service liberalization is expected to result in substantial economywide and sectoral effects.

Second, the PAFTA and open regionalism scenarios assume a one time, across-the-board removal of trade barriers among the APEC member. In fact, however, liberalization programs for the developed members are to be implemented over the 1997-2010 period, while the developing members will remove barrier during the 1997-2020 period. A flexible timetable for liberalization recognizes the wide gulf in the level of economic development as well as a diversity of domestic situations among the APEC countries. If there is to be a flexible liberalization schedule, it is likely that adversely affected domestic interests may attempt to block or postpone liberalization. While it is beyond the scope of the present model to fully consider these possibilities, the aggregate results from sections 3.2.3 and 3.2.4 suggest that the benefits to consumers, as well as to the expanding sectors, significantly outweigh the costs to the contracting sectors.

4 Conclusions

Despite the economic incentives for establishing an East Asian or a Pacific free trade agreement, the realization of such an arrangement demands the resolution of transnational as well as domestic political difficulties. The removal of trade barriers will lead to expanded economywide and global efficiency, leading to increased aggregate welfare. Yet considerations of aggregate welfare seldom play a decisive role in the formation of a country's trade policy. Instead, individual sectors seek to elicit or retain government protection in order to avoid the potentially painful and destabilizing adjustments and tradeoffs that accompany liberalization. In sum, economic rationality and political feasibility are not necessarily coterminous. Nevertheless, the trend toward greater interdependence in trade and investment among the Asia Pacific countries may eventually dismantle regional and domestic political barriers and pave the way for deeper formal integration.

Even though every country in the East Asian region would stand to benefit, our empirical results suggest that the formation of an East Asian trading bloc may be difficult to realize. A major consideration is the possibility of American retaliation, which, if it led to trans-Pacific trade war, would impose substantial welfare losses on the East Asian countries. In the event that a Pacific free trade area were to be created, every member country, with the exception of Mexico, would realize aggregate welfare gains. In fact, creation of a Pacific free trade area promises to produce global welfare gains almost four times greater than would be the case with an East Asian trading bloc. However, even greater welfare gains would be realized in the event that the APEC countries were to opt

for total, nondiscriminatory liberalization. The message to policymakers is straightforward: Despite large disparities in per capita income, open regionalism promises to benefit the welfare of every country and people on the Pacific Basin.

The wider the scope of liberalization, the stronger and more widespread the anticipated opposition by adversely affected industry lobbies. Resistance to proposals for open regionalism or a Pacific free trade agreement would be expected to elicit broader and more intense industry opposition than would be the case with a proposal for an East Asian trading bloc. However, APEC trade liberalization under the flexible program is based on "individual action plans" and predicated upon a gradual process of nondiscriminatory liberalization. If each government implements an adjustment program, including the training of workers in depressed sectors, the pains of economic transition could be ameliorated.

The potential benefits of open regionalism far outweigh the potential costs of structural adjustment. Thus, free trade in the Asia Pacific region would contribute to regional growth, prosperity, and cooperation.

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Table 5.1 Ad Valorem Equivalents of Tariff and Nontariff Barriers, 1992
(percent)

		Japan	China	Asian NIEs	ASEAN -Four	Australia -NZ	U.S.	Canada	Mexico	Latin America	EU
1	AgricFood	73.3	20.2	56.6	28.6	7.3	9.9	16.0	7.7	16.8	36.6
2	EnergRes	0.7	10.7	3.6	10.5	0.9	0.8	0.4	9.9	5.2	0.9
3	TextApLea	12.7	62.4	2.2	36.7	17.9	15.1	20.7	16.8	21.5	11.1
4	ChemRbPls	5.5	18.3	5.2	19.2	17.1	10.8	10.6	8.3	16.2	13.6
5	Metals	2.6	17.4	5.0	12.1	17.5	7.4	9.1	7.9	17.0	4.5
6	Machinery	3.4	29.9	5.5	20.5	20.4	16.7	8.8	12.2	20.1	9.6
7	TranspEq	3.0	37.5	7.4	26.7	20.9	3.8	7.8	13.8	16.7	8.1
8	OtherMfg	4.2	47.8	3.1	24.6	16.8	5.2	9.0	10.7	19.0	5.4
9	TradeTrnsp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Services	0.0	2.9	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0
	Weighted Avg	13.0	30.4	8.1	19.6	13.8	8.7	8.8	9.8	13.9	8.3

Notes:
1. These rates are the sum of tariff rates and ad valorem equivalents of nontariff barriers.
2. AgFood = agriculture, forestry, fishery, and food processing. EnergRes = energy and resources. TextApLea = textiles, apparel, and leather. ChemRbPls = chemicals, rubber, and plastics. Metals = primary metals and metal products. Machinery = non-electrical and electrical machinery. TranspEq = transport equipment. OtherMfg = other manufacturing. TradeTrnsp = trade and transport. Services = construction, finance, and other services.

Source: GTAP Database, version 2.

Table 5.2 Aggregate Results of Regional Tariff and NTB Liberalization among East Asian Countries

		(1) Japan	(2) China	(3) Asian NIEs	(4) ASEAN -Four	(5) Australia -NZ	(6) U.S.	(7) Canada	(8) Mexico	(9) Latin America	(10) EU	(11) Subtotal (1)-(4)	(12) Subtotal (5)-(10)
1	Welfare ($ billion)	6.48	3.41	5.72	1.91	0.08	0.23	0.17	0.02	-0.04	0.97	17.52	1.34
2	Welfare (%)	0.18	0.78	0.93	0.55	0.02	0.00	0.03	0.01	-0.01	0.01		
3	Real GDP ($ billion)	2.68	7.99	3.91	4.51	-0.03	-0.35	0.06	0.02	0.01	0.57	19.07	0.31
4	Real GDP (%)	0.07	1.63	0.68	1.28	-0.01	-0.01	0.01	0.01	0.00	0.01		
5	Terms of Trade	0.74	-4.74	0.67	-2.09	0.15	0.12	0.07	-0.01	-0.05	0.04		
6	Total Imports	4.14	14.34	5.57	6.25	0.13	0.25	0.14	0.01	-0.05	0.04		
7	Total Exports	2.40	11.81	5.65	7.57	-0.05	-0.01	0.05	0.02	-0.01	-0.01		
8	Intra-E. Asian Imp	11.97	28.18	9.39	14.84								
9	Intra-E. Asian Exp	10.10	16.82	16.84	10.66								

Note: All figures are percentage changes except welfare (row 1) and real GDP (row 3).

Table 5.3 Aggregate Results of U.S.-East Asian Trade War Experiments

	(1) Japan	(2) China	(3) Asian NIEs	(4) ASEAN -Four	(5) Australia -NZ	(6) U.S.	(7) Canada	(8) Mexico	(9) Latin America	(10) EU	(11) Subtotal (1)-(4)	(12) Subtotal (5)-(10)
Iteration 1: U.S. imposes optimal tariffs on imports from East Asian regions (1-4).												
1 Welfare ($ billion)	-46.39	-13.82	-6.28	-7.45	-1.49	32.39	4.23	0.27	0.15	8.83	-73.94	
2 Welfare (%)	-1.31	-3.07	-1.02	-2.08	-0.45	0.55	0.75	0.08	0.02	0.13		
3 Real GDP ($ billion)	-8.01	-1.25	-7.52	-2.25	-0.28	-9.07	1.22	-0.13	-0.08	-1.59	-19.04	-28.95
4 Real GDP (%)	-0.22	-0.26	-1.28	-0.63	-0.08	-0.15	0.21	-0.04	-0.01	-0.02		
5 Terms of Trade (%)	-9.31	-7.03	-2.32	-4.74	-1.79	10.16	0.52	1.20	-0.35	1.05		
Iteration 2: East Asian regions (1-4) impose optimal tariffs on imports from the U.S.												
1 Welfare ($ billion)	-29.52	-11.42	-3.71	-6.67	-0.41	-15.24	2.45	0.72	0.07	7.91	-51.32	-55.82
2 Welfare (%)	-0.83	-2.54	-0.60	-1.86	-0.12	-0.26	0.43	0.21	0.01	0.12		
3 Real GDP ($ billion)	-14.85	-2.34	-13.39	-3.60	-0.14	-19.75	0.94	0.04	0.14	-1.36	-34.19	-54.31
4 Real GDP (%)	-0.41	-0.48	-2.28	-1.01	-0.04	-0.34	0.16	0.01	0.02	-0.02		
5 Terms of Trade (%)	-2.30	-5.00	1.99	-2.37	-0.29	1.66	0.72	1.26	-0.13	1.19		
Iteration 6: Equilibrium												
1 Welfare ($ billion)	-30.71	-11.66	-4.00	-6.85	-0.45	-15.25	2.61	0.73	0.08	7.96	-53.22	
2 Welfare (%)	-0.86	-2.59	-0.65	-1.91	-0.14	-0.26	0.46	0.21	0.01	0.12		
3 Real GDP ($ billion)	-15.34	-2.42	-13.66	-3.72	-0.14	-20.49	0.99	0.04	0.15	-1.39	-35.13	-55.99
4 Real GDP (%)	-0.42	-0.50	-2.33	-1.04	-0.04	-0.35	0.17	0.01	0.02	-0.02		
5 Terms of Trade (%)	-2.55	-5.10	1.88	-2.46	-0.35	1.95	0.76	1.30	-0.13	1.20		

Table 5.4 Aggregate Results of Regional Tariff and NTB Liberalization among APEC Countries

		(1) Japan	(2) China	(3) Asian NIEs	(4) ASEAN -Four	(5) Australia -NZ	(6) U.S.	(7) Canada	(8) Mexico	(9) Latin America	(10) EU	(11) Subtotal (1)-(4)	(12) Subtotal (5)-(10)
1	Welfare ($ billion)	20.26	4.53	6.42	2.08	3.58	28.61	2.60	-0.06	-0.17	1.28	68.02	1.11
2	Welfare (%)	0.57	1.04	1.05	0.60	1.07	0.48	0.46	-0.02	-0.02	0.02		
3	Real GDP ($ billion)	21.40	9.79	11.35	6.76	1.29	17.36	-1.31	0.37	0.05	1.28	66.99	1.33
4	Real GDP (%)	0.59	2.00	1.96	1.92	0.38	0.29	-0.22	0.11	0.01	0.02		
5	Terms of Trade	0.24	-4.91	-0.65	-3.22	1.89	0.93	1.55	-0.61	-0.23	-0.03		
6	Total Imports	10.85	17.90	8.69	8.57	10.56	6.11	2.93	0.23	-0.22	-0.04		
7	Total Exports	8.95	14.40	11.28	11.09	6.19	4.59	0.03	0.96	-0.03	-0.04		
8	Intra-APEC Imp	16.98	24.87	11.24	13.56	15.01	8.93	3.03	0.36				
9	Intra-APEC Exp	14.16	16.11	15.98	11.63	11.41	9.95	0.81	1.16				

Note: All figures are percentage changes except welfare (row 1) and real GDP (row 3).

Table 5.5 Aggregate Results of Nondiscriminatory Tariff and NTB Liberalization by APEC Countries

		(1) Japan	(2) China	(3) Asian NIEs	(4) ASEAN -Four	(5) Australia -NZ	(6) U.S.	(7) Canada	(8) Mexico	(9) Latin America	(10) EU	(11) Subtotal (1)-(4)	(12) Subtotal (5)-(10)
1	Welfare ($ billion)	18.20	3.28	8.53	1.75	3.98	36.96	2.68	0.11	3.31	14.79	75.48	18.10
2	Welfare (%)	0.51	0.75	1.39	0.50	1.19	0.63	0.48	0.03	0.37	0.22		
3	Real GDP ($ billion)	24.84	13.77	12.82	10.05	2.75	29.37	0.61	0.86	-1.11	-1.14	95.08	-2.25
4	Real GDP (%)	0.68	2.82	2.22	2.85	0.81	0.50	0.10	0.26	-0.13	-0.02		
5	Terms of Trade	-0.63	-7.14	-0.73	-5.16	0.59	0.34	0.82	-1.46	3.31	1.90		
6	Total Imports	11.73	20.19	10.33	11.23	12.07	7.46	3.37	0.98	4.17	2.51		
7	Total Exports	10.98	19.29	12.89	15.99	9.21	6.62	1.54	2.36	0.51	0.49		
8	Intra-APEC Imp	17.05	22.07	12.29	11.40	13.49	9.61	2.71	-0.29				
9	Intra-APEC Exp	13.79	18.74	14.79	13.85	12.18	9.09	1.43	1.54				

Note: All figures are percentage changes except welfare (row 1) and real GDP (row 3).

Table 5.6 Sectoral Results of Discriminatory and Nondiscriminatory Liberalization Experiments (percentage changes)

		EAFTA				PAFTA				Open Regionalism			
Region	Sector	Outp	Cons	Imp	Exp	Outp	Cons	Imp	Exp	Outp	Cons	Imp	Exp
Japan	AgricFood	-1.7	0.5	13.8	14.1	-9.4	2.6	58.9	10.2	-10.6	2.9	68.6	10.5
	EnergRes	-0.2	0.2	1.2	4.7	0.6	0.4	1.1	6.0	1.4	0.1	-0.1	7.5
	TextApLea	-0.8	1.1	14.6	10.9	-0.7	1.6	17.7	13.5	-1.1	1.8	21.3	15.0
	ChemRbPls	0.4	0.2	1.9	5.6	1.1	0.6	3.0	13.2	1.1	0.5	4.2	14.4
	Metals	0.6	0.2	2.5	4.4	2.1	0.4	3.4	8.1	2.4	0.3	2.5	9.6
	Machinery	0.8	0.3	2.8	2.7	4.3	0.9	4.0	13.6	4.6	0.8	4.4	14.8
	TranspEq	0.4	0.3	2.0	0.9	1.9	0.6	3.7	4.2	3.3	0.6	3.0	7.3
	OtherMfg	0.2	0.2	3.1	3.3	0.8	0.6	3.5	8.0	0.9	0.6	3.9	9.9
	TradeTrnsp	-0.1	0.1	0.8	-1.1	0.2	0.3	-0.1	-0.1	0.5	0.2	-2.0	4.0
	Services	0.1	0.1	1.0	0.2	0.3	0.2	-0.4	0.5	0.2	0.1	-1.5	2.3
China	AgricFood	3.7	-0.4	8.6	51.9	2.9	-0.4	16.6	42.0	3.0	-0.8	22.1	45.5
	EnergRes	0.0	-0.1	1.7	2.6	-0.1	0.1	5.7	3.1	1.3	-0.5	5.2	6.8
	TextApLea	2.9	6.8	42.4	13.2	6.4	8.0	50.0	19.4	9.9	7.9	52.7	24.8
	ChemRbPls	0.2	0.8	5.9	4.8	0.7	1.3	9.3	9.6	1.3	1.0	11.9	13.7
	Metals	-1.2	0.9	7.2	6.0	-0.8	1.2	9.7	9.6	0.2	0.9	11.3	14.6
	Machinery	-1.2	4.0	11.5	3.7	-0.9	5.0	13.8	5.0	-0.2	5.9	16.9	9.2
	TranspEq	0.7	10.1	10.9	9.8	-0.3	11.6	12.6	9.0	3.5	13.5	14.5	16.6
	OtherMfg	-2.4	3.0	33.6	3.5	-0.8	3.5	36.1	7.8	0.8	3.2	36.4	12.1
	TradeTrnsp	0.6	-0.4	-2.4	1.9	1.0	-0.3	-1.9	2.6	2.1	-0.8	-4.8	9.8
	Services	-0.2	-0.4	-0.8	1.3	0.0	-0.2	0.1	2.2	-0.1	-0.8	-2.4	12.6
Asian	AgricFood	-2.0	1.8	20.1	20.3	-9.0	4.0	41.3	18.0	-10.8	4.6	48.5	17.4
NIEs	EnergRes	-1.9	0.7	2.4	-1.4	-0.8	0.2	3.2	-0.2	-0.9	0.5	3.8	0.2
	TextApLea	12.7	2.9	8.8	17.9	24.8	3.4	12.7	33.8	26.9	4.3	15.3	37.2
	ChemRbPls	2.3	1.0	5.5	5.1	5.2	0.7	7.9	8.8	4.9	1.1	9.1	8.4
	Metals	0.3	0.7	4.9	2.8	3.1	0.4	6.7	8.4	2.8	0.8	8.2	8.5
	Machinery	2.7	2.7	3.7	4.5	6.0	2.8	5.4	9.4	6.4	3.8	6.6	10.3
	TranspEq	4.7	2.8	3.9	9.4	6.0	3.6	6.0	13.2	7.1	4.6	7.7	15.8
	OtherMfg	1.6	1.3	3.7	5.0	4.2	1.1	4.5	10.2	4.5	1.6	5.7	11.3
	TradeTrnsp	-1.3	-0.1	3.2	-4.5	-0.6	-0.5	2.7	-3.3	0.0	-0.5	2.4	-1.5
	Services	-0.1	0.0	2.9	-5.7	0.0	-0.5	1.7	-4.7	0.3	-0.4	2.3	0.0
ASEAN-	AgricFood	3.0	-0.2	9.0	16.0	1.5	-0.3	19.4	12.9	1.3	-0.3	32.0	16.1
Four	EnergRes	0.5	-0.6	1.5	1.7	1.3	-0.9	2.1	3.0	1.3	-0.7	6.6	4.9
	TextApLea	6.9	5.0	24.7	15.4	16.5	6.0	32.6	29.7	25.4	6.5	38.3	42.5
	ChemRbPls	-0.3	1.7	5.6	5.0	1.3	1.9	7.6	8.9	1.8	2.7	10.6	12.6
	Metals	-1.6	1.3	3.7	4.7	-0.4	1.2	4.7	7.9	0.9	1.0	5.7	12.0
	Machinery	5.4	5.3	5.0	6.6	9.0	6.5	6.6	10.7	13.1	7.2	7.8	15.4
	TranspEq	0.7	5.6	9.2	17.5	0.8	6.6	11.2	21.3	0.5	7.7	13.0	25.1
	OtherMfg	0.4	1.4	10.3	4.2	2.7	1.7	12.1	9.0	4.7	1.9	14.2	13.4
	TradeTrnsp	-0.2	-1.0	0.3	-0.7	0.2	-1.3	-0.4	0.5	0.9	-1.9	-2.6	4.1
	Services	-0.3	-0.5	-1.0	1.2	-0.2	-0.7	-2.9	2.3	-0.2	-1.1	-5.4	7.7

Table 5.6 (continued)

		EAFTA				PAFTA				Open Regionalism			
Region	Sector	Outp	Cons	Imp	Exp	Outp	Cons	Imp	Exp	Outp	Cons	Imp	Exp
Australia	AgricFood	-0.3	0.0	0.0	-0.8	10.2	1.2	8.6	27.2	11.3	1.2	10.1	30.4
-NZ	EnergRes	0.3	0.0	-0.4	0.5	-1.0	0.5	5.1	-1.9	0.5	0.5	2.4	1.0
	TextApLea	-1.6	0.5	3.7	-3.4	-5.6	3.0	19.9	1.0	-6.3	3.5	23.1	3.1
	ChemRbPls	-0.1	0.0	0.0	-0.2	-3.0	2.4	8.9	1.7	-4.4	3.5	13.6	3.4
	Metals	0.1	0.0	-0.5	0.1	-2.7	1.4	15.1	0.3	-2.7	1.7	20.2	2.4
	Machinery	-0.3	0.0	0.1	-1.1	-6.1	6.7	11.1	-1.9	-6.5	8.1	13.3	0.9
	TranspEq	-0.2	0.0	0.0	-1.9	-5.6	6.3	16.1	3.6	-5.7	7.1	17.6	6.1
	OtherMfg	0.0	0.0	0.0	0.0	-2.5	1.7	13.4	-1.0	-2.7	2.0	16.7	1.1
	TradeTrnsp	0.1	0.0	-0.4	0.9	-0.5	0.3	4.2	-4.7	0.0	0.2	2.1	-1.8
	Services	0.0	0.0	-0.3	0.1	0.1	0.3	3.6	-5.6	0.3	0.3	1.4	-0.1
U.S.	AgricFood	0.0	0.0	-0.1	-0.3	6.7	0.9	3.4	45.1	6.6	1.0	7.0	46.0
	EnergRes	-0.1	0.0	0.1	0.0	0.1	0.2	1.8	-0.3	0.5	0.1	-0.1	2.2
	TextApLea	-1.4	0.6	3.5	-1.1	-4.5	2.3	14.8	0.5	-5.6	3.1	19.1	2.3
	ChemRbPls	0.0	0.0	-0.1	0.3	-0.1	0.7	5.5	1.8	-0.1	1.0	8.6	3.1
	Metals	0.1	-0.1	-0.3	0.2	0.1	0.3	3.6	1.4	0.1	0.4	6.4	2.5
	Machinery	-0.1	0.0	0.2	-0.2	-2.0	3.0	11.1	0.3	-1.7	3.7	13.6	2.0
	TranspEq	0.2	0.2	-0.2	-0.1	1.4	1.4	2.0	2.4	2.4	1.9	2.4	5.1
	OtherMfg	0.0	0.0	-0.1	0.0	-0.1	0.4	4.7	0.2	0.1	0.6	5.8	1.7
	TradeTrnsp	0.0	0.0	-0.7	0.6	0.2	0.2	1.2	-1.4	0.5	0.2	-0.3	1.2
	Services	0.0	0.0	-0.1	0.0	0.2	0.1	1.2	-1.9	0.4	0.2	-1.0	2.0
Canada	AgricFood	0.1	0.1	-0.1	0.1	6.1	0.9	5.0	21.3	6.5	1.0	7.2	23.8
	EnergRes	0.1	0.0	0.0	0.2	-1.2	0.3	2.7	-2.1	0.0	0.0	0.1	-0.3
	TextApLea	-1.1	0.4	2.2	-1.8	-5.1	2.0	12.8	-4.9	-6.2	2.5	16.3	-4.7
	ChemRbPls	-0.2	-0.1	0.1	-0.3	-1.0	0.5	2.2	-1.2	-0.9	0.7	3.0	-0.4
	Metals	0.0	-0.1	0.1	-0.1	-2.2	0.3	2.4	-2.6	-1.5	0.4	3.7	-0.9
	Machinery	-0.4	-0.1	0.0	-0.5	-3.6	1.6	1.8	-4.3	-2.9	1.7	2.1	-3.3
	TranspEq	0.5	0.2	0.1	0.5	-1.6	2.1	1.9	-1.5	-0.6	2.2	2.3	-0.3
	OtherMfg	-0.1	-0.1	0.1	-0.1	-1.1	0.4	3.9	-1.8	-0.6	0.5	4.4	-0.4
	TradeTrnsp	0.0	0.0	-0.2	0.4	-0.1	0.1	2.2	-2.6	0.1	0.1	1.0	-0.4
	Services	0.0	0.0	-0.1	0.1	0.0	0.2	1.6	-1.7	0.2	0.2	0.9	-0.1
Mexico	AgricFood	0.0	0.0	-0.1	0.0	0.2	0.0	1.4	4.6	0.0	0.0	2.3	5.2
	EnergRes	0.0	-0.1	0.0	0.1	1.0	-0.2	-1.1	1.6	2.2	-0.1	-0.8	4.1
	TextApLea	-0.4	0.1	1.2	-1.4	-1.2	0.3	5.1	-2.5	-1.8	0.5	8.1	-2.8
	ChemRbPls	-0.1	-0.1	0.0	-0.2	0.4	-0.2	-0.5	2.4	0.4	0.0	0.4	4.9
	Metals	0.0	-0.1	0.0	0.1	0.4	-0.1	0.1	2.4	0.4	0.1	1.6	4.2
	Machinery	0.1	-0.1	0.0	0.1	-0.9	0.2	0.1	-1.0	-0.4	1.1	0.8	-0.3
	TranspEq	0.2	0.1	0.1	0.2	0.7	0.4	0.7	1.5	0.8	1.2	2.2	2.5
	OtherMfg	0.0	-0.1	-0.1	0.0	0.2	-0.1	0.2	1.9	0.2	0.0	1.1	2.6
	TradeTrnsp	0.0	0.0	-0.2	0.2	0.1	-0.1	-1.4	1.6	0.3	-0.2	-2.6	3.4
	Services	0.0	0.0	-0.8	0.1	0.0	0.0	-1.9	0.8	0.1	-0.1	-2.3	4.7

Table 5.6 (continued)

Region	Sector	EAFTA Outp	EAFTA Cons	EAFTA Imp	EAFTA Exp	PAFTA Outp	PAFTA Cons	PAFTA Imp	PAFTA Exp	Open Regionalism Outp	Open Regionalism Cons	Open Regionalism Imp	Open Regionalism Exp
Latin	AgricFood	0.0	0.0	0.0	-0.1	-0.2	0.0	0.5	-0.8	0.8	0.3	5.9	5.3
America	EnergRes	0.1	0.0	-0.2	0.3	0.4	0.0	-0.4	1.4	-1.1	0.3	3.8	-2.9
	TextApLea	-0.4	0.1	2.3	-1.4	-0.7	0.1	3.3	-3.2	-0.2	0.5	9.6	2.6
	ChemRbPls	0.0	0.0	-0.1	0.1	0.1	-0.1	-0.6	0.7	-0.4	0.5	3.2	1.5
	Metals	0.1	0.0	-0.2	0.2	0.2	0.0	-0.6	0.6	-0.6	0.4	3.7	0.2
	Machinery	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.4	-0.8	-1.0	1.2	3.1	-1.9
	TranspEq	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.1	-0.7	-1.4	1.4	4.6	-1.1
	OtherMfg	0.0	0.0	-0.2	0.1	0.1	0.0	-0.7	0.5	-0.4	0.4	3.8	-1.5
	TradeTrnsp	0.1	0.0	-0.3	0.5	0.1	0.0	-0.8	1.0	-0.5	0.3	4.0	-4.3
	Services	0.0	0.0	-1.0	0.1	0.0	0.0	-1.6	0.5	0.0	0.2	4.3	-3.0
EU	AgricFood	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.1	-1.3	0.2	0.2	2.0	4.4
	EnergRes	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	0.7	-0.2	0.2	1.1	-1.6
	TextApLea	-0.5	0.2	2.5	-0.3	-0.8	0.4	3.9	-0.5	-1.0	0.8	7.2	1.3
	ChemRbPls	0.0	0.0	-0.1	0.2	0.1	0.0	-0.4	0.6	0.4	0.4	1.7	2.8
	Metals	0.0	0.0	-0.2	0.1	0.1	0.0	-0.4	0.5	0.0	0.2	1.7	0.8
	Machinery	-0.1	0.0	0.0	-0.4	-0.3	0.0	0.0	-0.9	0.5	0.9	2.7	2.5
	TranspEq	0.0	0.0	-0.2	-0.4	0.0	0.0	-0.1	-0.4	-0.4	0.5	3.7	-0.7
	OtherMfg	0.0	0.0	-0.1	0.1	0.1	0.0	-0.2	0.5	-0.2	0.3	2.5	0.4
	TradeTrnsp	0.1	0.0	-0.5	0.4	0.1	0.0	-0.9	0.6	-0.4	0.1	1.8	-2.8
	Services	0.0	0.0	-0.4	0.1	0.0	0.0	-1.5	0.8	0.1	0.1	1.7	-2.4

Notes:
1. Outp = gross output. Cons = consumption. Imp = imports. Exp = exports.
2. See notes on Table 5.1 for industrial classifications.