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An Economic Perspective on Russia's Accession to the WTO

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Abstract

Russia's application for accession to the WTO is currently in its final phases and may be completed by the end of 2003. In this context, this paper provides some background information on Russia's recent policy and structural reforms, the composition and geographic distribution of trade, tariff rates by commodity groups, and other aspects of trade and domestic policies at issue in the accession process. The accession procedure and the current status of the accession process are then discussed. Using a computable general equilibrium (CGE) modeling analysis of China's WTO accession as a prototype, the potential use of CGE modeling of Russian accession is considered as well as Russia's participation in the Doha Development Round and preferential trading arrangements. It is concluded that Russia may realize significant benefits from WTO accession and from the multilateral trade liberalization to be effected in the Doha Round.

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An Economic Perspective on Russia's Accession to the WTO[*]

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I. Introduction

The purpose of this paper is to provide an economic perspective on the issues involved in Russia's accession to the WTO. It was hoped initially to model the economic effects of Russian accession, but this has not been possible due to data and time constraints. The discussion and analysis will therefore be mainly qualitative, although reference will be made to some existing quantitative studies of some aspects of Russian accession and the implications of Russian participation in post-accession WTO multilateral trade negotiations and preferential trading arrangements.

In Section II, I first discuss Russia's achievements of macroeconomic stabilization and structural reform in recent years and then present some aggregate data on the composition and geographic breakdown of Russia's merchandise exports and imports for the year 2000, aggregated tariff data for major import-commodity groups, and a discussion of other aspects of Russia's trade and related domestic policies. In Section III, I discuss the procedural aspects of Russian accession, the current status of the accession process, and the potential economic effects of accession. In Section IV, I consider the implications of Russia's post-WTO-accession participation in the ongoing Doha multilateral negotiating round and in Section V implications for preferential trading arrangements. Conclusions are presented in Section VI.

[*] I am indebted to Alan Deardorff for helpful comments on an earlier version of the paper.

II. Background Information

Before discussing the details and issues involved in Russia's accession to the WTO, it is useful to provide some background information on Russia's macroeconomic stabilization and structural reforms, the commodity and geographic composition of Russia's foreign trade, tariffs and nontariff barriers, and some other salient aspects of Russia's trade and related domestic policies.

Russia's Macroeconomic Stabilization and Structural Reforms

As noted in OECD (2002, pp. 9 seq.), output, employment, consumption, and investment increased significantly in 2000-01 following the financial crisis in August 1998. The Russian Government has been especially successful in promoting macroeconomic stability. Fiscal and monetary policies have been tightened, with the result of generating budget surpluses, stabilizing the exchange rate, reducing inflation, and improving Russia's foreign credit rating. A number of key institutional and policy reforms have also been introduced at the federal and state levels. The recovery from the 1998 crisis was aided by a four-fold depreciation of the ruble in 1998-99 and by increased prices of oil and other Russian commodity exports on world markets. While many structural reforms have been introduced, a number of institutional weaknesses nonetheless remain. These include: recurring, large net capital outflows; relatively low domestic investment; persistence of household poverty in many areas; and continuance of heavily subsidized and regulated key public services.

It is especially noteworthy that the Russian programs for economic policy and structural reform have been designed in large measure to encourage private sector activity. At the same time, many of the policies adopted have been intended to underpin Russia's efforts to achieve membership in the WTO. What should be emphasized therefore is that the remarkable progress that Russia has made in promoting macroeconomic and financial stability and the redesign and redirection of policies and institutions will help to

ease the process of WTO accession and mitigate the potential dislocations that may occur as the Russian economy becomes more integrated into the global trading system.

The Commodity and Geographic Composition of Russian Trade

As noted in table 1, Russia's merchandise exports, exclusive of barter and "shuttle" trade, totaled $71.4 billion in 2000.[1] Minerals and fuels were 51.1 percent of total exports, industrial products, 46.9 percent, and agricultural exports, 2.0 percent. The European Union/EFTA accounted for 45.1 percent of Russia's minerals and fuels exports and 29.0 percent of industrial products. The Former Soviet Bloc nations/republics combined—the Baltic States, Central and Eastern Europe, and the Commonwealth of Independent States (CIS)--accounted for 26.5 percent of Russia's minerals and fuels exports and 20.5 percent of industrial exports.

According to table 2, Russia's merchandise imports, exclusive of barter and "shuttle" trade, were $28.5 billion in 2000. Imports of agricultural products were 25.9 percent of total imports, minerals and fuels, 5.5 percent, and industrial products, 68.5 percent. The EU/EFTA accounted for 29.1 percent of Russian imports of agricultural products and 43.6 percent of industrial products. The Former Soviet Bloc members accounted for 27.3 percent of Russia's agricultural imports and 29.0 percent of industrial product imports.

Russia's comparative advantage thus appears in broad terms to be in minerals and fuels and, to a lesser extent, in some categories of industrial products, while its comparative disadvantage is in other categories of industrial products and, to a lesser extent,

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[1] According to the International Monetary Fund, *International Financial Statistics,* April 2002, Russia's total exports were reported to be $105.5 billion in 2000, and total imports, $44.7 billion. " Shuttle" trade refers to individuals or groups who travel abroad frequently and purchase items like clothing and used cars and bring them back to Russia for resale in special market places. This trade is imperfectly covered in Russia's trade statistics. I am indebted to Ksenia Yudaeva for this information.

in agricultural products. Its exports and imports are concentrated geographically with the EU/EFTA and with the former Soviet Republics and members of the Soviet Bloc. This indicates the significance of geographic and political proximity in determining Russia's external trade.[2] This is especially the case, given Russia's export specialization in minerals and fuels, which are of key economic and strategic importance in its intra-European trade.

According to IMF, *International Financial Statistics* (April 2002), Russia was a net importer of cross-border services in 2000, with services debits of $17.4 billion and services credits of $9.6 billion. The balance on goods, services, and income was $46.2 billion. The capital account for 2000 indicated inward foreign direct investment of $2.7 billion, portfolio inflows of $12.8 billion, bank foreign borrowings of $12.1 billion, an increase in reserve assets of $15.5 billion, and net errors and omissions of $9.3 billion.

Tariffs and Nontariff Barriers

Official Russian trade-weighted tariffs for 1994 are reported by major commodity groups together with the share of each group in total imports in Brenton, Tourdyeva, and Whalley (1997, p. 213). As they note: "The trade-weighted average tariff was around 10 percent. Tariffs tend to be low for vegetable products, mineral products, chemicals, and precision instruments. These products comprised over 30 percent of Russian imports in 1994… The average tariff is highest for textiles where it exceeds 20 percent. Textiles comprised about 3.5 percent of Russian imports in 1994." Official tariffs were increased somewhat in 1995 and 1996. Estimates of official tariffs on an unweighted basis by selected commodity groups are given in table 3. As Michalopoulos

[2] It would be interesting to consider how likely it may be that the composition and geographic distribution of Russia's trade will change as it becomes more fully integrated into the global trading system.

and Tarr (1997, p. 2) note, "… the average tariff is about 13-14% with a range from 0 to 30% for most commodities, with some selected items considerably higher…."

A major revision of official tariff rates was introduced in January 2001. As Stamps (2001, p. 14) notes:

> "…tariffs were consolidated with 4 major product groups—raw materials, semi-finished goods, food products, and finished products—with tariffs ranging from 5-20 percent ad valorem (the maximum rate was reduced from 30 percent) for almost all tariff categories. This represents an overall lowering of tariff rates from 11.4 to 10.7 percent. …However, unification caused tariff rates for some individual items to rise,…including higher rates for raw sugar (30 percent), poultry (20 percent) and automobiles (25 percent)."

The official tariff rates noted above are substantially in excess of the "applied" rates, as can be seen in table 4. According to the USTR (2002a, p. 365), the tariff unification introduced in 2001 was designed to help in dealing with customs fraud and to improve customs collection. The tariff unification may also serve to limit the granting of tariff exemptions on imported inputs that give some firms a relative price advantage over other firms that rely more on domestically produced inputs.[3] Nonetheless, the administrative weaknesses in implementing customs law pose genuine problems because of the lack of uniformity and transparency and may therefore constitute a significant barrier to imports. The problems are likely to continue, as Stamps (2001, p. 11) notes, unless something can be done to limit the broad discretion that local Russian customs authorities have in interpreting customs laws.

In addition to tariffs, Stamps (2001, p. 12) notes that import licenses are required for a number of goods, including: ethyl alcohol and vodka; color TVs; sugar; precious metals, alloys, and stones; encryption software and related equipment; weapons; and explosives. There are also strict licensing laws and import quotas on most distilled spirits.

[3] See Tarr (1999) for an analysis of Russia's tariffs and recommendations for a strategy for implementing a low and uniform tariff regime.

Some of Russia's import restrictions may be designed to increase government budget revenues.[4] Russia also maintains limited access to its market for civil aircraft, and there are local content requirements for investments in the automobile industry.

Other Trade and Related Policies

In addition to tariffs and nontariff barriers, there are several other trade-related policies that will figure prominently in the negotiation of Russia's accession to the WTO. Brief summaries of the various policies are noted below, based upon the material reported in Stamps (2001) and USTR (2002a,b).

- **Agriculture**—Russia is currently undertaking agricultural reform, but it is not yet clear how this reform will affect the Russian agricultural sector. Russia uses subsidies to provide domestic support for farmers and is considering export subsidies as well. But the WTO Agricultural Agreement provides a framework for the reduction of these subsidies. The issue then will be to negotiate the amounts and duration of the agricultural subsidies.

- **Intellectual property**—Russia is presently party to major international agreements for the protection of intellectual property (IP) and is engaged in developing legislation to conform to the obligations under the WTO Agreement on Trade-Related Intellectual Property Rights (TRIPS). However, there is concern that the enforcement of the IP laws is problematic because of limitations in the Russian judicial system and inadequate enforcement of penalties for IP violations, especially in software, films, videos, sound recordings, books, counterfeit branded consumer goods, and pharmaceuticals.

- **Services**—Russia is reportedly reluctant to liberalize its services sectors even though it may be in its own interest to do so.[5] The problems of liberalizing non-financial services may be due to local regulations and the abuse of power and practices of the agencies and domestic firms involved. There are stringent limits on the establishment of foreign bank subsidiaries and companies selling insurance as well as restrictions on foreign investment in telecommunications, public services, marine transportation, transport services, and retailing. The legal status of many aspects of electronic commerce is in a state of flux, and there are unresolved tax issues as well.

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[4] According to USTR (2002a), revenue from tariffs and other import restrictions accounted for 5.5 percent of total government budget revenue in 2001.

[5] See Smith (1999) for an analysis of the role of services in the Russian economy and the requirements, negotiating dynamics and strategies, political and economic sensitivities, and sector-specific issues involved in the adherence of Russia to the General Agreement on Trade in Services (GATS).

- **Standards and certification**—Russian standards and procedures for import certification are reportedly expensive, time consuming, and fraught with redundancies. While some progress has been made in bringing Russian standards into conformity with the WTO Agreement on Technical Barriers to Trade (TBT), there are continuing difficulties experienced in such sectors as construction materials and equipment, consumer electronics, telecommunications equipment, oil and gas equipment, and veterinary and phytosanitary certification.

- **Investment**—Even with a new 1999 law governing foreign investment, Russia's foreign investment regime is apparently viewed as confusing and contradictory.[6] Investment restrictions are applied in such sectors as aerospace, natural gas, electric power, and alcoholic beverages. Investment may also be inhibited in many sectors by extant crime and corruption, problems in customs administration, inadequate legal protections and corporate governance, tax disincentives, local content requirements, and controls on capital flows.

- **Government procurement**—It appears that domestic suppliers are not granted many official advantages or privileges in competing for government procurement. There is nevertheless a perception that there is a strong political bias for government support favoring domestic suppliers, the purchasing of Russian produced communication equipment being an example.

- **State trading**—Russia abandoned the earlier USSR state monopoly on foreign trade when it assumed an independent existence. However, there are still some state-owned or state-controlled enterprises that exercise monopoly control over such export commodities as natural gas, diamonds, and pipelines, and other companies that engage in barter trade or are granted special privileges by the state. Drebentsov and Michalopoulous (1999, p. 59) estimate that 11-20 percent of Russia's trade was controlled by the state in 1997. It will be necessary accordingly for Russia to clarify the status and privileges of state enterprises to conform with WTO rules (Article XVII of the GATT) governing state trading. A closely related issue is the treatment of Russia by some WTO members as a "non-market" economy in the context of antidumping cases initiated against imports from Russia. The third-country price comparisons used in these cases may make it difficult for Russia to defend itself. If Russia is designated as a "market" economy, Russian firms will then be able to use their own cost information in arguing dumping cases.[7]

- **Permanent Normal Trade Relations (PNTR)**—Under the Jackson-Vanik amendment in Title IV of the U.S. Trade Act of 1974, the U.S. President can deny "normal trade relations" (NTR) status for any non-market economy that denies or seriously

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[6] See Bergsman, Broadman, and Drebentsov (1999) for an analysis and recommendations for improving Russia's foreign direct investment policy regime.

[7] As noted in European Union (2002), the EU formally recognized Russia as a "market" economy, according to a press release on May 29, 2002. Similarly, as of June 6, 2002, according to a *New York Times* report by Tavernise, the United States will now regard Russia as a market economy. It may turn out, however, that Russian subsidies on such public services as gas and electricity will be challenged in antidumping or countervailing duty actions.

restricts or burdens the rights of its citizens to emigrate. The Jackson-Vanik amendment can be waived in cases in which an affected country complies with the legislation's requirements. USTR Robert Zoellick (2002, p. 5) states that Russia has been in full compliance with the Jackson-Vanik amendment since 1994. But it will be up to the U.S. Congress to decide whether or not to grant Russia PNTR in the course of Russian accession to the WTO.[8] Zoellick urges that PNTR should not be used as a U.S. negotiating ploy and that Russian accession should be based on its offers of market access in the accession process.[9]

III. WTO Accession

In this section, I first note and present in Appendix 1 below the main procedural aspects of accession to the WTO. This is followed by a discussion of the ongoing status of Russian accession and the main issues that Russia and members of the WTO Working Party on accession seek to address. Finally, I discuss the steps and measures needed to assess the economic effects of accession, using a recent evaluation of China's WTO accession as a prototype.

The Procedure for WTO Accession

The various steps in the procedure for WTO accession are available on the WTO website (www.wto.org) and are indicated in Appendix 1 below:

The Current Status of Russian Accession

Stamps (2001a, pp. 8-9) provides a useful summary of Russia's accession process:

> "Russia requested membership in the WTO in June 1993 (then known as the General Agreement on Tariffs and Trade, or GATT), and a WTO Working Party was formed that same month. Initially comprising 54 members, the current 25 members of Russia's WTO Working Party include the United States, the European Union (EU), Argentina, Austra-

[8] For the statements and testimony in a "Hearing to Explore Permanent Normal Trade Relations with Russia," held before the Subcommittee on Trade of the House Committee on Ways and Means, April 11, 2002, see U.S. Congress (2002).

[9] The issue of granting PNTR to China was somewhat contentious on human rights and related grounds, but was nonetheless approved by the U.S. Congress in connection with China's accession to the WTO.

lia, Brazil, Canada, Chile, the Czech Republic, Ecuador, Estonia, Georgia, Hungary, India, Japan, Korea, Latvia, Mexico, Mongolia, Norway, Panama, Poland, New Zealand, Slovakia, Switzerland, and Turkey. Russia's application was formally transferred to the WTO after it was established in 1995.

Russia submitted to the WTO Working Party its Memorandum of Foreign Trade Regime in March 1994. That memorandum, which details Russian trade policies currently in place that have a bearing on the WTO Agreements, forms the basis of detailed fact finding by the Working Party. Areas addressed in the memorandum include Russian import and export regulations, agricultural and industrial policies, policies affecting trade in services, and policies regarding such areas as intellectual property rights, customs valuation, and licensing requirements. A round of questions from WTO Working Party members about Russia's memorandum, followed by Russia's responses was completed in June 1995. The WTO Working Party then held its first meeting to consider Russia's application in July 1995. From late 1995 through the end of 1998 there were an additional 7 formal meetings of the Working Party to investigate the Russian trade, investment, and subsidies regimes.

Russia submitted its first market-access offer to the WTO Working Party for trade in goods in February 1998, providing a schedule of commitments on tariffs…. Russia tabled additional market-access offers for trade in agricultural products, including commitments on export subsidies and domestic supports for farmers, and commitments for the protection of intellectual property rights, in December 1998. Russia completed its WTO offer with the submission of a market-access offer for trade in services, including banking and financial services, telecommunications, and tourism in October 1999. Commitments each member makes in its WTO accession negotiations become obligatory and enforceable under WTO rules.

With schedules of commitments on market access for trade in goods and for trade in services formally tabled, Russia's initial market-access offer was substantially complete and its WTO application ready to move from the information gathering phase to the negotiation phase. However, the WTO Working Party generally considered these initial offers as deficient and far from a meaningful basis from which to begin negotiations. In joining the WTO, countries commit to reduce and lock in, or "bind," their tariffs…. Russia's initial tariff offer, however, excluded 500 of Russia's 10,000 tariff lines from tariff binding commitments—meaning that Russia could increase tariffs on those items without restriction. Moreover, Russia proposed to bind its tariffs at significantly higher rates than tariffs currently in force—a starting offer most WTO Working Party members found unacceptable. Russia's initial agricultural commitments contained provisions for subsidies unacceptable to many WTO Work Party members…. Working Party members also expressed concerns about the protection of intellectual property in Russia and enforcement of penalties for violations of patents, copyrights, and trademarks. Russia's initial services offer listed extensive cross-sectoral exceptions ("horizontal reservations"), contained an extensive list of countries exempt from the most-favored-nation (MFN) principle of nondiscrimina-

> tion, and listed few or no commitments on business activities in many areas such as establishment of branches and representative offices.
>
> Following bilateral and multilateral consultations with WTO Working Party members, Russia submitted a revised offer for trade in goods in March 2000. In bilateral negotiations, the United States presented Russia with a detailed request for market access in services in May 2000. Russia tabled further revisions for trade in goods and services in February 2001. The revised offers contained many market-access improvements, although WTO Working Party members noted backward movement in some areas. Russia's revised tariff offer was broadened to apply to all 10,000 tariff lines, and the proposed bound tariff rates were lower than those initially offered; however, the proposed revised bound tariff rates remained generally higher than currently applied rates in many cases. The revised services offer eliminated many of Russia's proposed cross-sectoral restrictions. The revised agriculture market-access offer provided further details on Russia's proposed regime for domestic agricultural subsidies."

Working Party deliberations continued throughout 2001 and into 2002, culminating in the completion and circulation of the first draft of the Working Party Report in the spring of 2002. Mike Moore (2002), Director General of the WTO, took note of this:

> "…nine years after applying to join the GATT and [after]seven years of its WTO Working Party, Russia's accession is finally entering a decisive and final phase. This is vividly demonstrated by the circulation of the first draft of the Working Party Report. …the final version of that document, together with a Protocol of Accession and the Schedules of concessions in goods and services, will set the terms and conditions of entry of Russia into the WTO.
>
> …Reaching this stage has required an intense process of legislative renewal and reform by the Russian authorities. …It is clear that a new legal framework is now taking shape in Russia which will underpin Russia's accession commitments. Let me underline from the outset that this development has been made possible because of the strong political resolve shown by the Russian authorities at the highest level. Without this resolve, the accession of Russia to the WTO would still be very far away."

Moore sums up:

> "No matter how difficult the outstanding problems may be, I believe there are in Washington, Brussels, and Moscow, people with the horsepower, firepower and willpower to make this accession happen. Accessions, in their final phase, always come back to such core issues as agriculture, banking, insurance or telecommunications. I can only hope that negotiators think in historic terms, because it will be a great failure of

> leadership if this accession is not completed in time for the Mexico Ministerial next year [i.e., fall 2003]."

Economic Effects of Accession

Having reviewed some salient features of Russia's policies that are pertinent to its accession to the WTO and assuming that the accession process is on track, the question then is what will be the economic effects of accession on Russia and its major trading partners. The tool of choice in addressing this question is a computable general equilibrium (CGE) model that would encompass the structure and inter-sectoral relationships of production and trade in a multi-country setting. Such modeling work is currently underway at the World Bank and is to be reported in Tarr (2002). There is also an ongoing collaborative modeling project between the U.S. International Trade Commission (USITC) and Moscow State University. Pending the availability of results from the foregoing models, it may be of interest to use China's accession as a prototype to help identify the key economic factors to be considered in evaluating Russia's accession.

Ianchovichina and Martin (2001) have carried out an analysis of China's accession using the Global Trade Analysis Project (GTAP) CGE model and the details of the November 1999 bilateral accession agreement between China and the United States that was publicly available to them at the time of writing. As they note (pp. 427 and 430):

> "WTO entry will require China to bring its rules into line with WTO norms in a wide range of areas. Perhaps the most fundamental of these stipulations are those on nondiscrimination between suppliers in accordance with the Most Favored Nation principle; and the abolition of most nontariff barriers. However, WTO rules require much more, including implementation of Intellectual Property regimes consistent with the TRIPS agreement, and procedures in areas like customs valuation, safeguards, standards and phyto-sanitary restrictions that are consistent with WTO rules.
>
> The Protocol of Accession will also include important stipulations designed to increase the transparency of China's trade regime and provide for judicial review of administrative decisions.
>
> …China has also made important commitments on services under GATS, including comprehensive commitments on distribution services and tour-

> ism; and wide-ranging commitments on telecommunications, insurance, banking, construction, professional and individual services. The commitments on distribution are particularly important for merchandise trade because of the transparency they create, and because they preclude the emergence of de facto barriers through controls on distribution at any level of government. The coverage of these commitments exceeds the average for high-income countries in the Uruguay Round, and far exceeds that for most developing countries…."

In their study, Ianchovichina and Martin concentrate on the changes in China's merchandise trade regime. They note that import quotas, licenses, and designated trading are to be phased out. State trading is to be maintained for a number of agricultural products, petroleum, and certain metals, subject to WTO disciplines in the protection to be permitted. China agreed to reduce its weighted average tariff on manufactures from 24.3 percent as of 1995 to 6.95 percent with accession. Agricultural import tariffs were to remain unchanged at about 17 percent and were bound at comparatively low levels by East Asian standards. China agreed not to use agricultural export subsidies and to limit its aggregate measure of domestic support to agriculture to 8.5 percent.

It thus appears that China made considerable reductions in its tariffs on manufactures, decided against high levels of agricultural protection, and made some important commitments for services liberalization. It is evident that there is a close parallel between the details of the Chinese accession package and the policy changes and commitments to be sought by Russia's major trading partners in the accession process.

Turning to the analysis of economic effects, Ianchovichina and Martin focused on the reductions in tariffs associated with China's accession. For this purpose, they assumed that China's 1995 tariffs on manufactures would have continued to apply without accession, and the protection after accession was measured as the lesser of the applied and bound tariff rates on manufactures. Agricultural protection rates were assumed to remain unchanged, and NTBs were set at zero. Presumably because of lack of data, Ian-

chovichina and Martin did not include in their analysis China's adherence to the various WTO rules and measures of services liberalization.

They considered two scenarios for computational purposes: (1) a baseline scenario in which China is assumed not to enter the WTO; and (2) a scenario in which they did enter the WTO. Both scenarios were carried out in the context of projections for overall output growth, factor input growth of unskilled labor, skilled labor, and capital, and a residual of total factor-productivity growth in manufacturing for China and its major trading partners over the period from the model's benchmark year of 1995 to 2005. The principal conclusions were as follows (pp. 436-40):

- Without accession, China's share of world output between 1995 and 2005 has a projected increase from 3.4 to 5.3 percent, its share of world exports from 3.7 to 4.8 percent, and its share of world imports from 3.4 to 5.3 percent. With accession, China's share of world output is unchanged, but its share of world exports rises to 6.8 percent and its share of world imports to 6.6 percent.

- On the sectoral level, the production and export of apparel rise markedly due to elimination of the Multi-Fibre Agreement and China's continued cost competitiveness. The automobile sector and several high-tech sectors experience substantial export growth with accession.

- With accession, China's imports of oilseeds, meat, and various food products are projected to increase significantly, reflecting a shift in comparative advantage away from agriculture.

- Wages of unskilled workers are projected to grow at twice the rate of growth in wages of skilled workers. Wages are expected to grow overall for both unskilled and skilled workers.

- With accession, China's income is projected to rise by $128.6 billion, which is 2.2 percent of 2005 base income. China is the biggest beneficiary of accession. The industrialized countries and East Asia also gain. Many developing countries, especially in South and South East Asia, competing with China in third markets lose from China's accession.

  There are several qualifications to the foregoing results worth mentioning:

- The benefits of Chinese accession noted above may be significantly understated for a variety of reasons. Thus, the benefits would be greater by taking into account:

  > (1) more disaggregated tariff changes; (2) adherence to WTO rules with regard to customs administration, standards, and judicial review of administrative decisions; (3) reduction of services barriers; and (4) dynamic growth effects resulting

from technological improvements, increased real capital inflows in the form of direct investment, and increased accumulation of physical and human capital.

- There are possible downsides to the benefits of accession, including:

  (1) the adjustment costs resulting from job displacement due to increased import competition in China's domestic market; and (2) the increase in administered protection by China's major trading partners that may be engendered by greater imports of Chinese products.

On balance, it would appear that significant benefits will be realized from China's accession to the WTO. Of course, the Russian and Chinese economies have many differences in their economic structure and patterns of specialization. Russia has a much smaller population, a relatively much smaller rural/agricultural sector, and sizable endowments of minerals and fuels resources. Yet, both China and Russia are characterized by a legacy of government controls and regulations. Nonetheless, it is clear that China has already accomplished a great deal by its unilateral liberalization and alignment with foreign markets in the past two decades. China's accession to the WTO will thus reinforce the benefits that have already been set in motion by previous policy changes.

Russia can therefore learn from the Chinese experience. Careful analytical studies are needed accordingly to document the status quo of the Russian economy and to provide quantitative evidence on the economic effects that accession to the WTO may have. As already mentioned, a good starting point is the development of a computable general equilibrium (CGE) framework of analysis coupled with efforts to compile the basic economic data needed to conduct simulation analysis of alternative policy options for Russian liberalization, including accession to the WTO. In addition to the ongoing modeling to be reported in Tarr (2002) and the collaborative project between the USITC and Moscow State University, another possibility would be to use the Michigan CGE Model to analyze Russian accession, as described in more detail below.

IV. Post-WTO Accession: The Doha Development Round

Assuming that Russian accession to the WTO will be consummated in 2003, this will occur in the context of the ongoing multilateral negotiations underway in the Doha Development Round that commenced in January 2002. With accession, Russia would become a party to the multilateral negotiations, and it is conceivable that Russia could be called upon to undertake liberalization beyond what was agreed upon in the accession process. In any case, since Russia presently has de facto most-favored-nation (MFN) status, it would benefit from the Doha Round liberalization effected by its major trading partners even without accession. Accession would bring de jure MFN status and concurrently the obligation for Russia to abide by WTO rules and change its domestic policies and institutions accordingly. Russia would also, as Lamy (2001) notes, have more predictable access to WTO member-country markets and the use of binding dispute settlement to protect its export interests. The resulting deepening of integration into the global trading system would ideally enhance Russia's ability to adapt to changing market conditions and solidify the benefits to be obtained. It is also possible that Russia could join in the Doha Round with other transition economies, including China, to induce the industrialized countries to reduce and remove their trade barriers and alter other policies conducive to expanding market access for imports.

There is a lot at stake in the Doha Round. The potential benefits of liberalization for WTO members may be substantial, as is evidenced in table 5. This table summarizes the simulation results of 33 percent reductions in post-Uruguay Round (2005) tariffs and other trade barriers on agricultural products (DR-1), manufactures (DR-2), and services (DR-3), using the Michigan Model of World Production and Trade. It can be seen that the 33 percent reduction in all barriers (DR-4) noted in column (4) increases global welfare by $613.0 billion. If all barriers were to be completely removed (DR-5), global wel-

fare would rise to $1.7 trillion. It is further evident that the welfare gains are positive and relatively substantial across all of the countries/regions indicated in table 5.

The foregoing results are based on the GTAP database for 1995, updated for projections to the year 2005. Russia is not included separately in this 1995 GTAP database or in the more recent 1997 version. Rather, it is included as part of an aggregate of countries comprising the Former Soviet Union (FSU). The modeling structure and results in table 5 treat the FSU as part of the rest-of-world, which is taken as a residual to close the model. It is therefore not possible at this time to assess the potential effects on Russia of Doha Round liberalization. This can be done once explicit data for Russia are integrated into the GTAP database.

In considering how Russia may be affected by multilateral liberalization, it may be useful to describe some of the key features of the Michigan Model. The Michigan Model is a multi-country, multi-sectoral computable general equilibrium (CGE) model of the global trading system that has been used for nearly three decades to analyze the economic effects of trade liberalization and other trade-related changes in policies. The formal structure and equations of the Michigan Model are available online at www.Fordschool.umich.edu/rsie/model/, and the economic features of the model are discussed in Brown, Deardorff, and Stern (2002a,b) and in a number of their other papers.

The Michigan Model is distinctive insofar as it incorporates several aspects of the New Trade Theory, including monopolistic competition, increasing returns to scale, and product heterogeneity. Even though the model includes these features, it remains the case that markets respond to trade liberalization in much the same way that they would with perfect competition. That is, when tariffs or other trade barriers are reduced in a sector, domestic buyers (both final and intermediate) substitute toward imports, and the domestic competing industry contracts production while foreign exporters expand. With multilateral liberalization reducing tariffs and other trade barriers simultaneously in most

sectors and countries, each country's industries share in both of these effects, expanding or contracting depending primarily on whether their protection is reduced more or less than in other sectors and countries. At the same time, countries with larger average tariff reductions than their trading partners tend to experience a real depreciation of their currencies in order to maintain a constant trade balance, so that all countries therefore experience mixtures of both expanding and contracting sectors.

Worldwide, these changes cause increased international demand for all sectors, with world prices rising most for those sectors where trade barriers fall the most. This in turn causes changes in countries' terms of trade that can be positive or negative. Those countries that are net exporters of goods with the greatest degree of liberalization will experience increases in their terms of trade, as the world prices of their exports rise relative to their imports. The reverse occurs for net exporters in industries where liberalization is slight – perhaps because it already happened in previous negotiations.

The effects on the welfare of countries arise from a mixture of these terms-of-trade effects, together with the standard efficiency gains from trade and also from additional benefits due to elements of the New Trade Theory. Thus, it is expected on average that the world will gain from multilateral liberalization, as resources are reallocated to those sectors in each country where there is a comparative advantage. In the absence of terms-of-trade effects, these efficiency gains should normally raise national welfare measured by the equivalent variation for every country, although some factor owners within a country may lose, as will be noted below. However, it is possible for a particular country whose net imports are concentrated in sectors with the greatest liberalization to lose overall, if the worsening of its terms of trade swamps these efficiency gains.

On the other hand, although the New Trade Theory is perhaps best known for introducing new reasons why countries may lose from trade, in fact its greatest contribution is to expand the list of reasons for gains from trade. It is these that are the dominant con-

tribution of the New Trade Theory in the Michigan Model. That is, trade liberalization permits all countries to expand their export sectors at the same time that all sectors compete more closely with a larger number of competing varieties from abroad. As a result, countries as a whole gain from lower costs due to increasing returns to scale, lower monopoly distortions due to greater competition, and reduced costs and/or increased utility due to greater product variety. All of these effects make it more likely that countries will gain from liberalization in ways that are shared across the entire population.

In perfectly competitive trade models such as the Heckscher-Ohlin Model, one expects countries as a whole to gain from trade, but the owners of one factor – the "scarce factor" – to lose through the mechanism first explored by Stolper and Samuelson (1941). The additional sources of gain from trade due to increasing returns to scale, competition, and product variety, however, are shared across factors, and it is routinely found in applications of the Michigan Model that both labor and capital gain from liberalization.

In the real world, all of the foregoing effects occur over time, some of them more quickly than others. The Michigan Model is however static, based upon a single set of equilibrium conditions rather than relationships that vary over time. The computational results reported in table 5 therefore refer to a time horizon that is somewhat uncertain, depending on the assumptions that have been made about which variables do and do not adjust to changing market conditions, and on the short- or long-run nature of these adjustments. Because the elasticities of supply and demand used in the model reflect relatively long-run adjustments and because it is assumed for the scenarios reported in table 5 that markets for both labor and capital clear within countries, the modeling results are appropriate for a relatively long time horizon of several years—perhaps two or three at a minimum.

On the other hand, The Michigan Model does not allow for the very long-run adjustments that could occur through capital accumulation, population growth, and techno-

logical change. The modeling results should therefore be thought of as being superimposed upon longer-run growth paths of the economies involved. To the extent that these growth paths themselves may be influenced by trade liberalization, therefore, the Michigan Model does not capture that.

In principle, analysis of the economic effects of Russia's accession to the WTO and its participation in the Doha Round of multilateral trade negotiation lends itself readily to CGE modeling, provided that the requisite data for Russia can be mobilized. The advantages of such modeling are a focus on the economy-wide and global interaction effects of trade liberalization, including the aggregate impact on economic welfare and the disaggregated, sectoral impacts on trade, production, and the allocation of labor and capital. It is therefore possible to measure the benefits of trade liberalization overall and to identify the sectors that may be affected positively or adversely by liberalization. Such information can therefore help to guide and influence the negotiating strategies of policy makers in Russia as well as in Russia's major trading partners. By the same token, it should be recognized that there are many aspects of Russian accession and participation in the Doha Round that are difficult to model, especially adherence to and implementation of the various WTO rules and processes.

V. Negotiation of Preferential Trading Arrangements

The discussion has focused thus far on Russia's WTO accession and potential involvement in the Doha Round of multilateral trade negotiations. It is also important to note that Russia has preferential trading arrangements with the former Soviet republics that comprise the Commonwealth of Independent States (CIS). These arrangements include bilateral free trade agreements (FTAs) with Armenia, Azerbaijan, Georgia, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, which may possibly be

extended to form a customs union with a common external tariff. Russia also has bilateral customs union agreements with Belarus, Kazakhstan, and the Kyrgyz Republic.

Russia has had a Partnership and Co-operation Agreement with the EU since December 1997, and discussions are to be initiated in connection with formation of a Common European Economic Space that would include Russia. There has also been some discussion of an eventual FTA between Russia and the EU. Finally, it may be noted that Russia may possibly be affected adversely by EU enlargement to incorporate Poland and the Baltic States (i.e., Estonia, Latvia, and Lithuania).

Michalopoulos and Tarr (1997) are critical of the existing CIS preferential arrangements and possible future changes in these arrangements, especially from the standpoints of the individual CIS members apart from Russia. In their view, there is a danger that the CIS members might well lock themselves into the old technology of the former Soviet Union. Furthermore, for several CIS countries that have already adopted or will choose to adopt relatively liberal trade regimes with low tariffs, becoming a member of a customs union with relatively high tariffs would be detrimental to their economic welfare. Moreover, keeping their tariffs low is an important consideration as these countries seek accession to the WTO.

The EU-Russian Partnership and Co-operation Agreement (PCA) is primarily a trade agreement that guarantees Most-Favored-Nation (MFN) treatment to both partners. The PCA also includes commitments on preferential access in some services sectors and the harmonization of pertinent Russian legislation with that of the EU. Further, the formation of a Common European Economic Space would more fully integrate Russia with the rest of Europe.

Brenton, Tourdyeva, and Whalley (1997) have analyzed the potential trade effects of a Russia-EU FTA. They conclude that such an FTA would be trade diverting for a number of countries in Central and Eastern Europe as well as Japan and the United

States. In any event, as noted in Carl (2002), the EU strongly supports the completion of Russian accession to the WTO before any further, broader European or bilateral arrangements are to be pursued. But in the interim, as noted, there may be some concern that EU enlargement could be detrimental to Russia's trading interests.

While Russian involvement in further preferential trading arrangements is for now secondary to its WTO accession, it may be of interest in this context to ask how the economic benefits from preferential trading arrangements compare with the benefits from multilateral liberalization. In this connection, Brown, Deardorff, and Stern (2002a,b) have used the Michigan Model to analyze a variety of FTAs that the United States, Japan, Canada, and Mexico have negotiated or are actively considering. Table 6 contains the global welfare effects for four regional arrangements. An FTA comprising the members of the Asia-Pacific Economic Cooperation (APEC) Forum would increase global welfare by $764.4 billion, an FTA involving members of the Association of Southeast Asian Nations (ASEAN) plus China (including Hong Kong), Japan, and South Korea increases global welfare by $224.7 billion, an expansion of the North American Free Trade Agreement (NAFTA) to include Chile would increase global welfare by $5.5 billion, and a Western Hemisphere Free Trade Agreement (WHFTA) would increase global welfare by $77.9 billion. When these different arrangements are compared to the global welfare effects of multilateral liberalization noted in table 5, it is evident that the multilateral welfare effects are considerably larger in both absolute and percentage terms. This is even more the case for comparison of the global welfare effects of the bilateral FTAs for Japan and the United States indicated in table 7. This conclusion applies as well to the FTAs involving Canada and Mexico that are analyzed in Brown, Deardorff, and Stern (2000a).

The foregoing discussion suggests that Russia would potentially have much more to gain from accession to the WTO coupled with participation in the Doha Round of multilateral negotiations than it would gain from preferential arrangements with CIS mem-

bers or with the EU. Once the requisite data for Russia are available to permit CGE modeling, this conclusion can be checked against the data.

VI. Conclusions

The foregoing review of the issues involved in analyzing the economic effects of Russia's accession to the WTO suggests the following conclusions:

- Russia has made remarkable progress in achieving macroeconomic stability and structural reform, which will help to ease the process of adjustment to WTO accession.

- The commodity structure of Russia's merchandise exports is concentrated especially in minerals and fuels and, to a lesser extent, in some categories of industrial products. Russia's imports are concentrated in some categories of industrial products and in agricultural products.

- Russia's exports and imports are concentrated geographically with the EU/EFTA and with the former Soviet Republics and members of the Soviet Bloc. Russia's export specialization in minerals and fuels may be of key economic and strategic especially in its intra-European trade.

- Russia's tariffs are on average relatively low, although there are peaks in selected products. Official tariff rates are substantially in excess of applied rates. Weaknesses in customs procedures may constitute a significant barrier to imports

- There are several aspects of Russia's trade and related policies that are at issue in the WTO accession process covering: agriculture; intellectual property; services; standards and certification; investment; government procurement; state trading; and the U.S. granting of permanent normal trading relations (PNTR).

- Russia's application for GATT/WTO accession has been in process since 1993, and it is now apparently in its final phases. Pending the outcome of ongoing bilateral negotiations, Russian accession may be completed by the time of the next WTO Ministerial Meeting to be held in Mexico in the fall of 2003.

- Russia may realize significant economic benefits from WTO accession as the result of the reduction of its import tariffs and liberalization of domestic policies. There is considerable scope for the use of computable general equilibrium (CGE) models to assess these economic benefits. There may be additional benefits, which are difficult to quantify, arising from more predictable access of Russian exports to foreign markets and Russia's adherence to WTO rules and agreements, especially the use of binding dispute settlement to protect its trading interests.

- Russia may further realize significant economic benefits from participation in the ongoing Doha Round of multilateral trade negotiations. These benefits could be considerably greater than those that would result from preferential trading arrangements with CIS members and with the European Union.

Appendix 1

The Procedure for WTO Accession

- Commencement of the accessions process—The process of accession to the WTO commences when an applicant submits a communication to the Director-General of the WTO expressing its desire to accede to the WTO under Article XII. The General Council then considers the application and establishes a working party. The standard terms of reference of working parties are "to examine the application for accession to the WTO under Article XXXIII and to submit to the General Council/Ministerial Conference recommendations which may include a draft Protocol of Accession". Any member of the WTO can join the working party. The working party is chaired by a Chairperson selected after consultations with WTO Members and the applicant.

- Working party and the fact-finding process—Once the working party is established, the applicant provides a Memorandum describing in detail its foreign trade régime, together with information on the currently applicable tariff schedule and copies of relevant laws and regulations in one of the WTO official languages (English, French and Spanish). Following the circulation of the Memorandum, members of the working party ask questions in relation to it to obtain more information about the applicant's foreign trade régime. After the replies to the questions are received, the first meeting of the working party is scheduled. At the initial meeting of the working party, members of the working party examine the Memorandum and the questions and answers to study the conformity of the regime with the various requirements of the WTO Agreements. At the end of the first and any subsequent meeting of the working party, the Chairperson outlines the next steps required for future meetings. Thereafter, additional questions in writing, replies and further information papers are exchanged. Especially in the case of least developed and small economy applicants, technical assistance at each stage of the accession process can be obtained from the Secretariat.

- Bilateral negotiations—When the examination of the foreign trade régime is sufficiently advanced, members of the working party and the applicant commence bilateral market access negotiations on goods and services, as well as on the other specific terms of accession. The negotiating phase and the fact-finding work on the foreign trade régime usually overlap and proceed in parallel. The phase commences either by the applying government tabling its initial offer on goods or services or interested WTO Members submitting their request lists to the applicant. The negotiations on market access constitute the most critical element of the accessions process as Members want to ensure that acceding governments grant concessions which are comparable to the concessions that they will be benefiting from in the markets of Members. The resulting market-access commitments of acceding governments can be considered to be the payment for the entry ticket into the WTO.

- Report, Protocol of Accession and Entry into Force—The summary of the discussions in the working party is contained in the Report of the working party together with a draft Decision and Protocol of Accession. The Protocol of Accession contains the terms of accession agreed by the Applicant and members of the working party. Following the conclusion of bilateral negotiations between interested Members and the Applicant, the Schedule of Concessions and Commitments on Goods and the Schedule of Specific Commitments on Services are prepared. These Schedules are

annexed to and are part of the draft Protocol of Accession. When the Draft Report, Draft Protocol and Schedules on Goods and Services have been finalised, the working party submits the package to the WTO General Council/Ministerial Conference for approval. Following the decision of the General Council/Ministerial Conference to adopt the package, the Protocol of Accession enters into force. Thirty days after acceptance by the applicant, it becomes a WTO Member.

Source: Adapted from [www.wto.org].

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Table 1
The Commodity and Geographic Composition of Russian Exports, 2000[a]
(Mill. US$ and Percent)

	Agricultural Products		Minerals & Fuels		Industrial Products		Total Exports	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Developed Countries	**394.5**	**28.0**	**16,978.4**	**46.5**	**14,214.4**	**42.5**	**31,587.3**	**44.2**
Australia/New Zealand	2.2	0.2	0.0	0.0	5.0	0.0	7.2	0.0
Canada	2.1	0.1	7.3	0.0	67.6	0.2	76.9	0.1
EU/EFTA	235.0	16.7	16,460.9	45.1	9,713.5	29.0	26,409.4	37.0
Japan	133.5	9.5	323.9	0.9	1,793.6	5.4	2,250.9	3.2
United States	21.7	1.5	186.4	0.5	2,634.8	7.9	2,842.9	4.0
Former Soviet Bloc	**497.3**	**35.3**	**9,655.9**	**26.5**	**6,865.6**	**20.5**	**17,018.7**	**23.9**
Baltic States	63.4	4.5	2,104.1	5.8	2,400.0	7.2	4,567.4	6.4
Central & E. Europe	22.7	1.6	5,775.4	15.8	1,100.9	3.3	6,899.0	9.7
CIS	411.2	29.2	1,776.4	4.9	3,364.7	10.0	5,552.3	7.8
Caribbean & L. America	**4.7**	**0.3**	**4,539.6**	**12.4**	**1,072.9**	**3.2**	**5,617.3**	**7.9**
Asia, excl. Japan	**317.2**	**22.5**	**1,174.5**	**3.2**	**5,855.0**	**17.5**	**7,346.7**	**10.3**
Other Developing Countries	**196.7**	**13.9**	**4,183.8**	**11.5**	**5,475.2**	**16.4**	**9,855.8**	**13.8**
Total	**1,410.4**	**100.0**	**36,532.2**	**100.0**	**33,483.1**	**100.0**	**71,425.7**	**100.0**
Percent		**2.0%**		**51.1%**		**46.9%**		**100.0%**

[a]According to the IMF, *International Financial Statistics* (April 2002), Russia's exports were $105,505 million in 2000. This includes an adjustment for barter and "shuttle" trade. Agricultural products include HS 1-24, minerals & fuels, HS 25-27, and industrial products, HS 28-96.

Source: Calculations provided by Center for Economic and Financial Research.

Table 2
The Commodity and Geographic Composition of Russian Imports, 2000[a]
(Mill. US$ and Percent)

	Agricultural Products		Minerals & Fuels		Industrial Products		Total Imports	
	Value	**Percent**	**Value**	**Percent**	**Value**	**Percent**	**Value**	**Percent**
Developed Countries	**2,950.8**	**40.0**	**1,19.3**	**7.5**	**10,,808.2**	**55.3**	**13,878.3**	**48.7**
Australia/New Zealand	32.7	0.4	2.6	0.2	157.2	0.8	192.5	0.7
Canada	32.4	0.4	0.7	0.0	156.1	0.8	189.2	0.7
EU/EFTA	2,149.4	29.1	99.1	6.3	8,526.5	43.6	10,774.9	37.8
Japan	1.8	0.0	8.1	0.5	548.4	2.8	558.3	2.0
United States	734.6	10.0	8.7	0.6	1,420.0	7.3	2,163.4	7.6
Former Soviet Bloc	**2,014.2**	**27.3**	**1,260.1**	**79.7**	**5,673.0**	**29.0**	**8,947.4**	**31.4**
Baltic States	80.4	1.1	17.4	1.1	220.2	1.1	318.0	1.1
Central & E. Europe	286.2	3.9	6.3	0.4	1,232.8	6.3	1,525.4	5.4
CIS	1,647.6	22.3	1,236.4	78.2	4,220.0	21.6	7,104.0	24.9
Caribbean & L. America	**734.7**	**10.0**	**17.7**	**1.1**	**356.4**	**1.8**	**1,108.8**	**3.9**
Asia, excl. Japan	**1,221.5**	**16.5**	**118.1**	**7.5**	**1,506.0**	**7.7**	**2,845.7**	**10.0**
Other Developing Countries	**460.7**	**6.2**	**66.0**	**4.2**	**1,194.7**	**6.1**	**1,721.4**	**6.0**
Total	**7,381.9**	**100.0**	**1,581.3**	**100.0**	**19,538.3**	**100.0**	**28,501.6**	**100.0**
Percent		**25.9%**		**5.5%**		**68.5%**		**100.0%**

[a]According to the IMF, *International Financial Statistics* (April 2002), Russia's imports (fob) were $44,659 million in 2000. This includes an adjustment for barter and "shuttle" trade. Agricultural products include HS 1-24, minerals & fuels, HS 25-27, and industrial products, HS 28-96.

Source: Calculations provided by Center for Economic and Financial Research.

Table 3
Tariff Rates of the Russian Federation, 1996[a]

Sectors	Unweighted
Food manufacturing	14.7
Beverages	23.1
Tobacco	17.5
Textiles	16.4
Wearing apparel	24.1
Leather products	9.7
Footwear	20.0
Wood, cork, and products	17.5
Wooden furniture & fixtures	24.7
Paper products	14.2
Printing & publishing	12.5
Industrial chemicals	5.7
Other chemical products	7.4
Petroleum refineries	5.0
Petroleum & coal products	9.0
Rubber products	6.0
Plastic products nec.	13.8
Ceramic products	22.9
Glass & glass products	14.5
Other nonmetal min prods	15.8
Iron & steel B-met ind	5.6
Nonferrous B-met ind	13.1
Metal products nee	18.8
Nonelectric machinery	12.4
Electrical machinery	10.1
Transport equipment	16.6
Scientific equipment	15.7
Other manufacturing	20.5

[a]World Bank Estimates for 1996.
Source: Michalopoulos and Tarr (1997).

Table 4
Average Official and Applied Tariff Rates
On Russian Imports, 1996-99
(Percent)

	1996	1997	1998	1999
Nominal official weighted average tariff rates	14	14	12	8
Applied tariff rates (actual duty collected/value of imports)	4	7	7	5

Source: Adapted from Gorban, Guriev, and Yudaeva (2001, p. 6).

Table 5
Global Welfare Effects of Multilateral Negotiating Options in the Doha Round
(Percent of GNP and Billions of Dollars)

	WTO Doha Round – 33% Reductions in:									
	Agricultural Tariffs—DR-1 (1)		Manufactures Tariffs—DR-2 (2)		Services Barriers—DR-3 (3)		Combined Liberalization—DR-4 (4)		Global Free Trade All Barriers Removed—DR-5 (5)	
Industrialized Countries										
Japan	0.07%	$4.3	0.89%	$57.8	0.95%	$61.6	1.90%	$123.7	5.77%	$374.8
United States	-0.04	-4.1	0.34	31.3	1.65	150.0	1.95	177.3	5.92	537.2
Canada	0.01	0.1	0.38	2.8	1.46	10.6	1.85	13.5	5.62	40.9
Australia	-0.04	-0.2	0.56	2.5	0.65	2.8	1.16	5.1	3.52	15.5
New Zealand	-0.04	-0.0	1.88	1.4	1.20	0.8	3.04	2.2	9.22	6.8
EU and EFTA	0.02	2.2	0.58	63.3	0.94	103.4	1.54	168.9	4.67	511.9
Developing Countries										
Asia										
Hong Kong	0.02	0.0	1.56	2.0	1.78	2.3	3.36	4.3	10.18	13.1
China	0.18	1.6	0.54	4.9	0.79	7.1	1.50	13.6	4.55	41.2
Korea	0.16	0.9	1.40	8.0	0.91	5.2	2.48	14.1	7.51	42.7
Singapore	0.12	0.1	2.85	2.1	2.62	1.9	5.60	4.2	16.96	12.6
Taiwan	0.71	2.5	1.58	5.6	0.49	1.7	2.78	9.8	8.44	29.6
Indonesia	0.06	0.1	0.06	0.1	0.79	2.0	1.65	4.2	5.00	12.7
Malaysia	0.28	0.3	1.99	2.4	0.54	0.6	2.81	3.4	8.51	10.2
Philippines	0.20	0.2	3.52	3.1	1.68	1.5	5.40	4.8	16.38	14.5
Thailand	0.03	0.1	1.47	3.0	1.12	2.3	2.62	5.4	7.94	16.4
Rest of Asia	0.40	2.3	0.90	5.2	0.47	2.7	1.78	10.2	5.38	30.8
Other										
Chile	-0.05	-0.0	1.29	1.0	1.17	0.9	2.40	1.9	7.28	5.9
Mexico	0.03	0.1	0.32	1.1	1.49	5.2	1.84	6.5	5.58	19.6
Cent., Carib., S. Amer.	-0.03	-0.5	0.31	5,.1	1.13	18.9	1.41	23.6	4.28	71.4
Middle East & N. Africa	0.09	0.8	0.92	8.0	0.88	7.6	1.90	16.4	5.75	49.7
Total		**10.8**		**210.7**		**389.6**		**613.0**		**1,857.4**

Source: Brown, Deardorff, and Stern (2002a).

Table 6
Global Welfare Effects of Regional Negotiating Options
(Percent of GNP and Billions of Dollars)

	APEC FTA (1)		ASEAN Plus 3 (2)		NAFTA-Chile FTA (3)		WHFTA (4)	
Industrialized Countries								
Japan	4.36%	$283.1	2.48%	$160.8	0.002%	$0.1	0.006%	$0.4
United States	3.25	294.7	0.02	2.3	0.046	4.2	0.581	52.7
Canada	4.21	30.7	0.04	0.3	0.040	0.3	0.383	2.8
Australia	2.99	13.0	0.20	0.9	-0.003	-0.0	-0.009	-0.0
New Zealand	6.09	4.5	0.23	0.2	-0.001	-0.0	-0.004	-0.0
EU and EFTA	-0.06	-7.0	-0.02	-2.6	-0.001	-0.1	-0.008	-0.9
Developing Countries								
Asia								
Hong Kong	8.10	10.4	4.15	5.3	0.003	0.0	-0.034	-0.0
China	2.17	19.6	0.36	3.2	-0.002	-0.0	-0.008	-0.1
Korea	5.10	29.0	3.03	17.2	-0.004	-0.0	-0.028	-0.2
Singapore	11.85	8.8	8.46	6.3	0.004	0.0	0.036	0.0
Taiwan	6.32	22.2	1.97	6.9	0.003	0.0	0.015	0.1
Indonesia	3.52	8.9	2.15	5.4	-0.001	-0.0	-0.002	-0.0
Malaysia	5.32	6.4	3.34	4.0	0.005	0.0	0.069	0.1
Philippines	11.52	10.2	6.16	5.4	0.005	0.0	0.013	0.0
Thailand	5.18	10.7	2.78	5.7	0.002	0.0	-0.003	-0.0
Rest of Asia	-0.18	-1.0	-0.01	-0.1	0.001	0.0	-0.001	-0.0
Other								
Chile	3.91	3.1	0.38	0.3	0.922	0.7	2.478	2.0
Mexico	3.94	13.9	-0.02	-0.1	0.116	0.4	0.806	2.8
Cent., Carib., S. Amer.	-0.01	-.1	0.05	0.8	-0.010	-0.2	1.103	18.4
Middle East & N. Africa	0.39	3.4	0.27	2.3	-0.003	-0.0	-0.017	-0.1
Total		**764.4**		**224.7**		**5.5**		**77.9**

Source: Brown, Deardorff, and Stern (2002a).

Table 7
Global Welfare Effects of Bilateral Negotiating Options for Japan and the United States
(Percent of GNP and Millions of Dollars)

	Japan-Singapore FTA (1)		U.S.-Singapore FTA (2)		Japan-Korea FTA (3)		U.S.-Korea FTA (4)		Japan-Chile FTA (5)		U.S.-Chile FTA (6)		Japan-Mexico FTA (7)	
Industrialized Countries														
Japan	0.17%	$10,857	0.02%	$1180	0.42%	$27,365	0.004%	$268	0.07%	$4,341	0.002%	$130	0.10%	$6,343
United States	0.02	1,561	0.18	16,724	-0.00	-207	0.32	29226	-0.00	-46	0.046	4,215	-0.01	-750
Canada	0.02	114	-0.01	-90	0.00	36	0.04	252	-0.00	-4	0.005	34	-0.01	-33
Australia	0.03	125	0.03	140	0.01	51	0.00	10	0.00	2	-0.002	-10	0.0	9
New Zealand	0.02	18	0.03	19	0.01	7	0.00	2	-0.00	-0	-0.001	-1	0.0	2
EU and EFTA	0.01	1,249	0.01	956	-0.00	-214	0.00	196	0.00	-52	0.000	-42	-0.0	-121
Developing Countries														
Asia														
Hong Kong	0.01	9	-0.02	-27	0.01	11	0.06	78	0.00	-0	0.003	3	-0.0	-4
China	-0.01	-73	-0.01	-57	-0.00	-30	0.00	42	0.00	-4	-0.001	-11	0.0	0
Korea	0.01	53	0.02	96	0.57	3,232	1.44	8,172	-0.00	-18	-0.003	-17	-0.0	-13
Singapore	2.43	1,808	2.70	2,009	-0.04	-31	0.02	16	-0.00	-1	0.004	3	-0.0	-3
Taiwan	0.02	64	-0.00	-109	-0.03	-117	0.00	0	-0.00	-8	0.002	7	-0.0	-26
Indonesia	-0.02	-42	0.01	17	0.01	34	0.01	34	0.00	-1	-0.001	-3	0.0	5
Malaysia	-0.34	-401	-0.20	-244	-0.03	-38	0.01	16	-0.00	-2	0.004	5	-0.0	-10
Philippines	-0.03	-22	-0.04	-31	-0.00	-0	0.01	12	-0.00	-1	0.004	4	-0.0	-.9
Thailand	-0.01	-28	0.00	6	-0.00	-3	0.00	11	-0.00	-4	0.002	4	0.0	10
Rest of Asia	0.00	30	-0.01	-28	0.00	17	0.01	82	0.00	-2	0.001	4	-0.0	-3
Other														
Chile	-0.00	-2	0.01	118	0.02	12	0.01	6	0.86	688	0.596	478	-0.0	-0.9
Mexico	0.02	52	-0.02	-53	0.00	18	0.02	61	-0.00	-8	-0.001	-5	0.5	1,912
Cent., Carib., S.Amer.	0.00	53	-0.00	-32	0.00	45	0.01	135	0.00	16	-0.008	-128	-0.0	-21
Middle East & N. Africa	-0.00	-7	0.00	24	0.01	105	0.02	200	0.00	6	-0.002	-16	0.0	16
Total		**15,419**		**20,612**		**30,292**		**38,821**		**4,903**		**4,652**		**7,302**

Source: Brown, Deardorff, and Stern (2002b).