AN ANALYSIS OF A POSSIBLE JAPAN-US TRADE AGREEMENT[1]

Scott Bradford[2]

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Introduction and Overview

A Large FTA with Potentially Large Effects

The Japan-United States relationship ranks as one of the most important in the world. Together, these two nations account for about 40% of world GDP, and their wealth and technological strength greatly influence the global economy. Healthy economic relations between Japan and the US play a crucial role in preserving a stable international trading system. Thus, these two economic superpowers need to continue to communicate, work out disagreements, and collaborate on economic programs of concern to themselves and the world economy.

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[2] Scott Bradford is a Visiting Fellow at PIIE and Associate Professor of Economics at Brigham Young University. He is the co-author, with Robert Lawrence, of *Has Globalization Gone Far Enough? The Costs of Fragmented Markets* (2004).

One initiative that could serve these ends would be a Japan-US Free Trade Agreement (JUSFTA). Such an unprecedented program between the world's two largest national economies would potentially bring very large payoffs to themselves and the world economy as a whole, by freeing up important markets and facilitating domestic reform, especially within Japan. Our analysis indicates that a full JUSFTA would permanently boost Japan's net welfare by at least 2.7% of GDP (about $130 billion at present levels) and the US's welfare by 1.1% of GDP (about $150 billion annually). If Japan exempted rice from the deal, as politics would likely require, it would still gain at least 2.3% of GDP ($110 billion), while the US's gains would not be affected significantly. These results assume a modest 10% reduction in services friction. Much larger benefits, 7% of GDP for Japan ($350 billion annually) and 2.6% of GDP for the US (also about $350 billion annually), would result if the FTA produced a 30% liberalization of the services sector. Also, we find that trade between the two may roughly double as a result.

The Importance of Services

Including services in the deal is crucial to each nation reaping large gains. If services were excluded, the predicted gains drop to less than 1% of GDP (for Japan, 0.4% with rice opening and near 0 without rice and, for the US, about 0.3% of GDP in either case). Some services opening would also bring two other key benefits. First, it would reduce the adjustment in Japan required by the FTA. A more efficient service sector boosts output throughout the rest of the economy and thus reduces the

shrinkage and layoffs in sectors that would contract with the FTA. In fact, we find that full JUSFTA opening in Japan, including rice and services (10% friction reduction scenario), would cause fewer job losses than a deal that excluded both rice and services. In other words, including services would counteract the large adjustment costs caused by rice opening. Second, services opening would especially benefit Japan's higher tech sectors, since they rely on services more, thereby spurring greater innovation and modernization than otherwise. These two additional benefits accrue regardless of whether rice is excluded.

In addition, services opening would reduce the risk that trade diversion from a JUSFTA would hurt poor nations. Most service frictions are domestic regulations that affect all imports. Any reduction in such barriers as part of a trade agreement would therefore work against the trade diversion that can result from preferential border barrier removal. For Japan, this benefit to poor nations would be especially large because Japan trades more with them than does any other rich nation. Our analysis implies that China and Taiwan would benefit from a JUSFTA that included services and that Taiwan would be hurt by one that excluded them, while China would not gain. South Korea and the rest of the developing world would face bigger losses from a JUSFTA that excluded services. In Korea's case, we estimate that a JUSFTA that includes services would reduce its losses by over two thirds to just 0.04% of GDP.

Other Possible Payoffs from a JUSFTA

A JUSFTA could also produce broader benefits. If Prime Minister Fukuda and his successors choose to use a JUSFTA negotiation with the US as an additional tool to promote economic reform in Japan, and are able to lever the prize of freer trade and closer ties with the US to that end, Japan could reap large economic and foreign policy payoffs. The US would benefit from solidifying its chief alliance in the Pacific at a time of rising concern over China, as well as continued threats from North Korea. An FTA could also promote useful reforms in the US, such as anti-dumping legislation.

Both countries also have important defensive motives for pursuing a JUSFTA. Potential US FTAs with several other Asian countries, especially Korea, provide a strong incentive for Japan to pursue a similar course. For its part, the US faces substantial trade discrimination, and potential political costs as well, from the proliferation of FTAs being pursued in East Asia (including Japan-Korea, Japan-ASEAN, etc.) and will want equal treatment. The FTA that Korea is pursuing with the European Union could bring similar costs to the US. Such an EU-Korea FTA would also almost certainly spur Japan to pursue an FTA with the EU as well, bringing greater costs to the US.

Japan and the US also have broad trade policy reasons to pursue an FTA because both want a successful Doha Round and an effective World Trade Organization (WTO). The Round is faltering badly and the launch of an FTA between the world's two largest economies could provide a positive jolt to these negotiations by threatening new discrimination toward recalcitrant outsiders (Brazil, China, the EU, and India), who are then likely to see substantial multilateral liberalization in a much more favorable light. The FTA would also represent important insurance against a failure of Doha and the

inevitable weakening of the WTO system that would result. Along with other FTAs being pursued by the two countries, it would also offer a major step toward ultimate realization of the Bogor goals adopted by APEC in 1994 to achieve "free and open trade and investment in the Asia Pacific region."

Unique Opportunity

A number of factors have combined to create a unique opportunity for considering a JUSFTA.

First, economic frictions between the two nations are at an historic low. Japan's sluggish growth from the early 90's through 2003 reduced the Japanese "threat" to the point where the US no longer fears Japan. Japan-bashing is largely a thing of the past. The US itself has been growing solidly since 2001, and, despite the stresses caused by the recent housing slump and abiding middle-class angst, has regained a measure of economic self-confidence. Japan, for its part, has recently recovered from its "lost decade" and is restoring its own self-esteem. Japan recorded real GDP growth rates of 2.7% in 2004, 1.9% in 2005, and 2.2% last year. The IMF and the Economist project 2% growth again this year. This emergence from the doldrums and restoration of confidence in Japan will aid the kind of market opening that an FTA would require.

Second, in recent years, Japan has reformed in key ways that provide hope that it can make the changes needed for a JUSFTA. In the Uruguay Round, Japan changed agriculture barriers to tariffs, most notably for rice, which will make it much easier to reduce those high barriers going forward. Japan has reduced fumigation of citrus fruits

and lettuce. More broadly, it appears that major agriculture reform will occur within the next decade. Outside of agriculture, Japan has taken noteworthy steps. It has increased staffing at its antitrust arm, the Japan Fair Trade Commission. The Corporate Code has been modified to allow modern merger techniques when making acquisitions in Japan.[3] According to the US Department of Treasury, 10 years ago, foreign participation in Japan's financial market was almost impossible. Now, market access is not an issue; the focus has shifted to market development.[4] Japan has substantially reduced customs fees at its ports. Even the beleaguered US auto industry has implicitly recognized change within Japan by shifting its criticism from trade barriers to the exchange rate. The American Chamber of Commerce in Japan has said that the business environment there has improved markedly since the late 1990s, pointing to "much more" openness to imports, great FDI growth, and increased acceptance by the Japanese government of ideas from the foreign community.[5]

Third, the Korea-US FTA has clearly increased the incentive for Japan to pursue a JUSFTA, for broad political, as well as narrower trade diversion, reasons. Korea's economy will remain smaller than Japan's for a long time, but Korea is a strong rival in many manufacturing sectors, with the rivalry often focused on the US market. A Korea-US FTA would bring significant US economic discrimination toward Korea. Also, FTAs inevitably strengthen political ties, and Japan would not like to see its strongest ally devoting more political attention to one of its rising rivals, without similar attention to

[3] Cutler (September 28, 2005).
[4] Loevinger (September 28, 2005).
[5] Howard (September 28, 2005).

Japan. On the flip side, Japan and Korea are also exploring an FTA, which would increase the US incentive to pursue a JUSFTA.

Fourth, trade policy in both countries has reoriented toward FTAs more than ever before. Just a few years ago, a JUSFTA would have been out of the question, because neither country was committed to putting FTAs on its agenda, especially not one as complex as a JUSFTA. Recently, however, the US has signed a number of FTAs. The USTR has developed a list of 13 criteria for pursuing FTAs[6], and Japan seems to score high on the great majority of these. Also, Japan has finally joined in, having signed deals with Chile, Malysia, Mexico, Singapore, and, most recently, Thailand. Japan is also pursuing other deals, including several ASEAN nations and Australia. The Japan-Mexico FTA, concluded in 2005, is especially noteworthy because it is the first FTA in which Japan agreed to open agriculture significantly. While the opening in that deal is not as extensive as the US would push for, it does provide a stepping stone for widespread agriculture opening as part of a JUSFTA.

Fifth, in the multilateral realm, the Doha negotiations have faced major difficulties, and continued problems there could make a JUSFTA more worthwhile. At the same time, it could provide an external boost to the Doha Round, should it remain unfinished by the time JUSFTA negotiations get going, through the process of competitive liberalization, whereby regional deals motivate WTO negotiators to come to an agreement. Also, FTAs can help grease the WTO wheels by opening markets and creating bonds that smooth multilateral negotiations.

[6] They were presented by then USTR Robert Zoellick at an IIE conference in May 2003. See *Inside US Trade*, May 9, 2003. See Schott (2004), pages 365-371, for further discussion.

Sixth, the rise of China poses a challenge to both countries that clearly calls for closer ties between them, as is already evident in the security domain.

Seventh, the political imperative in the US to sign trade deals that preserve high labor and environmental standards makes Japan a relatively attractive FTA partner. As an advanced nation, it already has high labor standards, and, while it does not have a perfect environmental record, especially in regards to fishing, its standards in this area as well should create few hurdles on the US side.

No one knows whether a deal could be concluded, but the next couple of years may present an historic window for bringing to the Japan-US economic relationship fundamental improvements that would have been impossible before.

Huge Hurdles

To be sure, such an agreement faces huge hurdles.

First, decades-old acrimony and conflicts will not cease quickly. In 2005, House Ways and Means Committee members lambasted administration officials for failing to apply forceful pressure on the Japanese to liberalize more. The mad cow beef ban served as a flashpoint during those hearings, but the auto, insurance, and medical device industries, as well as the US Department of Agriculture, also reiterated deep frustration. Key skeptics in Congress and the Administration will have to be convinced that Japan would truly open its markets as part of an FTA. Behind-the-border barriers in particular are inherently difficult to tackle. Even if Japan promises to remove them, past patterns indicate that true opening may not occur.

Second, since last year's elections, the political winds within the US have shifted against FTAs. Trade Promotion Authority (TPA) has expired, and any FTA will require a renewal to make it through Congress. Also, the Democrats have made clear that any future FTAs will receive closer scrutiny than past ones. The Korea and Colombia deals face significant opposition, and either one could become the first FTA to be rejected by Congress under TPA.

Third, a potential JUSFTA would impose large costs on many politically powerful people in both nations. It would require a major trade regime shift in Japan, and entrenched interests, especially in agriculture and services, would resist that. Overcoming or defusing such opposition would be a stiff challenge. The United States would face its own resistance to liberalization, especially in the auto sector. Ford, Chrysler, and the UAW have strongly opposed the Korea-US FTA, but they would probably oppose a JUSFTA even more strongly.

Fourth, the bilateral imbalance between the countries remains very large and will cast a cloud over any FTA negotiations. Currency issues may have to be included in the FTA, which would complicate both bargaining and ratification.

Fifth, while pursuing multiple FTAs has proven an effective strategy for both nations, one might worry about FTA overload. An interesting and important question is whether a JUSFTA would require more USTR resources than FTAs pursued up to this point. On the one hand, since Japan would be the largest FTA partner, more resources may be needed to cover all areas. On the other hand, since Japan is developed, and the US and Japan have a long history of trade negotiations, working out a deal may be

easier than with the developing countries that have been the subject of recent deals. Japan also could face overload, since possible deals on the agenda include Australia, India, Indonesia, Korea, the Philippines, and ASEAN as a whole.

Sixth, many may be concerned that a JUSFTA would harm global trade negotiations. Many may wonder about the opportunity cost of possibly pulling resources away from the WTO work. Any serious talk of a JUSFTA will raise eyebrows around the world, especially if Doha is at a critical point. In addition, there are concerns about trade diversion and the possible negative impact that discriminatory trade between the world's two largest economies would have on the rest of the world.

Overview of Japan-US Economic Relations

Japan is the US's fourth largest trading partner, after Canada, China, and Mexico. The US is Japan's largest trading partner. In 2006, Japanese exports of goods and services to the US totaled $174 billion, and US exports to Japan totaled $102 billion, for a Japanese export-import ratio of 1.7 and a US deficit of $72 billion. This is down from peaks of a 3:1 ratio in 1987 and $77 billion deficit in 2000. In goods alone, Japanese exports are $148 billion, US exports are $60 billion, and the deficit is $89 billion. The main US exports to Japan include computers and components, gas turbines, office machinery, electrical machinery, optical and medical equipment, and agricultural products. The main Japanese exports to US include passenger cars and parts, computers and components, office machinery and parts, and electrical machinery. Thus, there is large two-way trade in computers, office machinery, and electrical

machinery. There are large one way flows of gas turbines and optical/medical equipment from the US and large one way flows of autos from Japan. In fact, autos and auto parts exports from Japan to the US totaled $58 billion in 2006, while US exports to Japan were only $1.7 billion. This huge imbalance will play a key role in the economic and political debates surrounding an FTA.

Recent liberalization has increased foreign direct investment (FDI) into Japan. Nonetheless, FDI there remains very low, less than 2% of GDP, while Japanese FDI into the US is quite high. Progress in this area will probably have spillovers into US perceptions of the openness of Japan's market and facilitate trade opening, as well as bringing real economic gains. On the other hand, US labor might benefit from the FDI imbalance.

Japan's major trade barriers—tariff and non-tariff—are in agriculture. Rice, beef, other meat, fruits, and vegetables are heavily protected. The ban on US beef imports especially irked the Americans, and it is clear that an FTA cannot proceed without assurances that Japan will follow international scientific standards in regulating beef imports. In manufacturing sectors, in addition to autos and parts, US producers of medical devices feel shut out of the Japanese market. Japan also has significant behind-the-border restrictions in services. As discussed above and below, opening distribution, financial services, insurance, and construction could bring large gains to Japanese consumers and foreign suppliers.

On the US side, its most heavily protected markets—agriculture, textiles, and clothing—are not areas of Japanese comparative advantage. Nevertheless, the US has

many barriers that concern the Japanese and would benefit them if removed. Japan has singled out high US tariffs on glassware, porcelain and ceramics, and, especially, trucks. Japan also worries about the 2002 Bioterrorism Act's potential to create non-tariff barriers in food imports into the US. In addition, Japan has been concerned about emergency US export controls since the 1973 soybean embargo. US anti-dumping measures have created extensive barriers for Japanese companies for a long time, and this issue is of paramount importance to the Japanese. Also, occasional safeguard tariffs, such as the recent steel tariffs, have usually hurt the Japanese. Despite these barriers against Japan, it is almost universally recognized that the Japanese market is much more closed than the US's, and a major challenge of the FTA will be the politics of bringing about large and real opening in Japan without reciprocal opening in the relatively open US market.

Other FTAs for Each

Table 1 lists the US's current and prospective FTA partners. About one-third of the US's current trade is with FTA partners. Ratifying deals that have been negotiated or are still under negotiation would push that figure above 40%. A JUSFTA would increase it above 50%.

Table 2 lists Japan's current and potential partners. FTAs in force cover less than 10% of their trade, but adding the nations with whom Japan has concluded negotiations or with whom Japan is currently negotiating—the rest of ASEAN, Australia,

India, and Switzerland—would increase the share to about 20%. Adding Korea would push it close to 30%, and concluding a deal with the US would increase it above 45%.

Potential Economic Impacts of a Japan-US FTA

Applied General Equilibrium (AGE) Analysis

What economic gains can each country expect to achieve from this FTA, and how would those gains be distributed within each economy? One widely used tool that economists wield for such calculations is an applied general equilibrium (AGE) model. Unlike approaches that examine different sectors in isolation, AGE models use equations and detailed data to take account of key relationships among producers and consumers, within and across national borders. This allows one to provide better estimates of how trade reforms would affect production, consumption, trade, prices, employment, and overall welfare in each region. While limited by data constraints and simplifying assumptions built into the model's equations, such analyses do provide reasonable estimates of overall welfare gains and interesting insights regarding prospective economic adjustments in each country.

For this study, we use a multi-sector, global AGE model to simulate the broad economic effects of a JUSFTA. The model for this study has 39 sectors[7], five factors of production (unskilled labor, skilled labor, capital, land, and natural resources), and eight regions: the United States, Japan, China, Germany, South Korea, Taiwan, the rest of the rich world, and the rest of the poor world. The economic structure is standard:[8] perfect competition, constant returns to scale, and fully employed factors that can move

[7] Table 6, discussed below, shows the list of sectors.
[8] The basic structure of the model is the same as the one used in Bradford and Lawrence (2004) and Bradford, Greico, and Hufbauer (2005).

freely across sectors[9] but not across international boundaries. The model also assumes, as is standard, that, within each region, the amounts of the four factors besides capital are fixed. In addition, the model attempts to capture dynamics in a simple way. We assume that the capital stock can increase through investment after trade opening.[10] This gives medium to long run results—the economic effects after both factor movements and capital stock growth.[11]

The required data on initial production, consumption, factor usage, trade flows, tariffs, and other government polices come from the most recent version of the state-of-the-art Global Trade Analysis Project (GTAP) database: GTAP6. Constructing such datasets is a huge undertaking, so that the data have a lag of a few years. The GTAP6 data, released in 2005, are from 2001. These data are the best available for capturing goods trade barriers in all countries. In particular, they cover non-tariff barriers (NTBs), as well as tariffs, in agriculture, though they do not do well at capturing NTBs in manufacturing, which, though less important than agriculture NTBs, are not negligible. For these simulations, we have added estimates of NTBs for final goods in Japan using 2002 data.[12] Also, the GTAP data does not include services trade barriers. After surveying the literature, we have added what appear to be reasonable estimates of such frictions. In addition to border barriers, services have internal restrictions that

[9] Land and natural resources are restricted to the primary products sectors (the first 6 sectors in Table 4, as well as the dairy sector).
[10] The adjustment path is not explicitly modeled. The simulations simply report the prediction for the new equilibrium after all adjustment has occurred.
[11] It is unclear which adjustment requires a shorter time horizon: movement of factors across sectors or investment that increases the capital stock. Depending on the type of factors or type of investment involved, either of these could be completed in months, or could take years.
[12] See Bradford 2003 and Bradford and Lawrence 2004 for a discussion of the method used to generate these estimates.

have been the subject of FTA negotiations, as well as the Doha round. So, the data include estimates of border barriers, as well as internal wedges. Further research will focus on refining these estimates, if needed. See Table 3 for a list of the barriers assumed in the model and the sources for the data.

We have run several different simulations to capture what might happen with a JUSFTA. For our baseline scenario, we simulate the effects of removing all goods barriers between Japan and the US and reducing services frictions by a conservative 10%. US FTAs have called for the removal of all barriers in goods, except for exempted sectors, such as rice in Korea. Services, too, have been included in US FTAs, though the opening there has been more limited. So, this baseline scenario captures extensive opening in goods and limited opening in services.[13] We also simulate what would happen if rice were excluded, as seems likely. In addition, we run parallel simulations that exclude services, to highlight the impact of services opening. Thus, there are three variations on the baseline: rice excluded, services excluded, and both excluded. We also consider greater opening in services: a 20% reduction in barriers and a 30% reduction.

Table 4 shows the overall welfare results for these scenarios, in billions of US dollars and as a percentage of GDP. The table reports the change in equivalent variation[14] for each region, net of losses to people whom trade opening would hurt,

[13] Both border barriers and internal frictions in services are reduced by the same percentage in all scenarios involving services opening—10% in the baseline scenario.

[14] Equivalent variation (EV) is the amount of money one would need to give the region (without any change in policy) to make it just as well off as it would be after the trade opening. A negative value for EV means that the region is hurt by the opening and that one would need to take money away to put the region at the same welfare level as it would be after the trade opening.

after all factor movement and new investment have occurred. These numbers do not take account of the adjustment costs that many would have to bear as they move from one sector to another.[15]

Overall, both partners would benefit substantially from a JUSFTA. In the baseline scenario (free trade with 10% services opening), Japan would reap permanent net gains of $130 billion, or 2.7% of GDP (after all adjustment). The US would gain $150 billion, 1.1% of GDP. [16] A JUSFTA would have a minor impact on the rest of the world. Germany, South Korea, and the rest of the world would face small losses; China would experience negligible net effects, and Taiwan would gain some. Excluding rice would reduce Japan's net gains by about $20 billion and have negligible overall effects on the other regions in the model. Excluding services, though, would have large effects. The gains to Japan would be cut by more than 80%, while the US's gains would be cut by 75%. Trade diversion and its associated welfare losses would increase noticeably. China would lose $2.5 billion annually (0.1% of GDP), and Korea would lose $1 billion (0.13% of GDP). Taking rice and services off the table would reduce Japan's gains to a very small amount. Once again, excluding rice would have minimal effects on the other regions.[17]

[15] For instance, Bradford, Grieco, and Hufbauer (2005) find that adjustment costs in the US could be about 10% of the gains from further trade opening but are probably less than that.
[16] Urata 2007 shows results of the same order of magnitude for simulations that include services productivity improvements in Japan.
[17] Although the dollar amounts are small, the United States would in fact gain more from the FTA if rice were excluded. This possibly surprising result stems from the fact that the US subsidizes rice, along with other agricultural goods. Under the model's assumptions, opening the large and lucrative Japanese rice market only to US exporters would cause many US resources to shift to this sector, which, because of the large subsidies (which are held constant in the model), would actually hurt the US economy.

Reflecting the large role that services would play in a JUSFTA, the scenarios which assume greater services opening show much larger net gains. 20% services opening would increase the welfare gains to about $240 billion for Japan (4.9% of GDP) and $250 billion for the US (1.9%); 30% opening would increase the gains to about $350 billion for each (7.1% of GDP for Japan and 2.6% for the US). In addition, the greater the services opening, the more positive the impact on other regions. With 30% opening, trade diversion disappears for all other regions except the rest of the rich world, which competes more directly in services with Japan and the US. Extensive services opening in these two large economies, which are dominated by services, creates efficiency and demand increases that outweigh the negative effects of FTA discrimination.[18]

This model can provide a rough indication of the distributional effects of the FTA. Table 5 shows the changes in real factor prices under the various scenarios for the FTA partners. (The factor price impacts in the other regions are tiny.) Land is heavily protected in Japan, and current owners of those assets would suffer large losses from an FTA with the United States, if rice were part of the deal. Otherwise, land prices remain high. Overall, the model indicates significant gains for Japanese labor if services are included, but, again, it takes no account of the adjustment costs that workers in contracting sectors would have to bear. In the United States, the returns to land and natural resources would increase significantly as a result of gaining preferential access

[18] See Noland 2007 for further discussion of the potential benefits of services deregulation in Japan.

to Japanese markets, especially in agriculture. This would hold true even if rice were excluded.

Tables 6 and 7 provide more nuanced looks at adjustment and the distribution of gains and losses by giving output results for each sector. We first focus on the baseline scenario and its three variations (10% services opening). Table 6 shows that, in the baseline scenario, the model predicts that the Japanese rice and wheat industries would contract dramatically and that other grains would also contract. Altogether, grains output would shrink by about $19 billion. The model predicts that Japanese meat output would also contract greatly, by $22 billion. Sugar, too, would shrink. Output of other agrifood products, though, would increase. Processed rice expands greatly because its main input, paddy rice, would be much cheaper. Improved efficiency in services contributes to the expansion in the other agrifood sectors. Excluding services would cause output in vegetable oils and fats, other processed food, and beverages and tobacco to shrink and would reduce the expansions in the other agrifood sectors. Another factor at work in the model is that land is constrained to remain in crops (one of the first six sectors) and dairy products, so that opening the heavily protected grains sectors frees up land just for the remaining crops sectors and for dairy products. Note that excluding rice would lead to contractions in all these sectors, since they would not then benefit from access to large amounts of rice land. As a practical matter, major opening in agricultural and primary products probably would cause land to shift over time into manufacturing and services, so that output in those land-intensive agrifood sectors would not expand as much, or would shrink.

In the baseline scenario, the model shows that all manufacturing sectors in Japan, except leather products, would expand. This reflects Japan's manufacturing prowess, something US manufacturers would need to confront in a full FTA. Leather products output shrinks because its initial barriers are the highest among Japan's manufacturing sectors, and across-the-board trade opening puts the most pressure on the sectors with the highest initial barriers.

All services sectors, except the highly protected construction industry, expand under the baseline scenario. Even distribution, which still enjoys a fair amount of protection despite recent reforms, expands with the FTA because improved efficiency throughout the rest of the economy increases the demand for distribution. Excluding services from the deal, of course, causes contractions in most service industries and greatly lowers the total output gains for the whole economy from $170 billion to only $30 billion.

Finally, note that larger services opening would cause greater expansions, or smaller contractions, in all sectors except rice, wheat, and meat. Only these sectors would shrink with a large 30% reduction in services frictions. Apparently, these sectors do not rely on services to the same degree as other sectors and thus do not benefit from improved efficiency in services. Overall, total output gains increase by about $130 billion for each 10% increment in services opening.

The impacts on the United States are shown in Table 7. In the baseline, the US experiences uniform expansion in agriculture and private services. (Changes in the government services sector are the most uncertain in the model, because profit

maximization probably does not apply.) The rice sector would expand greatly in percentage terms, while the meat sectors would enjoy a $45 billion boost in output. Private services, which account for the bulk of the US economy, would expand by about $130 billion. On the other hand, a JUSFTA would induce contractions across a broad array of manufacturing sectors. In particular, the model shows that the nine major manufacturing sectors from chemicals/rubber/plastics through machinery and equipment would suffer losses totaling $60 billion. More than three fourths of this reduction would come from transport equipment, electronics, and the machinery and equipment sectors. Barring a major change in the political economy of autos, the contraction in transport equipment especially would greatly complicate passage of the deal. Excluding rice has little effect, except to prevent a large expansion of the US paddy rice sector. Excluding services sacrifices the huge output gains in those sectors but does mute the output losses in many manufacturing sectors.

Greater services expansion leads to greater expansions or smaller contractions in all sectors except for other transport equipment (not autos or trucks), electronics, and machinery and equipment. Total output for the economy expands by an additional $100 billion dollar for each additional 10% opening of services.

Table 8 shows employment changes for non-high skill workers in each sector in Japan.[19] The table indicates that a JUSFTA would induce large shifts in the composition of employment across sectors in Japan, which would spur strong political opposition from those who would lose their jobs. If rice trade were fully liberalized, almost all rice

[19] The model shows similar changes for high-skill workers.

jobs would be lost.[20] The same is true of wheat. There would also be major job losses in vegetables and fruits and in the meat sectors. Almost all manufacturing sectors would see job gains, reflecting the output gains there. Large numbers of jobs would be created in services, but utilities, construction, finance, insurance, and recreation would lose jobs. Excluding rice prevents the huge job losses in that sector at the cost of lower welfare gains, as described above. Politically, though, preserving those jobs will probably be a necessity. Excluding services creates larger job losses in services but tends to increase job gains in manufacturing, since fewer resources are pulled from manufacturing into services. Overall, the number of lost jobs is actually slightly less when services are opened by 10%. Given the greater welfare gains, including services would appear to dominate excluding them, both politically and economically. The construction industry, though, would suffer many fewer job losses were services excluded, which would also prevent job losses in utilities and insurance.

Greater services opening would increase the number of job gains and losses throughout the economy. The much higher welfare gains that 20% and 30% services opening would bring would come at the cost of greater adjustment. Distribution would actually see a large increase in jobs as the entire economy became more efficient overall, though there would be probably be significant turnover within distribution as less efficient stores were replaced.

Table 9 shows the job changes that a JUSFTA would cause in the US. Not surprisingly, agrifood would see job increases across the board, especially in the meat

[20] The number of jobs shown is full-time equivalent. The great majority of rice farmers are part-time, so that the number of people actually affected by the rice contraction would be several times larger than the numbers shown in the table.

sectors, which would gain over 200,000 jobs. On the other hand, widespread manufacturing job losses would result from the baseline scenario: over 300,000. Again, Japan's power in these sectors would cause major adjustment issues for the US, and political obstacles to getting a deal passed. The model implies that service sectors except for utilities and government services would experience jobs gains totaling about 125,000. (Again, it is hard to know what would really happen with government services.) Unlike Japan, excluding services from the deal would cause less adjustment in the US: fewer job losses in manufacturing and fewer gains in services and agriculture.

As with Japan, greater opening in services would greater much larger job changes. The model implies that the total job reductions would increase to 600,000 with 20% services opening and to 730,000 with 30% opening. If one excludes the mysterious government services sector, though, the job loss picture does not look so bleak. The job loss totals go from 380,000 with 10% services opening to 440,000 and 500,000 when services are opened by 20% and 30%, respectively. Nonetheless, manufacturing job losses would increase with more services opening as resources get pulled into services.

Gravity Model Estimates

Dean DeRosa has run some gravity regressions in order to provide estimates of trade expansion. His preliminary results indicate that a JUSTA would increase overall Japan-US trade by about 100%, with agriculture and manufactured goods trade

predicted to increase by about 140%. It is generally believed that gravity model predictions provide an upper bound on trade expansion.

Potential Political Effects of a JUSFTA

Japan

A JUSFTA would probably spur and strengthen economic reforms within Japan. Prime Minister Koizumi received a strong mandate for reform and set changes in motion. That agenda stalled under Prime Minister Abe and will likely not be resurrected soon under Prime Minister Fukuda, as he determines how best to govern without a majority in the Upper House. Should negotiations begin on a JUSFTA over the next couple of years, though, that could energize the reform agenda, since any FTA with the US, even one with major exceptions such as rice, would require significant reforms. The KORUS FTA negotiations shed light on how this process might work in Japan, though Japan's greater economic size and power in Asia would create a different dynamic. While, politically, such reform has proven difficult and will only proceed gradually, Japan would reap large economic gains from it. Thus, positive spillovers into broader reforms would be one of the key payoffs to Japan of a JUSFTA.

A JUSFTA could also diminish anti-US views in Japan. For example, it could increase Japanese domestic support for US involvement in Asia.

Of course, this largest of all possible bilateral FTAs and the adjustments that it would require would create significant opposition and protectionist sentiment in Japan's vulnerable industries. Even if rice were excluded, other agrifood producers, as well as

service sectors such as construction, would use their considerable political clout to make passage of a deal as difficult as possible.

The US

While the US's long history of Japan bashing has receded, such as large deal involving such a large number of issues could bring the bashing back. Negotiators on both sides will have to deal with US suspicions that Japan hides behind hidden barriers, even when it appears to agree to opening. The Congressional debate will be even more contentious than the negotiations. Thus, an overriding challenge with a JUSFTA will be to overcome the legacy of acrimony and to put together a mutually beneficial deal. Such a deal is quite possible, as the economic analysis above shows, but the US side will need to surmount the considerable skepticism that the negotiations will stoke.

Japan-US Relations

The heightened tensions and opposition that major negotiations such as these would create do create risks for the bilateral Japan-US relationship. Before launching negotiations, both sides would need to consider carefully what a failed negotiation would do to the relationship and take steps to minimize the chance of failure.

On the other hand, the process of concluding an FTA between Japan and the US could certainly improve communication and general political relations. It may bury Japan bashing, another significant payoff to Japan (though, again, such bashing may increase). A key carrot for the Japanese to do an FTA would be having the US

renounce unilateralism as part of an FTA, promising to resolve disputes through bilateral arbitration, a la NAFTA, or through the WTO. Japan would welcome the resulting reduction in stress and uncertainty.

Creating a JUSFTA would also create stronger pro-Japan sentiments in US and stronger pro-US sentiments in Japan because of the prospect of new market opportunities. For instance, numerous US firms and industry groups praised the agreement with Korea and extolled the prospective benefits of increased involvement in the Korean market. The KORUS FTA also increased the number of US business people who are bullish on the Korean market and actual implementation of the agreement would only serve to heighten these positive attitudes. Similar things can no doubt be said about Korean businesses that support the KORUS FTA.[21] A similar dynamic could occur with a JUSFTA.

Almost all US FTAs are motivated in significant ways by foreign policy considerations, and this deal would be one of the most prominent examples of that. It, no doubt, would strengthen international political ties, along with economic ties. This would have large benefits for Japan, the US, and the world as a whole, since this is one of the most important bilateral bonds in the world. A particular benefit of stronger Japan-US ties would be to counterbalance a rising non-democratic economic power: China. While China's growth is good for the global economy overall, and China's membership in the WTO provides a net gain to the global trading regime, its lack of freedom and huge army create concerns that enhance the value to the US, at least, of

[21] See Schott, Bradford, and Moll (June 2006) and Schott (2007) for further analysis of the KORUS FTA.

stronger economic relations with Japan. Also, a quality FTA between Japan and the US may encourage China to live up to high standards in its trade policies.

The Rest of the World

A major issue connected with a JUSFTA would be its effect on the WTO. Many worry that large bilateral trade deals such as this undermine the WTO's attempts to open trade around the globe. Since a JUSFTA is at least a couple of years down the road, its impact on the WTO cannot be known. A crucial variable, though, will be the state of the WTO at that time. If a strong Doha deal is in place, then the WTO would be able to handle a JUSFTA, just as dozens of other large deals have not harmed the WTO in a major way. If Doha has failed by that time, though, or if a weak deal is in place, a JUSFTA could further reduce the WTO's relevance. If the Doha negotiations are still ongoing, then a JUSFTA could help to spark a final deal, just as NAFTA seemed to do with the Uruguay Round.

Another major issue is how a JUSFTA would affect the Asia Pacific and its attempts to create free trade in the region. A JUSFTA would likely increase the chances of a Free Trade Area of the Asia Pacific (FTAAP) by bringing together the two dominant economies in the region. Other nations would likely want to join in. A major hurdle, though, to the FTAAP is that Congress seems unlikely to approve an FTA involving China anytime soon. In addition, a JUSFTA would further reduce the small chances of an East Asian bloc, which would harm US interests.

Prospects for Reaching a Deal

Relevance of Other Key FTAs

Because of the many similarities between Japan and Korea and the issues involved in their economic relations with the US, the KORUS FTA may shed much light on the form that a JUSFTA could take. The Korea deal had important provisions that one side or the other would seek to incorporate into a JUSFTA. Of interest to the Japanese, the KORUS FTA includes a rice exclusion and a 10-year phase out of the truck tariff, along removal of all other manufacturing tariffs. While the US cannot assume that Japan would agree to what the Koreans did, the Americans will certainly push for the following provisions that they got from Korea: immediate opening of most of agriculture, phased opening for all of the rest of agriculture except rice, major services opening, a trade dispute settlement procedure for autos, and procedures for reducing non-tariff barriers and other regulations.

The ongoing Australia-Japan talks also have particular relevance. Australia is the first developed, agriculture powerhouse with whom Japan has begun FTA negotiations, and the provisions it accepts with Australia may signal what it would be willing to do with the US. In particular, it will be interesting to see to what extent it agrees to open meat to Australia and if it allows for any hope of rice opening.

Another set of negotiations that will affect movement toward a JUSFTA is the ongoing EU-Korea FTA talks. Should a deal be concluded soon, and it appears that both sides want one, that would probably cause Japan to pursue its own EU FTA before it would pursue a US FTA. Study groups have already started within Japan on an EU

deal. The EU would be more attractive to Japan as an FTA partner for two reasons: one, the US would not push so hard on agriculture, and two, the EU's manufacturing tariffs are twice those of the US. Japan might reap greater manufacturing gains with the EU. One other hand, the US is a much more important trading partner for Japan than the EU, so overall gains from a JUSFTA might still be considerably larger.

Individual Issues Areas

Agriculture/Food

Agriculture has lots of protection and tough hurdles and is so close to being a one-way street that opening in this area will require domestic impetus from within Japan or trade-offs in other areas, such as manufacturing. Of course, an FTA provides exactly the opportunity for such trade-offs. Also, given the aging and shrinking Japanese farm population, agriculture reform could come within the next ten years.

Rice has been a perennial sticking point. While Japan has implemented rice tariffication, actual progress here may be as elusive as actual removal of MFA barriers in the US and the EU. Japan would probably seek a rice exclusion in a JUSFTA, just as the US carved out sugar with Australia. As mentioned, the mad cow beef ban has inspired Congressional ire and will need to be fully resolved in order to provide the healthy environment needed to proceed with an FTA. This ban, however, is just the latest in a long line of beef barriers, and true opening here will not come easy. Apples seems finally to have been resolved, but there are a host of other potential conflicts in the fruits and vegetables arena.

Basically, Japanese agriculture remains heavily protected despite multiple GATT/WTO rounds and various disputes and calls for opening. A crucial question that would have to be addressed in JUSFTA negotiations is whether this new setting would provide extra impetus for Japanese agricultural reform. On the flip side, Japan may have some scope for exporting certain food products to the US and will want to use these as leverage. Specialty meats and fruits may attract demand in the US, a la Swiss cheese and chocolates, and Japan is also competitive in fish.

If Japan does end up opening up much of the food sector to the US, other countries will worry about trade diversion. Thus, negotiations in food will have to be done with an eye toward their impact on relations with other key partners.

Manufacturing

The US has an abiding concern with competition policy, regulations, and other hidden barriers in Japan. US producers of computers and components, machinery, optical and medical equipment, and pharmaceuticals may reap significant gains from a more transparent Japanese marketplace. The loudest rumblings on the import side will come from the auto and parts sector. At the 2005 n Ways and Means hearings, GM chief economist Mustafa Mohatarem said that GM's top concern now is not hidden barriers but the Japanese exchange rate, which, GM argues, should be below 100. GM does not believe such "blatant export subsidization" should be allowed to stand and points to a $500 billion increase (from $350 billion to $850 billion) in Japanese foreign exchange reserves over the past five years as evidence of Japanese currency

manipulation. However, Japan has not intervened in currency markets since early 2004. The auto industry may be using the exchange rate to cover their weakness, but their currency perceptions will need to be addressed in any FTA negotiations.

Japan, for its part, has many very competitive manufacturing sectors and, while overall barriers in the US are low, the constant threat of anti-dumping duties (ADD) and other "temporary" safeguards frustrate Japanese producers. The recent steel tariffs, for instance, were a blow to Japan. One wonders, therefore, whether Japan and the US might be able to cut a deal that opens competition within Japan and removes the ADD cloud within the US. With respect to Japan, Congress has viewed ADDs as a last line of defense against Japanese hidden barriers, but the Japanese market offers perhaps the largest carrot yet for Congress to move away from ADDs, at least toward Japan. Thus, a middle ground here may be the US agreeing to exempt Japan, as an FTA partner, from specific safeguard cases, as it did in NAFTA with the steel tariffs. The US and Japan may also be able to draw lessons from the 1983 Australia-New Zealand agreement along these lines, although the constraints appear to be much tougher in the US and Japan.

A manufacturing tariff in the US that sticks out is the truck tariff, the removal of which would bring substantial gains to Japan. This is one bargaining chip that the US may have to use, although overall trouble in the auto sector complicates such a strategy. Also, as research with Robert Lawrence has shown, the US is not without its own non-tariff barriers.[22] The Europeans have long complained about the sluggish, as

[22] Bradford and Lawrence (February 2004).

they see it, drug approval process in the US, as well as other barriers to medicines. Japan, while not a world leader, would have interest in seeing the US's extremely lucrative pharmaceutical market become more open (and vice versa, from the US perspective). Also, various regulations in the US auto industry—CAFEs, safety regulations, having to declare which engines are non-US, etc—hinder imports and thus could be an FTA agenda item for the Japanese.

Services

This area resembles agriculture in that Japan's markets are quite closed and opening them could bring large gains to Japanese consumers and to the US, as outlined above. Sectors with the most extensive potential payoffs include distribution, financial services, insurance, and construction. Other research by Bradford[23] implies that Japan would gain more from unilateral liberalization of its domestic restrictions in this one sector than it would from unilateral trade opening: 5% of GDP, or about $200 billion, per year. Other key sectors for the US may include health care, telecommunications, and delivery services. As with manufacturing, Japanese barriers here relate closely to competition policy and other regulations. Service exports usually require setting up shop in the target market, and Japan has been notoriously restrictive in this area among developed countries. Thus, freeing up services markets behind the border, an important theme when dealing with Japan, certainly will play a large role in any negotiations.

[23] Bradford (October 2005).

FDI

Once again, in this area, we see the recurring theme of apparently large internal barriers in Japan in contrast to relative openness in the US. When it comes to FDI, Japan is a conspicuous outlier: the share of inward FDI stock in GDP is not far from 2%, compared to fractions in the 15% to 30% range for other rich countries. Naiatsu—pressure to reform from **within** Japan—not gaiatsu, may be a key here, in addition to cross-cutting deals that an FTA might provide. Fortunately, there has been recent FDI opening, so the US may find it relatively easy to get concessions here. A fact that complicates the politics of FDI is that many US corporate interests that would favor an FTA are already invested in Japan and may want to protect their positions there instead of working for true FDI opening.

Government Procurement

Japan has concerns about "Buy American" legislation at the federal level and state and local policies that discriminate against foreigners. The US construction industry is worried about Japanese public works procurement that is thought to be rigged to favor domestic firms.

Relationship to Broader Trade Policy

Since this would be an unprecedented FTA between the world's two largest national economies, the US and Japan will need to consider carefully what a JUSFTA would do to their economic and political relations with other countries, especially in East

Asia. For instance, does it make sense for Japan, or the US, to discriminate against China, given the need to foster continued growth and reform in that new major player? On the other hand, to the extent that China is a threat, such a bias against it would be welcomed by many interests in Japan and the US. What about other key partners, such as Korea, Taiwan, Canada, the EU? It is quite possible that negative political, if not economic, impacts on other countries would reduce the value of a JUSFTA. Thus, focusing on the WTO or an FTAAP could be better than pursuing a JUSFTA. It is more likely, though, that the competitive liberalization dynamic would create more opening and more gains in these other regions, despite ruffling some feathers.

Possible Pathways to a Deal

Here is a summary table of major hurdles in the two countries. Pathways to a deal would include trade-offs involving these areas.

	JAPAN	**US**
Agriculture/Processed Food	Rice	2002 Farm Bill
	Wheat	Large subsidies in general
	Potatoes	
	Citrus	
	Lettuce	
	Cheese	
	Fish	
	Beef	
	Pork	
	Poultry	
	Food additive restrictions	
	Nutritional supplements	
Manufacturing	Autos and Auto Parts	Trucks
	Medical Devices	Autos: Regulations
	Pharmaceuticals	Glassware
	Wood Products	Porcelain/Ceramics
	Marine Craft	Clocks/Watches

	Footwear	Steel
Services	Insurance	Shipping (Jones Act)
	Financial Services	Financial Services
	Telecommunications	Telecommunications
	IT	
	Energy	
	Construction	
	Distribution	
	Professional Services	
	Aviation	
FDI	Mergers/Acquisitions	Exon-Florio
Cross-Cutting Areas	Competition Policy	Anti-dumping (including Byrd Amendment)
	IPR	Safeguards
	Regulatory Transparency	ETI/FSC Regime
		IPR
Politics		UN Security Council?

Adjustment assistance may have to play a major role in creating political support. As David Asher of AEI has said, samurai were paid to turn in their swords; similarly, Japanese farmers will need to be paid to turn in their plowshares. In fact, the Japanese could probably learn from the Korean plan to buy out their farmers over 10 years for $135 billion dollars.

Conclusion

Any discussion of an FTA with Japan will naturally focus on various barriers within and around Japan and on Japan's economic troubles. Nevertheless, it remains one of the richest, strongest countries in the world. Significant real growth is returning. Much is right with Japan's economy. Both of these key allies can reap significant gains through closer economic cooperation as they both seek to deal effectively with a rising

China and as Japan seeks to solidify its comeback. A JUSFTA, though it would face tough hurdles, could potentially foster such a tighter partnership.

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TABLE 1
Bilateral FTA partners of the United States as of October 2007 (billions of dollars)

		U.S. merchandise trade, 2006				
Country / region	**2006 GDP**	**U.S. exports to[a]**	**U.S. imports from[b]**	**Trade balance**	**Total trade**	**FTA status[c]**
Canada	1,269.1	198.2	303.0	-104.8	501.3	A
Mexico	840.0	114.6	197.1	-82.5	311.6	A
Japan	4,367.5	55.6	148.1	-92.5	203.7	D
Korea	888.3	30.8	44.7	-13.9	75.5	B
Malaysia	150.9	11.2	36.4	-25.3	47.6	C
Singapore	132.2	21.9	17.8	4.2	39.7	A
Thailand	206.3	7.5	22.3	-14.8	29.9	C
CAFTA-5[d]	89.4	13.5	14.0	-0.5	27.6	A/B[1]
Israel	140.2	8.1	19.2	-11.1	27.3	A
Australia	754.8	16.8	8.2	8.6	25.1	A
Indonesia	364.2	3.0	13.3	-10.3	16.3	D
Chile	145.2	6.2	9.6	-3.3	15.8	A
Colombia	135.1	6.2	9.2	-3.0	15.5	B
SACU-5[e,f]	276.6	4.4	8.4	-4.0	12.8	C
United Arab Emirates	168.3	11.2	1.3	9.9	12.5	C
Dominican Republic	31.6	5.0	4.5	0.5	9.6	A
Ecuador[f]	40.4	2.5	7.0	-4.5	9.6	C
Peru	93.3	2.7	5.9	-3.2	8.6	B
Egypt	107.4	4.1	2.4	1.7	6.5	D
Panama	17.1	2.5	0.3	2.2	2.9	B
Jordan	14.3	0.6	1.4	-0.8	2.0	A
Oman	36.0	0.8	0.8	0.1	1.6	B
Morocco	57.4	0.9	0.5	0.3	1.4	A
Bahrain	16.1	0.5	0.6	-0.2	1.1	A
Subtotal (EPA partners)	10,341.5	528.9	876.2	-347.3	1,405.1	
United States (world trade totals)	13,244.6	929.5	1,845.1	-915.6	2,774.5	

a. US domestic exports.
b. US imports for consumption.
c. A = in effect; B = signed; C = under negotiation; D = under consideration.
d. CAFTA-5: Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.
e. SACU-5: Botswana, Lesotho, Namibia, South Africa, and Swaziland.
f. Suspended in April 2006.
Sources: GDP: IMF's WEO database, April 2007; trade data: USITC Dataweb.
1. Costa Rica just approved; in effect?

TABLE 2
Bilateral EPA partners of Japan as of October 2007

(billions of dollars)

Country / region	2006 GDP	Japanese merchandise trade, 2006				EPA status
		Japanese exports to	Japanese imports from	Trade balance	Total trade	
ASEAN	1,066.5	76.3	80.0	-3.7	156.2	n/a
Brunei	11.4	0.1	2.3	-2.2	2.4	B
Cambodia	7.1	0.1	0.1	0.0	0.2	C
Indonesia	364.2	7.4	24.1	-16.8	31.5	B
Laos	3.4	0.0	0.0	0.0	0.0	C
Malaysia	150.9	13.2	15.5	-2.3	28.7	A
Myanmar	13.0	0.1	0.2	-0.1	0.3	C
Philippines	116.9	9.0	8.0	1.0	17.0	B
Singapore	132.2	19.3	7.5	11.9	26.8	A
Vietnam	61.0	22.9	16.9	6.0	39.8	C
Thailand	206.3	4.1	5.3	-1.2	9.4	A[z]
United States	13,244.6	147.2	69.4	77.8	216.6	D
Korea	888.3	50.3	27.3	22.9	77.6	D
Australia	754.8	12.5	27.9	-15.4	40.4	C
Mexico	840.0	9.3	2.8	6.5	12.1	A
India	886.9	4.5	4.1	0.4	8.5	C
Chile	145.2	1.1	7.3	-6.2	8.3	A
Switzerland	377.2	2.4	5.1	-2.7	7.5	C
Subtotal (EPA partners)	18,203.4	303.5	223.8	79.6	527.3	n/a
Japan (world trade totals)	4,367.5	646.7	579.1	67.7	1,225.8	n/a

z: Nov 1, 2007
Sources: GDP: IMF's WEO database, April 2007; trade data: Comtrade.

TABLE 3: INITIAL FRICTION LEVELS (% Ad Valorem Equivalent)

	Border Barriers				
	JAPAN		US		Sources of
	GTAP6	Updated	GTAP6	Updated	Updated Data
Paddy Rice	804.5		4.2		
Wheat	185.0		0.0		
Other Grains	35.9		0.9		
Vegetables, Fruits, Nuts	10.6	49.3	5.5		Author's Calculations
Other Crops	0.1	16.7	0.4		Author's Calculations
Other Raw Ag Goods	1.2	17.7	0.1		Author's Calculations
Bovine Meat	43.3	196.7	1.4		Author's Calculations
Other Meat	76.8	96.2	4.0		Author's Calculations
Vegetable Oils and Fats	5.5	30.0	1.6		Author's Calculations
Dairy Products	67.5	92.0	10.9		Author's Calculations
Processed Rice	780.5		7.5		
Sugar	60.9	157.6	41.3		Author's Calculations
Other Food Products	12.3	62.5	4.0		Author's Calculations
Beverages and Tobacco	9.8	33.1	1.9		Author's Calculations
Textiles	7.1	6.3	8.0		Author's Calculations
Apparel	10.8	14.4	11.3		Author's Calculations
Leather Products	12.9	56.0	9.5		Author's Calculations
Wood Products	0.9	1.7	0.2		Author's Calculations
Paper Products	0.3	2.9	0.2		Author's Calculations
Petroleum, Coal Products	1.4		0.3		
Chemical, Rubber, Plastic Products	1.3	3.7	2.4		Author's Calculations
Mineral Products	0.6	5.7	3.6		Author's Calculations
Ferrous Metals	0.4		1.2		
Non-ferrous Metals	1.3		2.8		
Fabricated Metal Products	0.9	2.5	2.9		Author's Calculations
Motor Vehicles and Parts	0.0	1.1	2.4		Author's Calculations
Other Transport Equipment	0.0	0.4	0.8		Author's Calculations
Electronic Equipment	0.0	0.3	0.5		Author's Calculations
Other Machinery and Equipment	0.2	2.3	1.5		Author's Calculations
Other Manufacturing	1.7	2.8	1.8		Author's Calculations
Utilities	0.0		0.0		
Construction	0.0	29.7	0.0	9.8	Francois and Hoekman 1999
Distribution	0.0	25.0	0.0	15.0	McGuire and Findlay 2005
Transportation	0.0	13.3	0.0	20.0	McGuire, Schuele, Smith 2000
Communications	0.0	25.0	0.0	35.0	Hardin and Holmes 1997
Finance	0.0	19.7	0.0	8.2	Francois and Hoekman 1999
Insurance/Other Business Services	0.0	21.0	0.0	21.0	McGuire and Findlay 2005
Recreation and Other Private Services	0.0	12.0	0.0		Brown, Deardorff, Stern 2004
Government Services	0.0	28.0	0.0		Brown, Deardorff, Stern 2004

	Updated Behind the Border Wedges		
	JAPAN	US	
Construction	29.7	9.8	Francois and Hoekman 1999
Distribution	20.0	0.0	McGuire and Findlay 2005
Transportation	5.0	5.0	McGuire, Schuele, Smith 2000
Communications	25.0	35.0	Hardin and Holmes 1997
Finance	19.7	8.2	Francois and Hoekman 1999
Insurance/Other Business Services	11.0	12.0	McGuire and Findlay 2005
Recreation and Other Private Services	12.0		Brown, Deardorff, Stern 2004
Government Services	28.0		Brown, Deardorff, Stern 2004

TABLE 4: ESTIMATED OVERALL NET WELFARE EFFECTS OF A JUSFTA

Change in Equivalent Variation

		Full FTA: 10% Services Opening	Rice Excluded	Services Excluded	Rice and Services Excluded	Full FTA: 20% Services Opening	Full FTA: 30% Services Opening
Japan	Billions US$	133.579	112.953	21.608	1.473	242.112	346.717
	% of GDP	2.72	2.30	0.44	0.03	4.93	7.06
United States	Billions US$	147.096	151.182	38.136	42.222	251.970	352.758
	% of GDP	1.08	1.11	0.28	0.31	1.85	2.59
China	Billions US$	0.000	0.000	-2.261	-2.261	2.010	4.019
	% of GDP	0.00	0.00	-0.09	-0.09	0.08	0.16
Germany	Billions US$	-1.143	-1.143	-1.715	-1.715	-0.572	0.000
	% of GDP	-0.04	-0.04	-0.06	-0.06	-0.02	0.00
South Korea	Billions US$	-0.307	-0.384	-0.999	-0.999	0.307	0.922
	% of GDP	-0.04	-0.05	-0.13	-0.13	0.04	0.12
Taiwan	Billions US$	0.248	0.177	-0.106	-0.177	0.602	0.920
	% of GDP	0.07	0.05	-0.03	-0.05	0.17	0.26
Rest of Poor World	Billions US$	-2.659	-2.659	-6.204	-6.204	0.000	2.659
	% of GDP	-0.03	-0.03	-0.07	-0.07	0.00	0.03
Rest of Rich World	Billions US$	-5.109	-5.109	-5.109	-5.109	-5.109	-5.109
	% of GDP	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
World Total	Billions US$	271.704	255.016	43.350	27.230	491.320	702.886
	% of GDP	0.77	0.72	0.13	0.1	1.38	1.98

TABLE 5: ESTIMATED EFFECT OF JUSFTA ON REAL FACTOR PRICES

% Change

		Full FTA: 10% Services Opening	Rice Excluded	Services Excluded	Rice and Services Excluded	Full FTA: 20% Services Opening	Full FTA: 30% Services Opening
Japan	**Land**	-22.6	2.3	-26.4	-2.7	-19.0	-15.3
	Skilled Labor	6.8	6.0	2.0	1.2	11.7	16.6
	Unskilled Labor	6.3	6.0	1.6	1.1	11.2	16.1
	Capital	1.2	0.6	1.8	1.2	0.5	0.1
	Natural Resources	6.1	2.7	1.1	-2.1	11.1	16.0
United States	**Land**	10.5	9.6	8.3	7.5	12.5	14.5
	Skilled Labor	1.6	1.6	0.1	0.1	3.1	4.5
	Unskilled Labor	1.8	1.7	0.4	0.3	3.2	4.5
	Capital	-0.2	-0.2	-0.1	-0.1	-0.4	-0.5
	Natural Resources	7.2	7.2	5.4	5.4	8.8	10.4

TABLE 6: CHANGES IN OUTPUT IN JAPAN

		Full FTA: 10% Services Opening		Rice Excluded		Services Excluded		Rice and Services Excluded		Full FTA: 20% Services Opening		Full FTA: 30% Services Opening	
	Share of Output	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)
Paddy Rice	0.00196	-92.7	-14.401	2.0	0.311	-92.6	-14.385	0.0	0.000	-92.8	-14.416	-93.0	-14.447
Wheat	0.00059	-95.0	-4.433	-95.3	-4.447	-95.4	-4.452	-95.6	-4.461	-94.6	-4.414	-94.2	-4.396
Other Grains	0.00076	-5.2	-0.313	-11.0	-0.663	-8.9	-0.536	-14.3	-0.862	-1.7	-0.102	1.8	0.108
Vegetables, Fruits, Nuts	0.00370	2.0	0.585	-0.8	-0.234	0.4	0.117	-2.4	-0.702	3.6	1.052	4.9	1.433
Other Crops	0.00318	3.6	0.906	0.2	0.050	1.2	0.302	-2.1	-0.529	5.9	1.485	8.1	2.039
Other Raw Ag Goods	0.00759	2.4	1.440	-0.4	-0.240	0.3	0.180	-2.4	-1.440	4.4	2.639	6.3	3.779
Bovine Meat	0.00226	-82.5	-14.709	-82.7	-14.745	-83.4	-14.870	-83.6	-14.906	-81.7	-14.567	-80.8	-14.406
Other Meat	0.00170	-52.5	-7.056	-52.8	-7.097	-55.5	-7.460	-55.8	-7.500	-49.4	-6.640	-46.4	-6.236
Vegetable Oils and Fats	0.00067	2.1	0.111	1.8	0.095	-0.2	-0.011	-0.5	-0.026	4.3	0.227	6.4	0.338
Dairy Products	0.00337	8.9	2.369	2.4	0.639	6.0	1.597	-0.3	-0.080	11.6	3.088	14.2	3.780
Processed Rice	0.00344	45.8	12.470	1.5	0.408	41.6	11.326	-0.8	-0.218	49.9	13.586	53.9	14.675
Sugar	0.00145	-5.4	-0.620	-5.5	-0.632	-8.6	-0.988	-8.6	-0.988	-2.3	-0.264	0.7	0.080
Other Food Products	0.02110	0.8	1.335	0.6	1.001	-0.5	-0.834	-0.7	-1.168	2.0	3.337	3.2	5.340
Beverages and Tobacco	0.01156	1.6	1.463	1.3	1.189	-0.8	-0.731	-1.1	-1.006	3.9	3.566	6.0	5.486
Textiles	0.00536	5.0	2.121	4.5	1.909	2.7	1.145	2.3	0.976	7.0	2.969	8.9	3.775
Apparel	0.00805	1.9	1.210	1.7	1.082	-0.1	-0.064	-0.3	-0.191	3.8	2.419	5.5	3.501
Leather Products	0.00124	-1.8	-0.177	-2.0	-0.196	-5.9	-0.579	-6.2	-0.609	2.3	0.226	6.1	0.599
Wood Products	0.00513	2.5	1.014	2.1	0.852	1.4	0.568	1.0	0.406	3.5	1.420	4.5	1.826
Paper Products	0.02184	2.0	3.454	1.3	2.245	0.3	0.518	-0.3	-0.518	3.6	6.218	5.1	8.808
Petroleum, Coal Products	0.01847	2.3	3.358	1.9	2.774	0.1	0.146	-0.2	-0.292	4.4	6.424	6.3	9.198
Chemical, Rubber, Plastic Products	0.04620	4.4	16.073	4.1	14.977	2.6	9.498	2.3	8.402	6.1	22.283	7.7	28.127
Mineral Products	0.01029	2.0	1.627	1.9	1.546	0.8	0.651	0.7	0.570	3.0	2.441	4.1	3.336
Ferrous Metals	0.01849	5.0	7.308	4.5	6.577	4.2	6.139	3.7	5.408	5.7	8.331	6.4	9.354
Non-ferrous Metals	0.00680	8.0	4.299	7.2	3.869	6.3	3.385	5.5	2.955	9.6	5.158	11.1	5.964
Fabricated Metal Products	0.01593	2.0	2.518	1.9	2.392	1.3	1.637	1.1	1.385	2.7	3.400	3.4	4.281
Motor Vehicles and Parts	0.03599	5.8	16.504	5.4	15.366	5.0	14.228	4.6	13.090	6.6	18.781	7.2	20.488
Other Transport Equipment	0.01018	7.8	6.280	6.9	5.555	7.3	5.877	6.4	5.153	8.2	6.602	8.5	6.843
Electronic Equipment	0.04944	5.1	19.935	4.6	17.980	4.3	16.808	3.7	14.463	5.9	23.062	6.6	25.798
Other Machinery and Equipment	0.04419	6.9	24.110	6.2	21.664	7.0	24.460	6.3	22.014	6.8	23.761	6.6	23.062
Other Manufacturing	0.01032	3.1	2.530	2.6	2.122	1.6	1.306	1.1	0.898	4.6	3.755	5.9	4.816
Utilities	0.02533	2.8	5.608	2.3	4.606	0.5	1.001	0.0	0.000	5.1	10.214	7.3	14.620
Construction	0.08300	-0.6	-3.938	-0.4	-2.625	-1.2	-7.875	-1.0	-6.563	-0.1	-0.656	0.5	3.281
Distribution	0.12107	1.7	16.273	1.5	14.358	-0.6	-5.743	-0.9	-8.615	4.0	38.289	6.3	60.306
Transportation	0.05344	1.6	6.761	1.1	4.648	0.2	0.845	-0.3	-1.268	3.0	12.676	4.3	18.169
Communications	0.01526	2.7	3.257	2.6	3.136	-0.8	-0.965	-1.0	-1.206	6.2	7.479	9.6	11.580
Finance	0.02765	1.8	3.935	1.9	4.154	-0.8	-1.749	-0.7	-1.530	4.3	9.401	6.8	14.867
Insurance/Other Business Services	0.09359	2.0	14.799	1.7	12.579	0.1	0.740	-0.1	-0.740	3.7	27.378	5.4	39.958
Recreation and Other Private Services	0.08302	3.3	21.661	3.3	21.661	-1.1	-7.220	-1.2	-7.877	7.7	50.541	12.1	79.422
Government Services	0.12638	0.9	8.993	0.7	6.995	-0.1	-0.999	-0.4	-3.997	2.0	19.986	3.0	29.978
Total Net Change			168.7		145.9		33.0		8.4		301.1		429.5

TABLE 7: CHANGES IN OUTPUT IN THE UNITED STATES

		Full FTA: 10% Services Opening		Rice Excluded		Services Excluded		Rice and Services Excluded		Full FTA: 20% Services Opening		Full FTA: 30% Services Opening	
	Share of Output	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)	% Change Real Output	Change in Value (Billions $)
Paddy Rice	0.00005	76.1	0.666	7.0	0.061	72.9	0.638	5.8	0.051	79.1	0.692	82.1	0.718
Wheat	0.00036	30.3	1.942	30.1	1.929	27.1	1.736	26.9	1.724	33.3	2.134	36.2	2.320
Other Grains	0.00114	4.9	1.000	4.6	0.939	4.2	0.857	3.9	0.796	5.6	1.143	6.3	1.286
Vegetables, Fruits, Nuts	0.00145	3.9	1.015	4.3	1.119	2.9	0.755	3.3	0.859	4.8	1.249	5.7	1.484
Other Crops	0.00293	0.2	0.105	0.7	0.368	-0.2	-0.105	0.3	0.158	0.6	0.316	0.9	0.474
Other Raw Ag Goods	0.01131	4.2	8.528	4.3	8.731	3.5	7.106	3.6	7.309	4.9	9.949	5.6	11.370
Bovine Meat	0.00476	31.8	27.203	32.0	27.374	30.6	26.176	30.7	26.262	33.0	28.229	34.1	29.170
Other Meat	0.00389	25.7	17.970	25.9	18.110	24.7	17.271	24.9	17.411	26.6	18.600	27.5	19.229
Vegetable Oils and Fats	0.00100	3.5	0.627	3.6	0.645	2.6	0.466	2.8	0.502	4.3	0.770	5.1	0.914
Dairy Products	0.00609	2.9	3.170	3.2	3.498	2.0	2.186	2.4	2.623	3.6	3.935	4.4	4.809
Processed Rice	0.00012	1.0	0.022	2.5	0.054	-0.9	-0.019	0.5	0.011	3.0	0.065	4.9	0.106
Sugar	0.00167	9.7	2.917	9.9	2.977	8.4	2.526	8.5	2.556	11.1	3.338	12.3	3.699
Other Food Products	0.01638	4.3	12.643	4.4	12.937	3.4	9.997	3.5	10.291	5.1	14.995	5.9	17.347
Beverages and Tobacco	0.00888	1.8	2.869	1.9	3.029	0.8	1.275	0.8	1.275	2.8	4.463	3.8	6.057
Textiles	0.00805	-1.0	-1.446	-0.8	-1.157	-1.5	-2.169	-1.3	-1.880	-0.5	-0.723	-0.1	-0.145
Apparel	0.00613	0.3	0.330	0.4	0.440	-0.6	-0.660	-0.4	-0.440	1.0	1.101	1.7	1.871
Leather Products	0.00089	19.1	3.036	19.5	3.099	14.5	2.304	14.9	2.368	23.5	3.735	27.7	4.402
Wood Products	0.01265	-0.3	-0.681	-0.3	-0.681	-0.6	-1.363	-0.5	-1.135	-0.1	-0.227	0.2	0.454
Paper Products	0.02181	0.7	2.740	0.8	3.132	0.1	0.391	0.2	0.783	1.2	4.698	1.7	6.655
Petroleum, Coal Products	0.00962	0.3	0.518	0.3	0.518	-0.5	-0.864	-0.5	-0.864	1.0	1.728	1.7	2.937
Chemical, Rubber, Plastic Products	0.03986	-0.6	-4.293	-0.6	-4.293	-1.0	-7.156	-1.0	-7.156	-0.3	-2.147	0.1	0.716
Mineral Products	0.00709	-0.1	-0.127	-0.3	-0.382	-0.5	-0.636	-0.7	-0.891	0.2	0.255	0.5	0.636
Ferrous Metals	0.00794	-2.0	-2.851	-1.9	-2.709	-2.0	-2.851	-1.9	-2.709	-2.1	-2.994	-2.1	-2.994
Non-ferrous Metals	0.00615	-2.9	-3.203	-2.7	-2.982	-3.1	-3.424	-2.9	-3.203	-2.8	-3.093	-2.7	-2.982
Fabricated Metal Products	0.01613	-0.9	-2.606	-0.9	-2.606	-1.0	-2.895	-1.0	-2.895	-0.8	-2.316	-0.7	-2.027
Motor Vehicles and Parts	0.02600	-1.4	-6.534	-1.3	-6.067	-1.5	-7.001	-1.4	-6.534	-1.3	-6.067	-1.2	-5.601
Other Transport Equipment	0.01082	-2.7	-5.246	-2.4	-4.663	-2.3	-4.469	-2.1	-4.081	-3.0	-5.829	-3.3	-6.412
Electronic Equipment	0.01956	-4.1	-14.399	-3.7	-12.994	-3.9	-13.697	-3.5	-12.292	-4.3	-15.101	-4.5	-15.804
Other Machinery and Equipment	0.04385	-2.6	-20.470	-2.4	-18.895	-2.3	-18.108	-2.2	-17.321	-2.8	-22.045	-3.0	-23.619
Other Manufacturing	0.00359	-1.0	-0.645	-0.7	-0.451	-2.1	-1.354	-1.8	-1.160	0.0	0.000	1.0	0.645
Utilities	0.02173	0.9	3.511	0.8	3.121	0.3	1.170	0.2	0.780	1.6	6.241	2.1	8.192
Construction	0.07524	0.6	8.105	0.4	5.404	0.3	4.053	0.1	1.351	0.9	12.158	1.1	14.860
Distribution	0.13671	0.7	17.181	0.7	17.181	0.2	4.909	0.2	4.909	1.2	29.453	1.6	39.270
Transportation	0.03628	0.9	5.862	0.8	5.210	0.0	0.000	-0.1	-0.651	1.8	11.723	2.7	17.585
Communications	0.02142	5.6	21.536	5.2	19.998	0.9	3.461	0.6	2.307	10.3	39.611	15.0	57.686
Finance	0.06128	1.5	16.502	1.4	15.402	0.4	4.401	0.3	3.300	2.6	28.604	3.7	40.705
Insurance/Other Business Services	0.13059	1.7	39.856	1.6	37.512	0.3	7.033	0.2	4.689	3.0	70.335	4.3	100.813
Recreation and Other Private Services	0.08016	1.3	18.708	1.3	18.708	0.3	4.317	0.3	4.317	2.2	31.660	3.2	46.051
Government Services	0.13643	-0.1	-2.449	0.0	0.000	0.1	2.449	0.1	2.449	-0.2	-4.899	-0.3	-7.348
TOTALS	1.0		153.609		153.613		38.7		35.9		265.7		375.5

TABLE 8: ESTIMATED EMPLOYMENT EFFECTS IN JAPAN
NON-HIGH-SKILL WORKERS

		Full FTA: 10% Services Opening		Rice Excluded		Services Excluded		Rice and Services Excluded		Full FTA: 20% Services Opening		Full FTA: 30% Services Opening	
	Initial Employment*	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number
Paddy Rice	187,572	-93.2	-174,828	-0.2	-375	-93.0	174,474	-0.6	-1,125	-93.4	-175,252	-93.7	-175,661
Wheat	7,876	-95.3	-7,510	-95.4	-7,514	-95.6	-7,533	-95.7	-7,537	-95.1	-7,487	-94.8	-7,465
Other Grains	2,288	-11.9	-271	-12.9	-295	-13.9	-318	-14.8	-339	-9.9	-228	-8.1	-186
Vegetables, Fruits, Nuts	252,604	-5.1	-12,951	-3.0	-7,578	-5.2	-13,022	-3.0	-7,578	-5.2	-13,098	-5.3	-13,436
Other Crops	142,912	-3.7	-5,268	-2.0	-2,858	-4.5	-6,427	-2.7	-3,859	-3.0	-4,337	-2.5	-3,563
Other Raw Ag Goods	213,092	-0.2	-511	-3.1	-6,606	-0.4	-852	-3.2	-6,819	-0.2	-322	-0.1	-281
Bovine Meat	15,400	-82.9	-12,761	-83.1	-12,797	-83.4	-12,841	-83.5	-12,859	-82.4	-12,689	-81.9	-12,620
Other Meat	24,244	-53.8	-13,054	-54.2	-13,140	-55.4	-13,431	-55.7	-13,504	-52.3	-12,681	-50.8	-12,320
Vegetable Oils and Fats	6,292	0.4	26	0.0	0	-0.1	-6	-0.5	-31	0.8	50	1.1	71
Dairy Products	101,464	5.0	5,023	0.1	101	4.4	4,423	-0.4	-406	5.4	5,524	5.8	5,930
Processed Rice	10,076	39.7	4,003	-2.8	-282	41.9	4,226	-0.7	-71	37.6	3,792	35.6	3,588
Sugar	37,224	-7.5	-2,788	-7.7	-2,866	-8.4	-3,123	-8.6	-3,201	-6.7	-2,489	-6.0	-2,219
Other Food Products	666,380	-0.9	-5,884	-1.2	-7,997	-0.3	-2,312	-0.7	-4,665	-1.4	-9,563	-2.0	-13,334
Beverages and Tobacco	155,452	-1.3	-2,004	-1.8	-2,798	-0.5	-827	-1.0	-1,555	-2.0	-3,184	-2.8	-4,381
Textiles	203,368	3.8	7,793	3.3	6,711	2.9	5,898	2.4	4,881	4.6	9,387	5.3	10,720
Apparel	376,684	0.4	1,586	0.1	377	0.1	377	-0.2	-753	0.7	2,561	0.8	3,198
Leather Products	49,764	-3.3	-1,644	-3.7	-1,841	-5.8	-2,886	-6.1	-3,036	-1.0	-498	1.2	581
Wood Products	143,088	0.9	1,225	0.4	572	1.6	2,289	1.1	1,574	0.2	223	-0.5	-756
Paper Products	680,944	0.2	1,341	-0.6	-4,086	0.5	3,405	-0.3	-2,043	-0.2	-1,035	-0.5	-3,446
Petroleum, Coal Products	72,468	-1.0	-734	-1.5	-1,087	0.4	277	-0.2	-145	-2.4	-1,707	-3.7	-2,649
Chemical, Rubber, Plastic Products	937,728	2.0	18,980	1.6	15,004	2.8	26,256	2.4	22,505	1.3	11,872	0.5	4,932
Mineral Products	315,876	0.0	-126	-0.3	-948	1.0	3,159	0.8	2,527	-1.1	-3,402	-2.1	-6,542
Ferrous Metals	424,116	2.8	11,905	2.2	9,331	4.4	18,661	3.8	16,116	1.3	5,382	-0.2	-823
Non-ferrous Metals	147,708	5.7	8,490	4.8	7,090	6.5	9,601	5.6	8,272	5.0	7,402	4.3	6,325
Fabricated Metal Products	653,444	0.5	3,221	0.2	1,307	1.5	9,802	1.2	7,841	-0.4	-2,901	-1.3	-8,802
Motor Vehicles and Parts	825,836	4.1	33,661	3.5	28,904	5.3	43,769	4.7	38,814	2.9	24,114	1.8	14,840
Other Transport Equipment	206,096	6.6	13,530	5.5	11,335	7.5	15,457	6.5	13,396	5.6	11,475	4.5	9,371
Electronic Equipment	1,320,132	3.1	40,647	2.4	31,683	4.5	59,406	3.8	50,165	1.7	22,746	0.4	5,518
Other Machinery and Equipment	1,304,556	5.1	66,180	4.2	54,791	7.3	95,233	6.4	83,492	3.0	39,137	1.0	13,463
Other Manufacturing	320,188	1.3	4,242	0.6	1,921	1.8	5,763	1.2	3,842	0.8	2,549	0.3	836
Utilities	443,872	-1.0	-4,248	-1.6	-7,102	0.7	3,018	0.1	444	-2.5	-11,234	-4.0	-17,813
Construction	4090680	-1.5	-61,360	-1.4	-57,270	-1.0	-41,684	-0.9	-36,816	-2.0	-80,096	-2.4	-97,481
Distribution	8396168	0.6	50,461	0.2	16,792	-0.4	-37,279	-0.8	-67,169	1.6	134,758	2.6	215,865
Transportation	2655312	0.3	9,055	-0.3	-7,966	0.4	10,621	-0.3	-7,966	0.3	8,178	0.3	7,010
Communications	719444	0.5	3,273	0.1	719	-0.6	-4,317	-0.9	-6,475	1.4	10,403	2.4	17,331
Finance	1370952	-0.5	-6,718	-0.6	-8,226	-0.6	-8,226	-0.6	-8,226	-0.4	-5,717	-0.3	-4,675
Insurance/Other Business Services	3962024	-0.2	-8,003	-0.6	-23,772	0.4	15,848	0.0	0	-0.7	-29,160	-1.2	-49,208
Recreation and Other Private Services	1270896	-1.0	-13,116	-1.2	-15,251	-0.9	-11,438	-1.0	-12,709	-1.2	-15,429	-1.4	-17,729
Government Services	11285692	0.4	49,093	0.0	0	0.0	0	-0.4	-45,143	0.8	92,994	1.2	135,767
Job Losses (Absolute Value of Sum of the Negative Entries)			333,779		192,655		340,996		254,029		392,508		455,388

TABLE 9: ESTIMATED EMPLOYMENT EFFECTS IN UNITED STATES
NON-HIGH-SKILL WORKERS

		Full FTA: 10% Services Opening		Rice Excluded		Services Excluded		Rice and Services Excluded		Full FTA: 20% Services Opening		Full FTA: 30% Services Opening	
	Initial Employment*	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number	% Change	Change in Number
Paddy Rice	9,442	78.9	7,450	8.5	803	76.4	7,213	7.7	727	81.3	7,681	83.7	7,901
Wheat	39,172	32.4	12,695	31.9	12,496	29.7	11,634	29.2	11,438	35.0	13,696	37.4	14,638
Other Grains	109,944	6.6	7,264	6.1	6,707	6.3	6,904	5.8	6,377	6.9	7,597	7.2	7,882
Vegetables, Fruits, Nuts	141,450	5.6	7,872	5.7	8,063	5.0	7,063	5.1	7,214	6.1	8,614	6.6	9,275
Other Crops	374,051	1.8	6,868	2.1	7,855	1.8	6,733	2.1	7,855	1.8	6,722	1.7	6,490
Other Raw Ag Goods	644,049	5.3	33,838	5.3	34,135	5.0	32,202	5.1	32,847	5.5	35,178	5.6	36,324
Bovine Meat	371,340	31.1	115,606	31.3	116,230	30.4	112,887	30.6	113,630	31.8	118,023	32.4	120,188
Other Meat	301,410	25.1	75,606	25.3	76,257	24.5	73,845	24.7	74,448	25.6	77,062	26.0	78,297
Vegetable Oils and Fats	25,897	2.6	669	2.8	725	2.4	619	2.5	647	2.8	720	3.0	767
Dairy Products	301,130	2.3	7,061	2.7	8,131	2.3	6,872	2.6	7,829	2.4	7,203	2.4	7,287
Processed Rice	4,674	0.1	4	1.6	75	-1.1	-51	0.3	14	1.3	61	2.5	117
Sugar	105,456	9.0	9,535	9.2	9,702	8.2	8,633	8.3	8,753	9.9	10,397	10.6	11,195
Other Food Products	1,008,191	3.1	31,617	3.2	32,262	3.1	31,536	3.2	32,262	3.1	31,607	3.1	31,466
Beverages and Tobacco	306,178	0.3	805	0.3	919	0.4	1,258	0.5	1,531	0.1	303	-0.1	-220
Textiles	725,946	-1.6	-11,768	-1.4	-10,163	-1.6	-11,579	-1.5	-10,889	-1.6	-11,891	-1.7	-12,174
Apparel	586,927	-0.2	-898	0.0	0	-0.7	-3,897	-0.5	-2,935	0.3	1,896	0.8	4,420
Leather Products	78,251	18.3	14,300	18.7	14,633	14.3	11,190	14.7	11,503	22.0	17,246	25.6	20,047
Wood Products	1,091,209	-1.1	-12,080	-1.1	-12,003	-0.8	-8,457	-0.7	-7,638	-1.4	-15,506	-1.7	-18,845
Paper Products	1,745,916	-0.2	-3,143	-0.1	-1,746	-0.1	-1,501	0.0	0	-0.3	-4,714	-0.4	-6,268
Petroleum, Coal Products	40,574	-0.7	-296	-0.7	-284	-0.7	-284	-0.7	-284	-0.7	-292	-0.7	-288
Chemical, Rubber, Plastic Products	2,132,215	-1.6	-34,691	-1.5	-31,983	-1.3	-26,845	-1.2	-25,587	-1.9	-41,514	-2.3	-48,273
Mineral Products	728,096	-0.9	-6,706	-1.1	-8,009	-0.7	-4,944	-0.9	-6,553	-1.1	-8,213	-1.3	-9,713
Ferrous Metals	818,781	-2.5	-20,470	-2.4	-19,651	-2.2	-18,013	-2.0	-16,376	-2.8	-23,131	-3.1	-25,775
Non-ferrous Metals	387,234	-3.5	-13,631	-3.3	-12,779	-3.3	-12,779	-3.0	-11,617	-3.8	-14,661	-4.1	-15,733
Fabricated Metal Products	1,695,806	-1.4	-24,470	-1.5	-25,437	-1.2	-19,739	-1.2	-20,350	-1.7	-28,540	-1.9	-32,526
Motor Vehicles and Parts	1,303,992	-1.9	-24,163	-1.7	-22,168	-1.7	-22,168	-1.5	-19,560	-2.0	-26,380	-2.2	-28,610
Other Transport Equipment	1,035,303	-3.2	-32,622	-2.9	-30,024	-2.5	-25,468	-2.3	-23,812	-3.8	-39,031	-4.4	-45,326
Electronic Equipment	1,276,412	-4.7	-60,413	-4.4	-56,162	-4.1	-52,333	-3.7	-47,227	-5.4	-68,697	-6.0	-76,776
Other Machinery and Equipment	3,503,145	-3.2	-113,537	-3.1	-108,597	-2.6	-91,082	-2.3	-80,572	-3.9	136,693	-4.5	159,148
Other Manufacturing	329,831	-1.7	-5,551	-1.4	-4,618	-2.3	-7,586	-2.0	-6,597	-1.2	-3,872	-0.7	-2,381
Utilities	1,440,486	-0.3	-4,466	-0.4	-5,762	0.0	5	-0.1	-1,440	-0.6	-8,816	-0.9	-13,080
Construction	9,293,043	0.1	7,156	0.0	0	0.1	10,222	0.0	0	0.1	4,647	0.0	2,974
Distribution	22,201,606	0.1	16,873	0.1	22,202	0.0	-3,552	0.0	0	0.2	33,968	0.2	49,066
Transportation	4,337,539	0.3	11,364	0.2	8,675	-0.2	-10,497	-0.3	-13,013	0.7	30,016	1.1	48,494
Communications	826,915	4.3	35,632	4.0	33,077	0.6	4,565	0.2	1,654	8.0	66,418	11.8	97,278
Finance	4,170,099	0.7	29,274	0.6	25,021	0.1	4,295	0.0	0	1.3	53,711	1.9	77,981
Insurance/Other Business Services	6,528,465	0.5	34,079	0.4	26,114	0.0	-1,632	-0.1	-6,528	1.0	67,635	1.6	101,518
Recreation and Other Private Services	2,447,181	-0.2	-6,093	-0.2	-4,894	-0.1	-2,080	0.0	0	-0.4	-10,376	-0.6	-14,585
Government Services	21,022,049	-0.4	-90,395	-0.4	-84,088	-0.1	-22,704	-0.1	-21,022	-0.8	158,086	-1.1	223,885
Job Losses (Absolute Value of Sum of the Negative Entries)			465,391		438,369		347,191		322,000		600,412		729,187