Multilateral and Regional Trade Reforms: A Global Assessment From a U.S. Perspective

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Abstract

To assess how the United States is served by various trade agreements, this paper provides a global analysis of regional and multilateral trade reforms. A series of regional trade agreements is conducted using a global model. This approach permits welfare gains to be accounted for in a consistent manner while allowing for interaction between regional agreements. The U.S. perspective differs from that of other countries because it has a more global orientation in its trade patterns. Although there can be significant gains from U.S. participation in regional agreements, the success of regional trade agreements (RTA's) does not diminish the importance of multilateral agreements. After full implementation of all major regional trade agreements, the economy-wide gains to the United States from a complete multilateral reform remain higher than the net gains from RTA's. An open-regional agreement like that proposed by APEC appears less attractive for the United States than an open-global agreement that could be achieved by a WTO multilateral agreement.

Introduction

The United States has played a significant role in both regional and multilateral trade negotiations and is likely to have an influential role in shaping future trade reforms. The rapid growth and high profile of regional trade agreements (RTA's) has shifted public attention toward these agreements. For example, the North American Free Trade Agreement (NAFTA) stimulated greater public interest in the United States than did the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) (Destler, 1995). This may stem from the fact that the issues addressed by multilateral agreements are not as clear to the public as those raised by RTA's. While it is clear that regional trade agreements have stimulated greater public interest, it is less clear whether the economic importance of RTA's matches that of the multilateral trade agreements.

Economists have addressed whether regionalism is in conflict with multilateralism. A global viewpoint, however, does not necessarily represent a particular country's perspective. Countries initiate trade agreements based on their own perspectives, which typically are more regionally oriented. Generally RTA's form when countries recognize their economic interdependence with regional partners. This dependence is characterized by the strength of regional trade and investment. The degree of regional dependence can vary across countries, and because of this, the actual importance of RTA's may also differ significantly from one country to another.

Table 1--Country comparisons of regional trade, 1995

	Regional partners						
Country	NAFTA	Other APEC	MERCOSUR	Other Latin Am.	EU	ROW	World
				Percent of total trade			
U.S.	27.0	38.2	2.2	4.1	19.5	9.1	100
Canada	74.1	12.5	0.7	1.0	8.4	3.4	100
Mexico	78.8	7.6	1.5	2.7	7.4	2.0	100
Australia	15.7	55.6	0.8	0.2	19.9	8.0	100
Japan	27.9	44.3	1.0	0.8	15.0	11.0	100
Taiwan	24.6	56.4	0.9	0.5	14.0	3.6	100
Argentina	14.8	16.0	26.9	4.8	28.7	8.8	100
Brazil	22.0	18.0	13.0	4.2	30.2	12.6	100
Czech Rep.	2.4	4.1	0.5	0.4	79.2	13.5	100
France	6.5	9.0	1.0	0.8	66.6	16.1	100
Germany	7.5	12.3	1.2	0.6	63.3	15.1	100

Includes both imports from and exports to each region.

Source: United Nations COMTRADE.

The United States holds a unique trade position in the global economy because of its array of trading partners and wide range of products traded. This global orientation magnifies the issue of regionalism versus multilateralism. Is the United States better served by individual RTA's or by comprehensive global reforms pursued through the World Trade Organization (WTO)?

Characteristics of U.S. Trade

The economic impact of regional and multilateral trade reforms on the United States depends partly on existing trade patterns. For example, Canada's and Mexico's shares of trade with NAFTA are 74 percent and 79 percent, while the U.S. share of total trade with NAFTA is only 27 percent. Similarly, individual APEC[1] countries have greater trade with the APEC region than does the United States. For Australia, Japan, and Taiwan, the shares of trade with other APEC countries are 56, 44, and 56 percent, whereas the U.S. share is 38 percent. Australia has become increasingly integrated into the dynamic Asia-Pacific region while trade with Europe has become less important. It was this growing interdependence of Australia on the Asia-Pacific region that prompted Australia to initiate an APEC free-trade agreement.

Among NAFTA and other APEC members, the United States has a higher share of trade with other Southern Hemisphere countries including the countries of MERCOSUR and other Latin America. The EU is an important partner for many non-EU, especially for Argentina and Brazil. But from the EU's perspective, trade with non-EU countries is less important than trade with other European countries. Geography, common economic policies, and historical cultural ties forged close trade links in Europe. For example, France and Germany both have intra-EU trade shares above 60 percent. The Czech Republic, a candidate for joining the EU, conducts 79 percent of its trade with other EU countries.

Another important characteristic of U.S. trade is the wide variation in sectoral trade balances by region. While gains from trade liberalization are brought about by increased volumes of imports and exports, these gains can be offset through terms-of-trade effects. Differences in regional trade balances (table 2) can affect the U.S. terms of trade. For example, the United States is a net supplier of services to the world, there-

[1]Asia-Pacific Economic Cooperation forum consists of Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, South Korea, Taiwan, Thailand, and the United States.

fore, trade in services is an important source of U.S. income. A drop in the price of services relative to other tradeables can lead to lower U.S. welfare. A lower price for light manufactures, where the United States is a net importer, can be welfare improving since this reduces household expenditures.

While the United States is generally thought of as a net food supplier, this is not the case on an individual partner basis. The United States is a net food supplier with respect to "other APEC," the EU, and the "rest of world," with trade balance ratios of 3.3, 1.27, and 4.68. But the United States is a net food importer with NAFTA, MERCOSUR, and other Latin American countries, with export/import ratios of 0.84, 0.46, and 0.86. Terms-of-trade effects for a given regional agreement are related to existing trade balances within that particular region.

Empirical Modeling of Regional and Multilateral Reforms

For this global analysis, it is important to obtain a consistent set of results for both regional and multilateral reforms. This is done using a single modeling framework that explicitly links all countries in the global economy. For this study, the GTAP[2] framework is used consisting of a standard neoclassical-type model and a global database. Trade linkages are represented by bilateral trade flows and measures of tariffs and non-tariff barriers are represented on a bilateral basis. Economic gains from trade reforms are measured in terms of household welfare, which takes into account changes in income and all prices. Simply put, household welfare is a measure that reflects the economic well-being of an aggregate household in each region. Models vary in the way welfare is measured. One difference in the way welfare is measured in the GTAP model is that it takes into account both consumption and savings, with the return on savings determined by a global market for savings and investment.

Experimental Design

To assess the total impact of RTA's requires an accounting of impacts of individual regional trade agreements, including both those in existence and those being proposed. The NAFTA and MERCOSUR agreements are well into implementation. Still in negotiation is the Free Trade Agreement of the Americas (FTAA), covering NAFTA and South American countries. The FTAA debate is over whether all NAFTA members will participate in a regional agreement or whether bilateral agreements will be formed with individual NAFTA countries. Of most interest in this study is how the United States will be affected by either participating or not participating in an FTAA.

The largest regional trade agreements on the horizon are in Europe and the Asia Pacific area. The EU has made plans for expansion to include the Central and

[2]Global Trade Analysis Project established a common data base and modeling framework for a world wide consortium of researchers performing global trade analysis. The GTAP database is documented in McDougall (1997). Theory of the model is described in Hertel and Tsigas (1997).

Table 2--U.S. trade balances by region and sector, 1995

	NAFTA	Other APEC	MERCOSUR	Other Latin Amer.	EU	ROW	World
				Export / import ratio			
Food and agriculture	0.84	3.53	0.46	0.86	1.27	4.68	1.80
Natural resources	0.12	1.22	0.54	0.02	0.90	0.02	0.22
Light manufactures	0.55	0.19	0.36	0.65	0.55	0.30	0.34
Heavy manufactures	0.82	0.64	2.40	2.46	0.96	1.44	0.84
Total merchandise	0.72	0.64	1.48	0.93	0.93	0.75	0.74
Total services	5.91	2.26	22.37	0.51	2.50	1.68	2.40

Source: United Nations COMTRADE and GTAP version 4 database.

Eastern European Countries (CEEC[3]). Although this regional trade agreement does not directly involve the United States, the outcome could have implications for other RTA's. New EU members are expected to adopt the Common Agricultural Policy (CAP). Depending on reforms of the CAP, its extension to all CEEC members could create additional trade distortions in world agricultural markets.

The United States is a member of the Asia-Pacific Economic Cooperation forum. In 1994, members of APEC set a goal of free and open trade in what is known as the Bogor Declaration. Full implementation of reforms is expected by 2010 for developed countries and by 2020 for developing countries. In 1995, at the Osaka Ministerial meeting, members agreed that trade liberalization would be comprehensive in sectoral coverage. Members have not resolved the fundamental issue of whether to adopt a preferential free-trade arrangement or a potentially divisive arrangement called "open regionalism" by opening their markets to nonmember countries.[4]

Table 3 describes the series of experiments used in the analyses. The sequence of the experiments is consistent with the order in which trade liberalization has occurred or will likely occur. Each experiment is performed using a set of policy shocks that represents removal of trade barriers. Since GTAP is a global model where countries are linked by bilateral trade, the effects of policy changes in one region are transmitted to other regions. The world economy adjusts to these policy shocks by establishing new market equilibrium prices and quantities. Each experiment produces an updated base equilibrium, which is then used in a subsequent experiment. This sequencing of experiments allows for measurement of incremental impacts of individual trade reforms.

The starting point for conducting the set of experiments is a post-Uruguay (GATT) base. This means that the Uruguay Round commitments are phased in and all markets adjust from these reforms. The first in the series of experiments is the NAFTA (experiment 1). Here, all border interventions are removed between the United States, Mexico, and Canada for all agricultural and nonagricultural sectors. The "post-NAFTA" state would represent the world economy after full adjustments have occurred from the trade liberalization of NAFTA. The impact of the NAFTA agreement is measured as the difference between the beginning base (post-Uruguay) and the post-NAFTA state. This post-NAFTA state then becomes a new base for conducting the MERCOSUR trade reforms (experiment 2), and so on (table 3).

Experiment 4 involves the integration of the CEEC's with the EU-15 member countries. Exactly how EU integration will occur is still unknown. Attempts at modeling the EU expansion and associated reforms have done so with a number of alternative scenarios.[5] Basically, modeling it involves the elimination of barriers on intra-European trade and harmonizing external barriers at the post-Uruguay Round levels. Trade barriers are removed on trade between CEEC's and the EU-15 while the CEEC's adopt the same external import barrier as the EU. Domestic support and export subsidies are left unchanged for both EU-15 and CEEC members.

The final regional trade agreement, APEC, is examined in steps. First, trade in the APEC region is liberalized on a preferential basis (5a). Second, APEC members open their borders to non-APEC members. This is carried out in two steps in order to show incremental impact of opening trade to the EU. Opening trade to non-EU countries becomes experiment 5b and opening trade to EU members becomes experiment 5c. The combined effects of experiments 5a-5c equals the open-

[3]The Central and Eastern European Countries include Poland, Hungary, Czech Republic, Slovak Republic, Romania, and Bulgaria.

[4]Fane (1995) makes the point that the Bogor Declaration left this choice open by qualifying "the goal of free and open trade" by the clause "in Asia Pacific."

[5]See Bach, and Frandsen (1998); and Hertel, Brockmeier, Swaminathan (forthcoming) for alternative scenarios of EU expansion.

Table 3--Experimental series for regional and multilateral trade reforms

Experiment	Base for implementation	Trade agreement	Description
E1	post-Uruguay Round	NAFTA	Remove all trade barriers on trade flows between U.S., Canada, and Mexico
E2	post-E1	MERCOSUR	Remove all trade barriers on trade flows between Argentina and Brazil
E3a	post-E2	FTAA excluding U.S.	Remove all trade barriers between Canada, Mexico, Chile, and MERCOSUR
E3b	post-E3a	FTAA with U.S.	Remove all trade barriers between U.S. and FTAA
E4	post-E3b	EU expansion	Remove trade barriers between CEEC's and EU CEEC's adopt same external import barriers as EU
E5a	post-E4	APEC preferential	Remove all trade barriers between APEC countries
E5b	post-E5a	APEC open regional excl. EU	APEC opens trade to all countries except EU
E5c	post-E5b	APEC open to EU	APEC opens trade to EU
E6	post-E5b	Full multilateral liberalization	Remove all remaining trade barriers in world

regional agreement. After completion of the APEC liberalization scenario, it is assumed that all remaining barriers are removed by way of a WTO multilateral trade agreement (experiment 6).

Results

Table 4 provides a summary of the U.S. and global welfare gains from each of the trade reforms. When the United States does not participate in an RTA, it experiences a loss. This can be seen for the MERCOSUR, the FTAA, and the EU expansion. The net U.S. welfare gain for the Western Hemisphere is $4.9 billion. By comparison, gains from the Uruguay Round yield $4.6 billion. Also, the gain from joining FTAA ($3.28 billion) is greater than the gain from NAFTA ($2.32 billion).

Expansion of the EU will provide gains ($480 million) by expanding its membership and exploiting the comparative advantages of East and West Europe. Exports of agriculture and light manufactures from CEEC's to the EU-15 increase substantially. The United States experiences a loss of $600 million. The manner of CAP reforms, which is entirely outside the realm of U.S. policy, can affect this outcome.

The various APEC trade liberalization experiments show different outcomes.[6] The largest single RTA gain for the United States ($11.3 billion) comes from the APEC preferential agreement. If APEC is implemented on an open-regional basis, the U.S. gain is only $2.4 billion. The loss in U.S. welfare is accounted for largely ($6 billion) as a result of extending free trade to the expanded EU.

After accounting for RTA gains, the full multilateral agreement generates $7.5 billion in welfare gains to the United States, higher than the cumulative gains from all RTA's ($6.7 billion). That suggests that the United States has considerable incentive for further trade liberalization beyond the currently proposed RTA's.

Without further analysis of the results, in particular for the APEC liberalization, it remains unclear exactly why

[6]Similar results for APEC liberalization were generated by Young and Huff (1997).

Table 4--Summary of global and U.S. welfare gains from regional and multilateral trade reforms

Liberalization scenario	U.S.	World
	Billion $U.S.	
Uruguay Round	4.57	33.65
E1 NAFTA	2.32	-0.58
E2 MERCOSUR	-0.36	0.80
E3a FTAA excluding U.S.	-0.34	0.34
E3b FTAA including U.S	3.28	1.32
Total for Western Hemisphere	4.90	1.54
E4 EU expansion	-0.60	0.48
E5a APEC preferential	11.30	36.47
E5b APEC open to all except the EU	-2.92	5.81
E5c APEC open to the EU	-6.00	11.14
Total for APEC open regional agreement	2.38	47.60
Total RTA's	6.68	49.62
E6 Full-multilateral liberalization (after RTA's)	7.51	62.03

the United States experiences gains or losses. Of particular interest are the differences in results generated in experiments 5a-c, where there is a dramatic shift in U.S. welfare. To understand the factors behind these changes, it is helpful to perform an analysis of welfare decomposition. Changes in welfare for the experiments conducted here are generated from two major sources: allocative efficiency, and terms of trade.[7] These components of welfare for the APEC experiments are shown in table 5. Allocative efficiency captures the gains caused by resources shifting from one sector to another. For the APEC preferential agreement, this efficiency effect accounted for $6.7 billion of the $11.3 billion (U.S.) welfare gain. The results are conservative. Accounting for factor accumulation effects or productivity gains would tend to amplify the results and increase the gain in welfare.[8]

[7]See Huff and Hertel (1996) for details on welfare decomposition in the GTAP model.

[8]See Lewis, Robinson, and Wang (1995) for incorporating dynamic effects in APEC liberalization.

The deterioration in U.S. terms-of-trade effects dominates the welfare changes in both experiments where APEC opens to non-APEC members. When APEC opens borders to nonmembers except the EU, the efficiency effect is only $1 billion, compared with a large decline in U.S. terms of trade ($3.9 billion). When APEC removes barriers on trade from the EU, the terms-of-trade effect contributes a U.S. welfare loss ($6 billion).[9]

By sector, agriculture and light manufactures contribute significantly to the positive terms of trade under the APEC preferential agreement (table 6). When APEC trade liberalization occurs, Asia-Pacific's light manufacturing sector expands. This increases the cost of production for the agricultural sector as labor and capital are bid up. Agricultural production costs rise at the same time that import protection is removed leading to an overall contraction of the Asia-Pacific agricultural sector. Food consumption in that region shifts toward foreign-produced food, thereby increasing the demand and export price for U.S. agriculture.

The United States depends more on Asia-Pacific as a source of agricultural income than as a supplier of food. For light manufactures, Asia-Pacific is more important as a supplier than a purchaser. As a result of liberalization, U.S. consumers face higher priced food

[9]Strong terms-of-trade effects are common with the type of import demand specification used in GTAP (see Brown 1987 for discussion of this topic).

Table 5--Sources of U.S. welfare gains and losses from APEC liberalization

	Allocative efficiency	Terms of trade	Total welfare
		Million $U.S.	
APEC preferential	6,749	4,527	11,301
APEC open but excl. EU	1,015	-3,934	-2,921
APEC open to EU	427	-6,420	-5,998
Total	8,191	-5,827	2,382

but are more than compensated with lower priced light manufactures, which make up a far larger share of U.S. household expenditures on foreign goods.

When APEC removes trade barriers for non-APEC members, the United States experiences a terms-of-trade loss. In experiments 5b and 5c, agriculture has a negative terms-of-trade effect. U.S. agriculture faces greater competition, driving down agricultural export prices. Opening trade to non-EU member countries (experiment 5b) contributes more to the decline in U.S. agricultural terms of trade (-0.098) than opening to EU member countries (-0.093). This suggests that U.S. agriculture faces as much (or more) competition from non-EU members as from the EU. Of more significance is the terms-of-trade loss due to trade in services.[10] Because the United States is a large net supplier of services, a lower export price can hurt U.S. terms of trade. Here we see that when APEC opens trade with the EU, the services sector contributes more than any other sector to the decline in the U.S. terms of trade. The U.S. terms of trade are positive in the FTAA and the multilateral reforms reflecting differences in sectoral trade flows by region.

[10]The EU is a major supplier of global shipping services.

Conclusions

From a U.S. perspective, the success of regional trade agreements does not diminish the importance of multilateral agreements. After full implementation of all major regional trade agreements currently under consideration, the economywide gains to the United States from a complete multilateral reform remain higher than the net gains from RTA's. While the United States conducts international trade with a wide range of partners throughout the world, for other countries RTA's appear more attractive than multilateral agreements because of closer economic ties with regional partners and the greater ability to negotiate these agreements.

RTA's will continue to evolve, and the United States runs a risk by not participating. As with the FTAA, a regional agreement can form regardless of U.S. participation, and the United States may suffer when excluded. However, when the United States participates, the gains can be significant. In fact, the combined gains from NAFTA and FTAA are greater than the welfare gains from the Uruguay Round. This highlights the fact that regional trade reforms with Latin America are important as is "fast-track" trade-negotiating authority.

The way in which an RTA is implemented has strong implications for U.S. trade gains. The United States stands to gain significantly from an APEC preferential

Table 6--Contribution to U.S. terms of trade by sector: APEC, FTAA, and multilateral liberalization

Sector	Liberalization Experiments				
	APEC preferential	APEC open but excl. EU	APEC opens to EU	FTAA*	Complete multilateral
	Percentage point change				
Agriculture	0.280	-0.098	-0.093	0.015	0.213
Natural resources	0.075	-0.059	-0.009	0.007	0.090
Light manufactures	0.579	0.011	0.055	0.021	0.118
Heavy manufactures	0.009	-0.030	-0.086	0.118	-0.221
Services	0.030	-0.109	-0.265	0.063	0.387
Capital goods	-0.520	-0.102	-0.229	0.076	0.098
Terms of trade	0.454	-0.386	-0.626	0.302	0.686

Terms of trade calculated as a ratio export price index to import price index

*with U.S. participation

agreement that liberalizes trade among members. Much of these gains are from greater efficiencies achieved by better resource use. On the other hand, if APEC countries remove barriers to all partners on an open regional basis, a significant reduction in U.S. welfare could result. This loss is driven chiefly by unfavorable terms-of-trade effects. This open-regional agreement appears lopsided from a U.S. perspective. Free-riding by nonmembers puts the United States at a competitive disadvantage. For other APEC members this may not be important, since much of their trade is conducted with member countries. But for the United States, with a larger share of trade with other countries, it is more important that non-APEC countries reciprocate in a GATT-consistent manner by removing their trade barriers.

References

Bach, C.F., and S. Frandsen. "European Integration and the Common Agricultural Policy." Working paper No. 1/ 1998. Danish Institute of Agricultural and Fisheries Economics, Denmark, 1998.

Brown, D.K. "Tariffs and Terms of Trade, and National Product Differentiation," *Journal of Policy Modeling* 9(2): 503-26, 1987.

Destler, I.M. *American Trade Politics* (Third Edition). Institute for International Economics, Washington, DC, and The Twentieth Century Fund, New York, 1995.

Fane, G. "APEC: Regionalism, Globalism, or Obfuscation?" *Agenda* 2 (4): 399-409, 1995.

Hertel, T.W, and M.E. Tsigas. "Structure of GTAP," chapter 2 in Hertel (ed). *Global Trade Analysis: Modeling and Applications*, New York: Cambridge University Press, 1997.

Hertel, T., M. Brockmeier, and P. Swaminathan. "Sectoral and Economic Analysis of Integrating Central and East European Countries (CEE) into the European Union (EU): Implication of Alternative Strategies," forthcoming in the *European Review of Agricultural Economics*, forthcoming.

Huff K., and T. Hertel. "Decomposing Welfare Changes in the GTAP Model." GTAP Technical Paper No. 5, Center for Global Trade Analysis, Purdue University, http://www.agecon.purdue.edu/gtap 1996.

Lewis, J., S. Robinson, and Zhi Wang. "Beyond the Uruguay Round: The Implications of an Asian Free Trade Area." *China Economic Review-An International Journal*, Vol. 7, pp 35-90, 1995.

McDougall, R.A. Global Trade Assistance, and Protection: The GTAP 3 Database, Center for Global Trade Analysis, Purdue University, 1997.

Young L., and K. Huff. "Free Trade in the Pacific Rim: On What Basis?" in Hertel (ed.) *Global Trade Analysis: Modeling and Applications*, New York: Cambridge University Press, 1997.