Do US-Japan Bilateral Trade Agreements Affect International Trade?

Theresa M. Greaney[1]
Department of Economics
University of Hawaii at Manoa
2424 Maile Way, SSB 542
Honolulu, Hawaii 96822
(808) 956-7521 (phone)
(808) 956-4347 (fax)
email: greaney@hawaii.edu

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Abstract

The paper presents three different viewpoints on the effects of US-Japan bilateral trade agreements and finds some evidence to support each one using trade data from 1980-1995. For most of the 27 industry-agreement cases, the data do not support a conclusion of significant positive impacts of the agreements on Japan's imports of targeted manufactured products from either the US or non-US sources. In at least one high-profile case involving autos, I find evidence suggesting positive impacts on imports from the US, but in this case the data suggests trade diversion benefiting US-based producers at the expense of European ones. I also find a few cases where the agreements may have produced positive effects on Japan's imports from non-US sources.

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1. Introduction

Economists have good reason to maintain a certain level of skepticism regarding bilateral trade agreements. Viner (1950) showed that a preferential trading arrangement, a customs union, may cause welfare losses if the effects of trade diversion overwhelm those of trade creation. For completely different reasons, some US trade negotiators have developed a strong sense of skepticism regarding bilateral trade agreements with Japan, in particular. The "new emphasis on explicitly mandated results has arisen from the perception that previous market-opening initiatives with Japan have failed because the standard process- or rule-based approach is too easily undermined or subverted by Japanese countermeasures." (Irwin, 1994, p. 12) These sentiments contrast sharply with the often positive reports issued by the US Trade Representative, boasting of positive progress in expanding market access for "US exporters and others with competitive products and services to offer". (USTR, 1999, p. 205) Which of these conflicting views on the potential impacts of US-Japan bilateral trade agreements holds true? Do these agreements divert trade to favor US exporters, have little impact on trade or have significant positive impacts on trade that benefit all exporters to Japan?

This study finds some evidence to support each of the three viewpoints by using trade data for 1980-1995 to assess the impacts of 15 US-Japan trade agreements. In most cases, the data suggest limited impacts on Japan's imports of targeted manufactured products, particularly from the US. In fact, in many sectors, growth in Japan's imports of targeted products from the US slowed after an agreement was signed. However, in two high-profile cases involving autos and semiconductors, I do find some evidence that suggests positive impacts of the agreements on bilateral trade flows. In the auto case, I find evidence consistent with trade diversion, favoring imports from the US over those from the EU, rather than pure trade creation. In a few more

cases, the trade data suggest positive effects of an agreement on Japan's imports from producers located outside the US. However, the details of the trade agreements in most of these cases make it difficult to draw a firm causal link between the agreements and the trade movements.

These results address an ongoing need for better assessment of the impacts of US-Japan trade agreements. US trade negotiators have emphasized implicit, rather than explicit, trade barriers in recent talks with Japanese officials.[2] Since implicit trade barriers often are difficult to define, much less to measure in any traditional way, trade agreements related to these types of barriers may not produce the effects one would expect based on traditional trade theory. In particular, trade-liberalizing agreements may have very limited impacts on trade flows if negotiators misidentify the source of market barriers or overestimate their significance. Given the economic and political costs involved in these bilateral negotiations, it is imperative that policymakers, trade negotiators and industry representatives have some means of assessing the outcomes of past bilateral trade agreements. Since there is no formal mechanism requiring a US government agency to conduct such an assessment, the initiative to pursue one must come from the outside.[3]

Several recent studies have attempted to address this assessment need. The distinguishing features of these studies are their different sources of assessment information, which can be used to place the studies into one of two groups. One group mainly has relied upon information culled from public documents and interviews with informed insiders (i.e., government and/or industry officials) to evaluate US bilateral agreements. Bayard and Elliott (1994) and Elliott and Richardson (1997) used reports from the USTR's office, along with

[2] Implicit trade barriers that Japan has been accused of maintaining tend to involve non-transparent or discriminatory practices by the government or private sector.

interview data, to rate the outcomes of cases pursued under Section 301 of US trade law. The American Chamber of Commerce in Japan (ACCJ) also used information provided by interested parties to assess the outcomes of 45 major bilateral trade agreements signed by the US and Japan between 1980 and 1996 (ACCJ, 1997). For each agreement, evaluations were "sought from representatives of American companies and business associations in both the US and Japan, all of whom had firsthand knowledge of how the trade situation changed after the relevant agreement was concluded." (ACCJ, p. 19)

Evaluations of trade agreements provided by knowledgeable insiders in the trade representative's office and in industry provide valuable information for an assessment effort. However, these subjective evaluations introduce the possibility of biased assessments. Those involved in lengthy and costly trade negotiations may be reluctant to criticize the final outcome of their efforts. On the other hand, those planning for subsequent rounds of negotiations and agreements are unlikely to express complete satisfaction with past efforts. The relative strengths of these two opposing sources of bias in an assessment likely differ across industries, across time and across individual assessors. Therefore, the subjective assessments should be compared to more objective means of evaluation.

The more objective approach taken by two previous studies and by this study is to use trade data to assess the impacts of bilateral trade agreements. Noland (1997) used the residuals from gravity model regressions of US bilateral exports and foreign direct investment as measures of implicit trade and investment barriers. He found no significant impacts of the bilateral trade actions on the levels of or changes in implicit barriers. However, his analysis at the targeted country level may have been too aggregated to detect effects at the targeted country and industry

[3] A report by the American Chamber of Commerce in Japan (ACCJ, 1997) states that ACCJ members were "astonished to learn that no US Government agency has a readily accessible list of all US-Japan trade agreements or

level. In a Congressional Research Service report to Congress, Gold and Nanto (1991) use trade data to assess the cross-industry impacts specifically of US-Japan bilateral trade agreements. They compared nominal growth in US exports to Japan in sectors targeted by bilateral agreements with growth in total US exports to Japan and to the entire world for the 1985-1990 period. They concluded that the bilateral agreements had positive effects on bilateral trade flows since trade growth in the targeted sectors exceeded total trade growth.

Noland (1997) and Gold and Nanto (1991) draw very different conclusions regarding the effectiveness of US trade policies in part due to their different assumptions regarding the ultimate goals of the policies. Noland assumes that the US objective is to lower implicit trade (and investment) barriers while Gold and Nanto assume a more direct, mercantilistic goal of raising US exports. This paper considers both objectives and arrives at conclusions that lie somewhere in between the previous studies. I find evidence that suggests positive trade impacts of a few bilateral agreements but these cases are in the minority and some involve the possibility of trade diversion rather than trade creation.

I arrive at these conclusions by using industry-level trade data to examine the impacts of past US-Japan trade agreements on Japan's manufactured imports from the U.S. and from the rest of the world.[4] I improve upon Gold and Nanto's (1991) approach by using: 1) a fuller set of industry-level trade growth data rather than just aggregate data for comparative purposes; 2) real rather than nominal trade growth data; and 3) a longer time period (1980-1995) that is divided into pre-agreement and post-agreement periods for each targeted industry. I also conduct formal tests for instability in trade growth paths that might correspond with the signing of a bilateral trade agreement. Finally, I develop an objective set of ratings based on the trade data and then

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their complete texts" (p. 14), much less any formal means of assessing the outcomes of past agreements.

compare these ratings to those provided by the ACCJ's industry insiders and by the sector-specific research based on USTR reports. Overall, I find very limited correspondence across the different ratings. This may indicate a broader or different set of criteria used by the industry and government officials in evaluating the outcomes of these trade agreements. For example, lowering the costs of doing business in Japan may be the primary goal rather than increasing sales revenues in that market.

I present the methodology used in evaluating the bilateral trade agreements in the next section, followed by a description of the trade data employed. The results of my trade-based assessment are presented in section four, along with a comparison of my assessment ratings with those from the ACCJ (1997) and Bayard and Elliott (1994) reports. In the final section of the paper, I summarize and interpret the overall results, and I discuss a few industry-specific results for the high-profile agreements in automobiles and semiconductors.

2. Methodology

I use industry-level data on Japanese and American trade patterns from 1980-1995 to analyze the impact of bilateral trade agreements in manufacturing industries. All of the agreements analyzed focus on increasing access to Japan's market. Before trying to assess the impacts of the agreements, trade growth in each targeted sector is compared with trade growth in non-targeted sectors on average to see whether targeted sectors appear "different". Of course, any differences in average annual growth rates between targeted and non-targeted sectors may be due to a variety of influences that affect industries disparately, such as trade agreements, or to selection bias in choosing sectors to target in bilateral negotiations. To avoid the problem of

[4] I focus on manufactured imports because Japan has been singularly criticized for its low level of such imports, particularly in sectors where Japan exports similar products. For example, see Lawrence (1987) and (1991).

selection bias, most of my analysis is based on variations in trade growth within industries rather than direct comparisons of trade growth across industries.

As a first step towards assessing the impact of an agreement, I examine whether trade in the targeted sector(s) grew at a faster pace after an agreement was signed between the two countries. Growth in Japan's imports from the US is compared with growth in Japan's imports from the European Union (EU) and from all non-US sources to detect the possible bilateral and multilateral effects of an agreement. The EU is chosen for comparison purposes since trade patterns between developed countries tend to be more similar to those between other developed countries than to those between a developed and a developing country. In addition to examining Japan's imports from various sources, America's exports to Japan are compared with US exports to both EU and all non-Japanese destinations in an attempt to distinguish between demand-side and supply-side effects on trade growth. A sharp increase in Japan's imports of a particular good from the US may be a singular event driven by demand-side forces or it may reflect a sharp increase in America's exports of that good to all foreign destinations (i.e., a supply-side influence).

To examine the potential effects of the bilateral trade agreements, I use the differences between trade growth in the pre-agreement and post-agreement periods to create various ratings for each agreement relative to the other agreements. These ratings are based on the premise that the goal of a US-Japan bilateral trade agreement is to increase Japan's targeted-sector imports from the US and possibly from other sources as well. Some of the ratings focus only on the potential impact on US-based producers while others include potential impacts on producers located elsewhere. These trade-based ratings then are compared with those devised by the ACCJ (1997) and by Bayard and Elliott (1994).

In addition to using differences between pre- and post-agreement trade growth as suggestive evidence of the potential impact of the bilateral trade agreements, I conduct formal tests of instability in the trade growth paths. I use Chow tests to test for instability in each industry's trade growth in the year of an agreement or the following year, which allows for some lag in detecting the effects of an agreement. The Chow tests use the following regression:

$$(1) \qquad y_{it} = \alpha_i + \beta_{1i} t + \beta_{2i} \text{postyr} + \beta_{3i} \text{postyr} \cdot t + \varepsilon_{it},$$

where y_{it} = the annual import (or export) growth rate for industry i at time t and postyr is a dummy variable for the breakpoint year being tested. For $t \geq yr$, postyr = 1; otherwise postyr = 0. Confidence levels of 95% and 90% are used to define valid breakpoints.[5] If a valid breakpoint closely follows a bilateral trade agreement, and Japan's imports (America's exports) of the targeted good increased at a faster pace in the post-agreement period, then this provides some evidence to support a positive assessment of the agreement. If breakpoints coincide with faster growth for Japan's import from the US but slower growth for imports from elsewhere, this suggests a trade diversion, rather than pure trade creation, effect.

In an attempt to control for macroeconomic influences, such as exchange rate and income changes, that affect all industries, I also test for instability in the trade growth paths of the targeted industries after differencing out the annual trade growth in non-targeted industries. This test should identify breakpoints that are truly industry-specific and eliminate breakpoints caused in large part by events, such as the yen's appreciation in late 1985 or the bursting of Japan's bubble economy in 1991, that affect all industries.

After identifying breakpoints that correspond with faster post-agreement trade growth, I examine the contents of these agreements as a final check to see if a credible argument can be

[5] Results that satisfy the lower confidence level are included due to the high level of volatility in some of the industry-level trade growth paths.

made for a causal link. In a few cases, the trade agreements involved discussions, agreements on data collection, agreements on topics for future negotiations and/or concessions in other sectors but very little that could reasonably be expected to cause a sharp increase in Japan's imports of the targeted good(s).

3. Data

The ACCJ (1997) report identified and assessed 45 major bilateral trade agreements between 1980 and 1996. Agreements were selected from among this group if they satisfied the following criteria: 1) the agreement targeted specific manufactured products (i.e., SITC 5-8 industries), rather than broad structural issues, services, or agricultural products; and 2) the agreement was concluded after 1982 and before 1994. The first criterion is based on this study's focus on the issue of Japan's manufactured imports, which have been the target of many complaints involving implicit trade barriers. The second criterion is based on the availability of the trade database for years 1980-1995 and the need to have at least two years of trade growth data in the pre- and post-agreement periods. Table 1 lists all of the agreements that satisfy the first criteria, and of these, 15 also satisfy the second criteria. These 15 agreements (shown in bold type in Table 1) covered products in 16 different three-digit SITC code industries. With some of the agreements covering multiple industries and some industries targeted by several agreements, the 16 industries and 15 agreements create 27 industry-agreement pairs.

Bilateral trade data is obtained from Statistics Canada's (SC's) World Trade Database (WTDB). The four-digit SITC trade data are aggregated to the three-digit level to cover the range of products included in each agreement. To convert the dollar-denominated trade data into real figures, I use the US export price index and the average annual exchange rate from the IMF's *International Financial Statistics* (IFS), and Japanese price indices from the Bank of

Japan's Price Indexes Annual. Specifically, US export figures are converted into real 1990 dollars using the IFS export price index. Japanese import figures are converted into nominal yen using the IFS exchange rate. Since the aggregate import price index for Japan is heavily influenced by oil price changes, I instead use industry-level import price indices to deflate the nominal yen figures for the targeted industries. For example, Japan's import price index for electrical machinery is used to deflate imports in SITC 764, 752 and 759.[6] For imports in all of the non-targeted sectors, Japan's wholesale price index (WPI) is used as a deflator.[7]

4. Results

As a preliminary step in evaluating the various trade agreements, I present summary statistics for the average annual growth rates of each of the targeted industries in Table 2. In this table and subsequent tables, I present US-Japan bilateral trade growth figures alongside the same statistics for Japanese or American trade with the rest of the world and with just the EU.[8] These statistics allow for comparisons of the potential effects of the bilateral trade agreements on trade with all other countries in aggregate, and with other major industrialized countries in particular. In Table 2 and subsequent tables, growth data for Japan's imports from the US and that for America's exports to Japan differ somewhat due to the respective conversions into real yen and real dollar figures.

Four industries stand out as having significantly faster growth in US-Japan bilateral trade relative to the growth in Japan's imports from non-US sources and relative to America's exports to non-Japanese destinations: SITC 759 (computer and office machine parts and accessories), 781 (passenger cars), 611 (leather) and 635 (wood manufactures). Industries in which Japan's

[6] The industry-level import price indices used for the other SITC cases are available from the author upon request.
[7] Japan's WPI also is used to deflate the targeted industries' data for some of the stability tests on differenced data (i.e., non-targeted industry trade growth differenced from targeted industry trade growth) as a check for robustness.

imports from the US appear rather slow relative to imports from non-US or EU sources are: SITC 764 (telecommunications equipment), 752 (computers), 792 (satellites and other small aircraft), 634 (wood and plywood), and 642 (paper and paperboard cut to size or shape). However, only SITC 642 shows significantly slower growth in America's exports to Japan than to the other destinations. Some of these differences in trade growth rates can be explained by cross-sectional differences in initial trade levels. In particular, US-Japan trade flows in SITC 781 and 611 in 1980 are low relative to both of their comparison trade flows, which helps to explain their relatively rapid growth rates. Similarly, the relatively slow bilateral trade growth in SITC 752, 792 and 642 can be explained by large initial bilateral trade flows relative to the comparison trade flows.

The trade growth rates for the targeted sectors also can be compared to the average annual trade growth rates for all non-targeted manufacturing industries (SITC 5-8), shown at the bottom of Table 2. Bilateral trade in almost all of the targeted sectors outpaced that in the average non-targeted industry, with SITC 642 being the only noteworthy exception.

Although Table 2 provides basic information on identifying fast- versus slow-growing sectors between 1980 and 1995, it provides little information on the role of the bilateral trade agreements. Table 3 provides more suggestive evidence by comparing the trade growth during the pre-agreement and post-agreement periods for each industry-agreement pair. A successful agreement presumably will increase the flow of the targeted products into Japan. For agreements that occurred during the month of January, the breakpoint between the pre- and post-agreement periods readily can be defined as the year the agreement was signed.[9] Similarly, for agreements

[8] The industries are listed in Table 2 and subsequent tables in the same order that they appear in the sector groupings shown in Table 1.

[9] The breakpoint indicates the first year's growth rate included in the post-agreement period. For a breakpoint of 1986, the trade growth from 1985 to 1986 would be the first post-agreement annual growth rate.

signed in December, the breakpoint is well-approximated by using the following year. For all agreements concluded in mid-year (i.e., any month except for Dec. or Jan.), two breakpoints are considered: the year of the agreement and the following year. In Table 3, the second entry in each box corresponds with using the year after the agreement was signed as the breakpoint.

Table 3 shows a number of unexpected outcomes. Note that 13-18 (depending upon the breakpoint) of the 27 targeted industry cases show Japan's imports from the US growing more slowly after a bilateral trade agreement was signed. This can be compared with only 8-9 (7-10) cases in which Japan's import growth in these same sectors from non-US sources (from the EU) slowed in the post-agreement periods. Of the 13-18 cases of slower post-agreement import growth from the US, 9-12 (depending upon the breakpoint) have faster post-agreement slowdowns than that for the average non-targeted industry.[10] On the US exports side, 13-16 cases stand out as having slower post-agreement growth rates for exports to Japan. These 13-16 cases slightly exceed the 11 (7-10) cases where growth in US exports to non-Japan (EU) destinations slowed in the post-agreement periods.

On an individual industry basis, the results in Table 3 can be used as suggestive evidence of the success or failure of an agreement. For example, the results for SITC 759 (computer and office machine parts and accessories), 1986, and 781 (passenger cars), 1987 and 1992, show evidence consistent with successful bilateral agreements. The flow of these goods from the US to Japan increased at a faster rate in the post-agreement periods even though growth in US exports to the rest of the world and to the EU alone declined. Japan's imports of computer parts from the EU grew faster as well, while imports of autos increased at a faster pace only for American-made autos (using 1988 as the breakpoint for the Aug., 1987 agreement). This

[10] The changes in trade growth for the average non-targeted industry for each different breakpoint are not shown due to space constraints.

suggests that the main, and possibly the only, beneficiaries of the auto agreement were US-based producers, whereas the agreement affecting computer parts may have assisted all producers outside Japan. In contrast, cases in which the US-Japan entries are negative while all other entries are positive suggest poor agreements in terms of US-based interests, although these agreements may have benefited producers located elsewhere. These cases of apparent failure for US-based interests are: 541 (1986), 611 (1985) and 851 (1985). Note that the participation of multinational enterprises in these trade flows to some extent weakens the assumed link between production location and national producer interests. This issue is discussed in greater detail in the paper's conclusion.

To go beyond merely identifying outlying cases of pre- and post-agreement trade growth differences shown in Table 3, these differences are used to create a series of ratings for each agreement. The ratings attempt to address two basic questions: 1) Did US-based producers competing in the Japanese market benefit as a result of the agreement? 2) Did US-based and other foreign-based producers competing in the Japanese market benefit as a result of the agreement? A significant increase in the post-agreement average annual trade growth rate in a targeted sector is taken as evidence that foreign producers benefit from an agreement.[11] The "significance" of any change is judged relative to changes in non-targeted sectors and to changes in targeted sector trade with other countries.

I address the first question by assigning ratings on a scale from 1 to 10 using the following statistics:[12]

[11] These ratings are based on the generous assumption that significant increases in post-agreement average annual trade growth are caused mainly by the agreement, rather than by other economic events. Stability tests on the trade growth paths at the time of the agreement will serve to test the assumed correlation between the agreement and the trade movements, though they cannot test for direct causation.

[12] The boundaries for each ratings are defined by the minimum and maximum statistic, which correspond with ratings of 1 and 10, respectively. Ratings intervals divide the full statistics' range into 10 equal partitions.

U^{us}_{non} : pre-post difference for Japan's targeted industry imports from the US – pre-post difference for Japan's average non-targeted industry imports from the US;

U^{row}_{tar} : pre-post difference for Japan's (America's) targeted industry imports from the US (exports to Japan) – pre-post difference for Japan's (America's) targeted industry imports from (exports to) the rest of the world; and

U^{eu}_{tar} : pre-post difference for Japan's (America's) targeted industry imports from the US (exports to Japan) – pre-post difference for Japan's (America's) targeted industry imports from (exports to) the EU,

where "pre-post difference" refers to the difference between the pre-agreement and post-agreement average annual trade growth, as shown in Table 3. For each rating, the subscript represents the industry and the superscript indicates the market that is being used for comparison purposes. The U^{us}_{non} rating answers the question, "To what extent does US targeting of this industry seem to have given it an advantage over the average US non-targeted industry in expanding sales in Japan?" This rating is the same whether the calculation is based on Japan's imports from the US or America's exports to Japan, so the statistic is reported only once in Table 4. For Japan's imports from the US, the U^{row}_{tar} and U^{eu}_{tar} ratings answer the questions, "To what extent did US targeting of this industry appear to give US-based producers an advantage over non-US-based producers or over EU-based producers in expanding sales in Japan?" When the same statistic is applied to US exports, the U^{row}_{tar} and U^{eu}_{tar} ratings address the questions, "To what extent did US targeting of this industry appear to give US-based producers an advantage in the Japanese market that they did not realize in making sales elsewhere or in the EU in particular?" Table 4 shows both U^{row}_{tar} and U^{eu}_{tar} ratings and an average for all five U^{i}_{j} ratings, along with the ACCJ and Bayard and Elliott (B&E) ratings for comparison.

In addition, Table 4 presents two ratings that address the second question posed above regarding the potential benefits for US-based and other foreign-based producers from US-Japan bilateral agreements. These ratings are based on the following statistics:

UR_{non}: $(U^{us}_{non} + R^{row}_{non})/2$, and

UE_{non}: $(U^{us}_{non} + E^{eu}_{non})/2$, where

R^{row}_{non} = pre-post difference for Japan's targeted industry imports from the rest of the world (i.e., excluding the US) – pre-post difference for Japan's average non-targeted industry imports from the rest of the world, and E^{eu}_{non} is the equivalent statistic for imports from the EU.

These two statistics give equal weight to gains made by US-based producers and by producers based elsewhere. The ratings that correspond with these statistics use the ratings scale established by the U^{us}_{non} statistic so that these three ratings can be compared directly. For example, the 1987 auto agreement (SITC 781) appears to have had a much more positive impact on Japan's imports from the US than on imports from the rest of the world or from the EU since adding either drops the agreement's rating from an average of 9.6~9.8 down to a 6 or 7, depending upon the breakpoint used. On average, however, the ratings that include the rest-of-world or EU impacts are more likely to exceed than fall short of the ratings that use only the US impact.

The trade-based ratings in Table 4 that focus on US-based producers' interests exclusively (i.e., U^{i}_{j}) give the highest marks to agreements affecting SITC 759 (1986) and 781 (1987) and (1992). The lowest U^{i}_{j} ratings are received by SITC 776 (1986)[13] and 611, 612 and

[13] Using annual trade data I cannot distinguish between the potential effects of the Jan., 1986 and Sept., 1986 agreements involving semiconductors.

851 (1985). The low trade-based rating received by the semiconductor agreement contrasts sharply with the high rating it received in the ACCJ (1997) report.

The various ratings in Table 4 suggest that the criteria used for each assessment of the trade agreements differ significantly. The lack of consistent, positive correlations across the ratings systems is confirmed by pair-wise correlation coefficients.[14] At the 5% significance level, the ACCJ and Bayard and Elliott (B&E) ratings had no significant correlation coefficients with my trade-based ratings nor with each other. This comparison demonstrates why supporters and critics of bilateral trade agreements sometimes use the same agreements to defend their views. The criteria for measuring success of an agreement appear to differ widely between American business people, the USTR and the trade data used in this paper.

The lack of strong correlations between my ratings, the ACCJ ratings and the B&E ratings is reflected in many individual cases shown in Table 4. Using an arbitrarily chosen three-point spread (i.e., 1.5 on each side) around each mean U^i_j rating as a criterion for finding approximately equal ratings, cases where the ACCJ ratings fall outside and above this range are the most numerous, with 13 cases covering 9 different industries and 8 agreements. These high-ratings cases are: SITC 752 and 776 (Jan., 1986), 541 and 872 (1986), 792 (1990), 752 (1990), 752 and 759 (1992), 776 (Sept., 1986) and (1991), 611, 612 and 851 (1985). The B&E ratings also were high for 5 of these cases (i.e., SITC 792 (1990), 752 (1990), 611, 612 and 851 (1985)), and for SITC 634 and 635 (1990). The ACCJ ratings appear too low for 3 industries involved in 2 of the agreements: SITC 634 and 635 (1986) and 642 (1992), while none of the B&E ratings appears too low. This leaves only 7 cases for which the ACCJ ratings match up relatively closely with my ratings based on trade growth (i.e., SITC 764 (1986) and (1989), 759 (1986),

[14] See Greaney (forthcoming) for detailed results.

641 (1986), 634 and 635 (1990) and 641 (1992)), and one case for the B&E ratings (i.e., SITC 776 (Sept., 1986)).

The cases where the industry insiders appear to provide overly optimistic ratings relative to the trade data are concentrated mainly in the computer and high technology sectors, with the only exception being the overly high rating given to the leather and leather footwear 1985 agreement (affecting SITC 611, 612 and 851). A possible explanation for this mismatch between the views of the ACCJ industry insiders and the trade results is the multinational aspect of production in the computer and high technology sectors. The industry officials in these sectors likely represent companies with substantial production capacity outside the US, so their ratings may be more reflective of the market opening results of an agreement on a multilateral basis rather than on a bilateral basis.[15] In almost all of the high ratings cases, the ACCJ ratings more closely match the trade ratings that include sales gains made by non-US-based producers rather than those that focus exclusively on US-based producers.

In comparing the various ratings, the overly pessimistic ratings are concentrated solely in the materials manufactures sector. It is unfortunate that no ratings are available for the auto sector agreements because the high U_j^i ratings corresponding with both the 1987 and 1992 agreements for the passenger car industry (SITC 781) seem likely to clash with the negative perception developed by industry insiders, as reflected in the continuing lobbying efforts of the American Automobile Manufacturers Association (AAMA).[16]

[15] Data from the 1989 Benchmark Survey of US Direct Investment Abroad supports the contention that these industries are heavily involved in overseas production. Sales by overseas affiliates relative to sales by US parents for all manufacturing enterprises were 42%, using sales data by industry of affiliate and by industry of US parent, and 44%, using sales data by industry of sales. The corresponding percentages for computers and office equipment were 85% and 89%, and for electronic components and accessories 97% and 68%.

[16] A possible explanation for this discrepancy between the trade-based ratings and the AAMA's lobbying efforts is presented in the paper's conclusion.

All of my analysis thus far compares pre-agreement and post-agreement trade growth rates in search of evidence suggestive of an agreement's impact. Another means of testing for the impact of an agreement is to run a formal test for instability in an industry's trade growth path at the time of an agreement. The valid breakpoint years identified by Chow tests are shown in Table 5. Asterisks indicate the breakpoint years that coincide with increases in post-agreement average annual trade growth.

The Chow test results do not provide much evidence that is supportive of positive effects of the agreements on US-based producers. The agreement year or subsequent year tested as a valid breakpoint in only six cases for US-Japan trade flows. Three of these cases are characterized by declines in post-agreement average annual trade growth, SITC 764 (1990), 752 (1990) and 541 (1986). In another case, SITC 635 (1990), the increase in post-agreement trade growth is so marginal (i.e., less than 1%) for US exports to Japan that it disappears when the data is converted into real yen rather than real dollars. In addition, in this case and in the case of SITC 634 (1986), trade growth instability and increases in the post-agreement growth rates are found for US exports not only to Japan but to non-Japanese and EU destinations as well. This makes it more difficult to credit the bilateral agreement for the export surge to Japan.

The only case that provides good evidence that is consistent with a bilateral agreement having a significant positive impact on US-Japan trade flows is SITC 781 (1987), passengers cars. Japan's import growth from the US in this sector peaked at 155% in 1988 while import growth from the rest-of-the-world and the EU fell somewhat. These declines in 1988 caused the instability found in Japan's imports from these other sources. The data suggests the possibility that some of the extra sales made by American auto producers immediately following the agreement may have come at the expense of European auto producers. In fact, the breakpoint

identified for imports from the EU (which account for almost all of Japan's imports from non-US sources) meets the more stringent (5%) level of significance than the breakpoint found for imports from the US. Of the 27 industry-agreement cases, only one (marginally) satisfies the criteria for having had a positive impact on US-based producers and in this case the agreement may have caused trade diversion rather than trade creation.

In comparison, there are ten cases where an identified breakpoint matches an agreement year (or subsequent year) and a post-agreement increase in Japan's imports from non-US and/or EU sources. By eliminating four cases in which the breakpoint corresponds with a sharp decline in the industry's annual trade growth even though post-agreement growth increases on average, six cases remain as possible examples of successful agreements from a multilateral perspective: SITC 764 (1986), 776 (1986), 541 (1986), and 611, 612 and 851 (1985). The cases involving SITC 541, 611 and 851 were mentioned previously as cases that appeared to be failures for US-based interests, but possible successes for producers located elsewhere. The Chow test results strengthen the suspicion that these cases may have been successes for non-US-based interests. The three other cases exhibit characteristics similar to this group in that all show significant increases in Japan's imports from the relevant non-US sources in the post-agreement period but more limited increases or declines in imports from the US.

Admittedly, many influences aside from trade agreements could be causing the cases of trade growth instability presented in Table 5. To control for macroeconomic influences that affect all industries, I repeat the Chow tests after differencing the annual trade growth in the non-targeted industries from that in each targeted industry. In the first tests on differenced data, I used industry-level import price indices to deflate the targeted industries' data and Japan's WPI to deflate the non-targeted industries' data for Japan's import growth. To make sure that

differences in the movements of these price indices do not unduly influence the results for Japan's imports, I also did the Chow tests after differencing out trade growth in the non-targeted industries when both the non-targeted and targeted industries' data are deflated using Japan's WPI. These results are reported in detail in Greaney (forthcoming).

Of the seven agreements initially identified in the discussion of Table 5 as possible evidence of positive impacts of trade agreements, one failed to be confirmed by differencing out trade growth in non-targeted sectors, 541 (1986). This means that in six of the 27 industry-agreement cases the trade data provide evidence that could be used to support a conclusion of positive effects from a bilateral agreement. Only in one of these six cases does the data support a conclusion of positive effects for producers located within the US. This case involved the auto agreement in 1987. In this case, all three Chow tests identified a breakpoint for Japan's imports from non-US and EU sources in 1988 that corresponds with a decline in post-agreement trade growth. The confirmation of the results using three variations on the trade data strengthen the suspicion that this agreement may have caused a substitution of American autos for European autos in Japan's imports rather than an increase in market access for all foreign producers. However, this interpretation of the trade evidence becomes more difficult to defend when the details of the actual agreement are examined. According to ACCJ (1997),

> the "Market-Oriented, Sector-Selective (MOSS) talks on transportation machinery is primarily a record of discussions on trade in autos and auto parts. Not a trade agreement in a formal sense, it nevertheless includes a few helpful announcements by the Japanese side regarding the compilation of statistics and the enforcement of auto inspection regulations." (p. 96)

This description makes it seem unlikely that the 1987 "agreement" on autos would have produced the effects found by the Chow tests, unless one takes a broader view of the agreement. If the agreement is viewed as a lengthy process involving negotiations and media attention for a prolonged period of time rather than just a final written document of mutually agreeable points, it

seems possible to argue that the agreement had a significant impact on trade. For example, the media attention given to American auto producers during the negotiations may have served as free advertising.[17]

The auto case is not the only one where the Chow test results seem to suggest more significant impacts than one would expect given the details of the actual agreements identified. Of the five confirmed cases where valid breakpoints corresponded with post-agreement increases in Japan's import growth from non-US or EU sources, the three involving leather trade present the strongest evidence of positive trade effects. However, the agreement for these cases is the least likely of any of the agreements to have caused significant positive effects on targeted industry imports, especially from non-US sources. The 1985 leather agreement contained more concessions related to imports of aluminum and other goods than to imports of leather goods.

This leaves only two cases where it seems reasonable to interpret the Chow test results as evidence of a significant positive effect of a trade agreement on Japan's imports from non-US or EU sources. The 1986 agreements in telecommunications equipment, SITC 764, and semiconductors, SITC 776, contained some market-opening aspects that may be linked to the increased import growth from non-US and EU sources, respectively.

A final case that deserves further consideration is the 1991 semiconductor (SITC 776) agreement. The initial stability tests indicated instability in Japan's imports from non-US and EU sources in the year of the agreement, but this instability corresponds with a sharp decline in import growth. Although import growth from the US also fell in 1991, the decline was not sharp enough to be identified as a source of instability in the trade growth path. The differences in the

[17] AAMA representative Andrew Card complained during a panel discussion in 1995 that Japanese consumers do not know where to go to buy American cars, even though many would consider buying one. He blamed the exclusive dealership arrangement in Japan for this problem rather than insufficient effort or advertising by AAMA members. (C-SPAN video, 1995)

trade growth slowdowns in 1991 suggest the possibility that the agreement served to shield US semiconductors exporters from the full brunt of the downturn in demand that coincided with Japan's economic slowdown in that year. The 1991 agreement made explicit the 20% market-share target for foreign semiconductor producers that had been mentioned in a side-letter to the 1986 agreement. Although the agreement set the market-share target for all foreign producers selling in Japan, some feared that it would be interpreted as a need to buy more specifically from American producers.[18] In this case, distinguishing between trade creation and trade diversion effects is not possible without more detailed, industry-level analysis.

5. Conclusions

The 27 industry-agreement cases reviewed in this study provide evidence for both skeptics and advocates of US-Japan bilateral trade agreements. The skeptics, however, can embrace the bulk of the cases for which the trade data from 1980-95 do not support a conclusion of significant positive impacts of the trade agreements on Japan's imports of targeted manufactured products. At the bilateral level, most cases showed a decline in Japan's real import growth of targeted products from the US after an agreement was signed. Of the cases where import growth from the US increased in the post-agreement period, only one case displayed instability in the trade growth path at the time of a bilateral trade agreement. In this particular case, involving the automobile agreement in 1987, the trade data suggests trade diversion benefiting US-based producers at the expense of European producers. The semiconductor agreement in 1991 is a less-definitive second case where the trade data can be used to support a claim of positive impacts on US-based producers from a bilateral trade agreement. In this case, the agreement may have served to soften the negative impact of Japan's

[18] The European Community challenged the 1986 agreement for this very reason (i.e., violation of the most-favored nation principle), but it lost in a GATT panel decision in 1988. (Irwin 1994, p. 65-66.)

economic downturn in 1991. At the multilateral level, only two cases were found where the trade evidence and details of the agreements support a claim that non-US-based producers benefited from the increased market access sought by a US-Japan trade agreement. These cases involved bilateral agreements covering telecommunications equipment and semiconductors signed in 1986.

The latter finding provides some support for the USTR's claims of negotiating bilateral agreements to increase access to Japan's markets on a multilateral basis. It does not, however, explain the tendency for US industry insiders to rate agreements highly despite their apparently limited benefits on US-based producers in terms of increasing sales in Japan. This may indicate that these business people have a more multinational perspective since they may work for multinational enterprises with production facilities in non-US locations. Alternatively, it may indicate that the results of the agreements are too subtle or too slow in their realization to be detected by the stability tests or be reflected in the trade flow statistics at the three-digit SITC level. The true effects of the agreements may be masked by simultaneous changes in other sector-specific economic conditions or they may be realized through cost savings that do not necessarily prompt increased sales activity. Another possible reason for some of the discrepancy is that trade agreements with less ambitious agendas may have received more favorable ratings than more ambitious agreements. Ratings from industry representatives may be more reflective of the differing levels of implementation of the agreements than of their impacts on trade.

The results from two high-profile trade disputes help to illustrate some of reasons for the discrepancies noted between the trade-based assessments of the agreements and the assessments made by industry or government insiders. Japan's imports of passenger cars (SITC 781) from the US showed much more rapid growth following the 1987 agreement, giving this case the

highest trade-based ratings. However, lobbying by the AAMA has continued to emphasize the failure of Japan to comply with past agreements. This mismatch between trade flows and perceived success of past agreements is likely due, at least in part, to the activities of Japanese auto transplant facilities in the US. Japanese imports from these facilities have increased at a much faster pace than have imports of Chrysler, Ford and General Motors autos in the years following the 1987 trade agreement.[19] In this case, although Japan's imports of American-made Japanese cars are helping to support jobs in the US, the lingering complaint from AAMA representatives is that the jobs are not in "American" auto (and auto parts) companies, though this distinction is becoming increasingly unclear.

Another high-profile trade dispute that shows a wide discrepancy between the different ratings is the semiconductor case, which involved trade agreements in 1986 and 1991. These agreements received a very favorable combined rating of 8 out of 10 from American industry representatives but much lower average ratings of 2.2 to 4.2 based on US-Japan bilateral trade flows. In fact, Japan's import growth rate from the US of products within SITC 776, which includes semiconductors, slowed following each agreement. The gap between the ratings may be due to the expanding multinational production base of American semiconductor producers. This means that greater market access in Japan could produce expanded Japanese imports not from America but from American production facilities in South-East Asia, for example. In fact, Japan's imports from non-US sources grew more rapidly following both trade agreements. Another possible explanation for the low trade-based ratings is that the three-digit SITC category may be too aggregated to detect the effects of the agreement on the semiconductor market

[19] This trend is reflected in statistics from the Japan Automobile Importers Association for new import car registrations. In 1986, new import car registrations in Japan include zero attributed to Japanese transplants in the US and 2,341 attributed to the Big Three's American production plants. These numbers rapidly changed in the ensuing

alone.[20] Alternatively, this case may provide an example of an upward bias in the ratings on the part of industry insiders who are eager to stress the positive value of such agreements.

These two cases illustrate the potential pitfalls involved in trying to draw a direct link between bilateral, sectoral trade flows and national producer interests. However, as long as such linkages continue to be made in the context of bilateral trade disputes, it seems appropriate to apply these criteria as one means of assessing the effects of bilateral trade agreements. If expanding exports of US-based manufactures is the true goal of US negotiators in pursuing bilateral agreements with Japan, my results support a rather negative assessment of these efforts. This presents an obvious question for future research: why has the American government been so willing to undertake the costs involved in negotiating so many bilateral agreements with Japan when the benefits appear to be so limited? One possibility is that political gains may be more important outcomes of these agreements than economic gains. Saxonhouse (1998) found that the 1995 US-Japan auto agreement produced no measurable effects on the profitability of American or Japanese auto producers but it produced measurable positive effects on President Clinton's reelection chances.

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years; Japanese transplants outnumbered the Big Three for the first time in 1991, with 16,328 versus 13,711 registrations. The difference is even larger by 1995, with 84,722 versus 38,111 cars registered.

[20] Unfortunately this hypothesis cannot be tested with the World Trade Database used in this study because it provides only aggregated data for SITC 776 so analysis at a more detailed, four-digit level is not possible.

References

American Chamber of Commerce in Japan (1997). Making Trade Talks Work: Lessons from Recent History, American Chamber of Commerce in Japan, Tokyo.

Bayard, T. O. and K. A. Elliott (1994). Reciprocity and Retaliation in U.S. Trade Policy, Institute for International Economics, Washington, D.C.

C-SPAN video (1995). Closed Markets or Lazy Businessmen?, Economic Strategy Institute, June 26.

Elliott, K. A. and J. D. Richardson (1997). Determinants and Effectiveness of "Aggressively Unilateral" U.S. Trade Actions, in R. C. Feenstra (ed.), The Effects of U.S. Trade Protection and Promotion Policies, University of Chicago Press, Chicago, pp. 215-243.

Gold, P. L. and D. K. Nanto (1991). Japan-U.S. Trade: U.S. Exports of Negotiated Products, 1985-1990, CRS Report for Congress, Congressional Research Service, The Library of Congress.

Greaney (forthcoming), Assessing the Impacts of US-Japan Bilateral Trade Agreements, 1980-1995, The World Economy.

Irwin, D. A. (1994). Managed Trade: The Case Against Import Targets, The AEI Press, Washington, D.C.

Lawrence, R. Z. (1987). Imports in Japan: Closed Markets or Minds?, Brookings Papers on Economic Activity 2: 517-48.

--------- (1991). How Open is Japan? in P. Krugman (ed.), Trade with Japan: Has the Door Opened Wider?, University of Chicago Press, Chicago, pp. 9-37.

Noland, M. (1997). Chasing Phantoms: The Political Economy of USTR, *International Organization* 51: 365-87.

Saxonhouse, G. R. (1998). Trade Policy, Constituent Interests and Politics in US-Japan Economic Relations, Research Seminar in International Economics Discussion Paper No. 417, University of Michigan.

USTR (1999). National Trade Estimate, www.ustr.gov/reports/nte/1999/contents.html.

Viner, J. (1950). The Customs Union Issue, Carnegie Endowment for International Peace, New York.

Table 1
Manufacturing Industries Targeted in Major Bilateral Trade Agreements, 1980-96

	SITC #	ACCJ Rating	B&E Rating
Telecommunications			
NTT Procurement (1980)	764	2	
Telecomm. Equip. & Services—MOSS (1986)	764	5	
Telecomm.--Cellular & Third-Party Radio (1989)	764	3	
Telecomm.--Cellular & Third-Party Radio (1994)	764	10	
Computers & High Technology			
Electronics—MOSS (1986)	752, 759, 776	7	
Medical/Pharmaceutical Products—MOSS (1986)	541, 872	8~9	
Medical Technology Procurement (1994)	541, 872	8~9[1]	
Non-R&D Satellite Procurement (1990)	792	9	10
Supercomputer Procurement (1990)	752	6	6.7
Computer Products Procurement (1992)	752, 759	7	
Semiconductors (1986)	776	8	3.3
Semiconductors (1991)	776	8	
Semiconductors (1996)	776	--[2]	
Transportation			
Autos & Auto Parts—MOSS (1987)	781,784	--[3]	
Autos & Auto Parts (1992)	781,784	--[4]	
Autos & Auto Parts (1995)	781,784	8	3.3[5]
Materials Manufactures			
Leather & Leather Footwear (1985)	611, 612, 851	4	6.7
Wood Products—MOSS (1986)	634, 635, 641	3	
Wood Products (1990)	634, 635	6[6]	6.7
Paper Products (1992)	641, 642	4	
Building and Construction			
Flat Glass (1995)	664	3~6	

Source: ACCJ (1997) provided the list of major agreements, the information used by the author to assign SITC codes to agreements, and the ACCJ agreement ratings (on a 1 to 10 scale). Bayard and Elliott (1994) provided ratings of agreements that involved Section 301 cases on a four-point scale, which the author transformed onto a ten-point scale (B&E ratings) to match the ACCJ ratings scale.
Bold type indicates inclusion in this study.

[1] The respondents gave one rating for both the 1986 and 1994 agreements, but noted that the high rating was more reflective of the former.
[2] The respondents gave one rating for both the 1986 and 1991 agreements but no rating for the most recent (1996) agreement.
[3] No rating was reported but the respondents notes that the agreement's objectives were limited so few results were expected.
[4] No rating was reported but the respondents noted significant results.
[5] Elliott and Richardson (1995) provided this rating for the auto part portion of the agreement in their update and extension on Bayard and Elliott (1994).
[6] The respondents boosted the rating to an "8" when the agreement was considered in conjunction with subsequent Section 301 watch list action initiated in 1994.

Table 2
Average Annual Trade Growth in Targeted vs. Non-Targeted Sectors, 1980-95

SITC	Japan's Import Growth from...			America's Export Growth to...		
	US	Non-US	EU	Japan	Non-Japan	EU
764	18.58	26.02	31.03	16.11	10.10	7.68
752	14.50	32.17	22.72	11.95	8.67	5.11
759	30.64	21.92	15.89	26.76	4.97	4.92
776	33.83	31.41	20.45	24.56	19.08	10.74
541	5.59	9.84	12.32	5.39	6.08	6.45
872	12.83	14.80	14.09	12.85	9.07	9.94
792	2.88	14.25	24.76	6.57	3.37	4.07
781	32.24	18.69	18.58	39.50	6.86	30.72
784	12.03	15.70	14.58	14.90	6.11	9.10
611	16.51	6.95	15.14	17.38	4.83	4.81
612	12.52	14.22	12.74	14.50	9.53	3.09
851	9.95	13.62	14.30	12.03	9.59	11.19
634	8.28	26.75	12.99	14.23	7.34	6.53
635	17.92	8.07	16.15	22.04	5.96	9.00
641	5.78	11.28	11.74	6.93	6.46	3.65
642	-0.46	16.87	7.61	0.45	8.67	3.00
All targeted industries*	12.37	18.75	15.23	11.54	7.18	5.71
All non-targeted industries*	4.69	8.50	6.74	6.87	4.76	3.29

*Trade-weighted average

Table 3
Quantitative Differences between Pre- and Post-Agreement Trade Growth in Targeted Sectors, 1980-95

SITC	Agreement Date	Japan's Post-Agreement Import Growth - Pre-Agreement Import Growth from ...			America's Post-Agreement Export Growth - Pre-Agreement Export Growth to ...		
		US	Non-US	EU	Japan	Non-Jpn	EU
764	Jan. 9, 1986	13.53	36.81	54.12	8.99	9.07	13.73
764	June 30, 1989	7.90	15.15	54.41	2.43	8.56	9.88
		-2.77	9.32	51.33	-4.64	6.62	3.81
752	Jan. 10, 1986	8.88	43.28	35.75	4.87	1.32	3.78
759	Jan. 10, 1986	33.39	-12.85	35.50	28.09	-2.08	-7.49
776	Jan. 10, 1986	-3.79	33.78	24.30	-12.47	-2.08	11.09
541	Jan. 9, 1986	-12.32	12.88	14.25	-7.39	3.88	2.87
872	Jan. 9, 1986	1.80	6.41	3.38	10.78	5.52	7.84
792	June 15, 1990	-3.14	-5.79	-15.04	-0.72	-4.74	-11.72
		-21.14	-2.08	-9.68	-20.50	-10.60	-19.63
752	June 15, 1990	-7.87	44.68	30.31	-9.32	-3.27	-6.43
		-6.52	50.10	35.35	-8.00	-3.28	-6.79
752	Jan. 22, 1992	-3.00	53.87	39.52	-3.39	-2.34	-5.32
759	Jan. 22, 1992	-9.38	15.37	42.65	-8.03	-5.76	-13.77
776	Sept. 2, 1986	-3.79	33.78	24.30	-12.47	-2.08	11.09
		2.72	31.44	12.46	-8.22	-1.98	13.31
776	June 11, 1991	-3.87	13.50	-5.04	-10.05	0.68	6.42
		3.81	26.33	2.25	-1.29	4.21	9.06
781	Aug. 18, 1987	56.64	3.48	4.00	53.32	-1.61	11.52
		43.41	-8.60	-8.46	33.54	-1.25	-14.23
784	Aug. 18, 1987	-3.23	-3.81	-0.71	-0.88	4.41	11.46
		5.06	-6.30	-5.98	4.06	3.49	11.12
781	Jan. 11, 1992	12.69	-10.25	-10.71	4.43	-4.52	-46.60
784	Jan. 11, 1992	-0.60	-21.60	-13.46	-2.07	6.36	19.70
611	Dec. 20, 1985	-15.25	19.05	28.23	-22.45	9.44	15.68
612	Dec. 20, 1985	-9.08	42.71	39.92	-14.02	-5.93	23.24
851	Dec. 20, 1985	-7.48	19.39	20.90	-11.71	25.24	15.35
634	Jan. 9, 1986	6.27	-5.55	14.81	25.54	19.97	24.41
635	Jan. 9, 1986	11.80	1.62	-2.80	32.31	22.57	17.11
641	Jan. 9, 1986	-2.47	1.16	-6.27	7.21	20.23	27.61
634	June 15, 1990	-7.39	-34.37	6.29	-4.95	-3.60	-3.66
		-9.48	-29.86	1.90	-2.55	-7.09	-8.05
635	June 15, 1990	-2.40	-3.90	-14.11	0.99	6.55	0.70
		-7.12	-0.67	-12.50	0.70	5.82	-3.99
641	Apr. 5, 1992	-1.01	1.97	1.68	5.80	6.63	4.55
		0.14	8.24	15.31	8.07	8.02	5.71
642	Apr. 5, 1992	10.09	1.68	-2.54	17.14	38.20	-4.59
		12.01	4.30	1.77	20.14	3.42	9.08

Note: In cases where two entries appear in a cell, the first entry corresponds with using the year of the agreement as the breakpoint and the second corresponds with using the following year as the breakpoint.

Table 4
Ratings of Bilateral Trade Agreements, 1980-1995

SITC	Date	Rating using Japan's import growth rates					Rating using America's export growth rates		Mean U^i_j rating[7]	ACCJ rating	B&E rating
		UR_{non}	UE_{non}	U^{us}_{non}	U^{row}_{tar}	U^{eu}_{tar}	U^{row}_{tar}	U^{eu}_{tar}			
764	1/86	6	8	5	4	2	5	4	4.0	5	--
764	6/89	5	7	4	5	1	4	4	3.6	3	--
		5	8	5	5	1	3	4	3.6		
752	1/86	6	6	4	3	3	5	5	4.0	7	--
759	1/86	4	8	8	10	5	8	9	8.0	7	--
776	1/86	5	4	2	1	3	3	2	2.2	7	--
541	1/86	3	3	1	3	3	3	4	2.8	8~9	--
872	1/86	3	3	3	5	5	5	5	4.6	8~9	--
792	6/90	3	2	3	6	7	5	6	5.4	9	10
		2	2	1	4	4	3	5	3.4		
752	6/90	6	5	2	1	2	4	4	2.6	6	6.7
		7	6	3	1	2	4	5	3.0		
752	1/92	7	6	3	1	2	4	5	3.0	7	--
759	1/92	4	6	2	3	1	4	5	3.0	7	--
776	9/86	5	4	2	1	3	3	2	2.2	8	3.3
		4	4	1	3	5	4	2	3.0		
776	6/91	5	4	3	4	6	3	3	3.8	8	--
		4	3	3	4	6	4	4	4.2		
781	8/87	6	7	10	10	10	10	9	9.8	--	--
		7	7	10	10	10	8	10	9.6		
784	8/87	1	2	1	6	5	4	3	3.8	--	--
		2	2	2	7	7	5	4	5.0		
781	1/92	4	4	6	8	8	5	10	7.4	--	--
784	1/92	2	3	4	8	7	4	2	5.0	--	--
611	12/85	3	3	1	3	1	1	1	1.4	4	6.7
612	12/85	5	5	1	1	1	4	1	1.6	4	6.7
851	12/85	3	3	2	3	3	1	2	2.2	4	6.7
634	1/86	3	4	4	7	5	5	5	5.2	3	--
635	1/86	3	3	5	7	7	6	6	6.2	3	--
641	1/86	2	2	2	5	6	3	2	3.6	3	--
634	6/90	1	3	2	8	4	4	5	4.6	6	6.7
		1	4	3	8	5	5	5	5.2		
635	6/90	3	2	3	6	7	4	5	5.0	6	6.7
		3	3	3	5	6	4	5	4.6		
641	4/92	4	4	4	5	5	4	5	4.6	4	--
		3	4	3	5	4	5	5	4.4		
642	4/92	4	4	5	6	7	6	7	6.2	4	--
		4	4	5	6	7	6	6	6.0		

[7] Not including UR_{non} and UE_{non} ratings.

Table 5
Agreement years identified as valid breakpoints by Chow tests

SITC	Date	Japan's Import Growth from ...			America's Export Growth to ...		
		US	Non-US	**EU**	**Japan**	**Non-Jpn**	**EU**
764	1/86 6/89	90	86*, 87*; **89*, 90***		90		87*; **89***, **90***
752	1/86 6/90 1/92	**90, 91**	92*	87*	**90**, **91**		**86*, 87*;** **90**, 91
759	1/86 1/92						
776	1/86 9/86 6/91		**91***	86*, 87*; **91**			
541	1/86	**86, 87**	**86*,** 87*	**86***			87*
872	1/86					**86***	**86***
792	6/90					**90, 91**	**90, 91**
781	8/87 1/92	87*, 88*	**88**	88	87*, 88*		**87*, 88**
784	8/87 1/92		**92**				
611	12/85		86*, **87***	**86*, 87***			**86*, 87***
612	12/85		**86*, 87***	**86*, 87***		87*	86*, 87*
851	12/85		**86*, 87***	**86*, 87***		**86***	
634	1/86 6/90				**87***	**86***	**86***
635	1/86 6/90	**91**		90, **91**	**90*, 91***	86*; **90*, 91***	87*; **90*, 91**
641	1/86 4/92					86*; **92*, 93***	92*, **93***
642	4/92						**92**

Bold numbers represent rejection of the null hypothesis of parameter stability at the 5% level of significance. Non-bold numbers represent rejection only at the 10% level.
*The agreement year (or subsequent year) breakpoint identified by the Chow test coincides with an increase in post-agreement trade.