The United States: Japan Current Account Imbalance: A Review
The United States-Japan Current Account Imbalance: A Review

by

Stephen S. Golub, Research Department 1/

March 1994

Abstract

This paper reviews the macroeconomic and microeconomic dimensions of the United States-Japan conflict over trade. From a macroeconomic perspective, there is nothing surprising about Japan’s surpluses, given global trends in saving and investment. The current accounts of the United States and Japan have both responded to exchange rate changes in a normal fashion with about a two-year lag. Although not the source of the Japanese current-account surplus, a key issue in the debate is the nature of Japanese trade policy and its possible effects on trade patterns. Empirical studies attempting to determine whether Japan’s trade prices and quantities are abnormal have arrived at conflicting conclusions.

JEL Classification numbers:
F14, F32

1/ This paper was written while the author was a visiting scholar at the IMF’s Research Department. The author is grateful to David T. Coe and Robert P. Ford for detailed comments. Chris Hogendorn provided capable research assistance.

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I. Introduction

The recent escalation of mutual accusations of unfairness between the United States and Japan is a continuation of longer-standing frictions over trade. The United States current-account deficits and Japanese surpluses, as well as the bilateral United States trade deficits with Japan, have been at the center of the controversy since the early 1980s. The focus has often been on sectoral trade balances—automobiles, steel, semiconductors, and machine tools are prominent examples—although the particular sectors preoccupying policymakers have varied over time. Many United States policymakers and commentators blame unfavorable trade balances on barriers to imports in Japan, predatory behavior by Japanese producers, overly hard-working Japanese citizens, or other microeconomic factors. Japanese commentators often respond with criticisms of work habits and the educational system in the United States. Although they disagree on the validity of these factors, most economists would view them as largely irrelevant to the determination of overall and sectoral trade balances. There is legitimate controversy over the degree of openness of the Japanese market, as discussed further below. However, policymakers and the media often show widespread confusion about the significance of comparative versus absolute advantage, as well as about the role of microeconomic and macroeconomic factors in the determination of trade balances.

This paper reviews the literature on the macroeconomic and microeconomic dimensions of the United States-Japan bilateral trade imbalances. As will be seen, there is much more controversy on the sector-specific dimensions than on the causes of the overall current-account
balances. There is strong evidence that current-account balances—including Japan's—respond to real exchange rate movements in a predictable fashion, although with an approximate two-year average lag. The paper does not, however, address the important issue of whether the savings-investment balances that underlie the current account imbalances are themselves appropriate.

II. Macroeconomic Factors and the Current Account

Table 1 shows the evolution of current-account and trade balances for the United States and Japan. The behavior of the U.S. and Japanese current-account balances are quite familiar. The U.S. current-account deficits swelled in the mid-1980s and then receded steadily until 1992 when the deficit began to increase again. The Japanese current-account balance followed the opposite pattern, rising sharply in the mid-1980s, dropping until 1991, then increasing again in 1991 and 1992. The trade balance shows more pronounced secular movements for both countries than the current account, because the United States has an increasing surplus and Japan an increasing deficit in private services, which more than offsets the net decline in U.S. investment income associated with the increasing net debtor position.

1/ The temporary reductions in current-account imbalances in 1991 were also the result of official transfers received by the United States for the Gulf War.
Table 1. Current Account and Trade Balances for the United States and Japan

(Annual averages, $ billions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. current account</td>
<td>--</td>
<td>-17</td>
<td>-133</td>
<td>-106</td>
<td>-33</td>
</tr>
<tr>
<td>U.S. trade balance</td>
<td>-12</td>
<td>-44</td>
<td>-135</td>
<td>-117</td>
<td>-85</td>
</tr>
<tr>
<td>Japan current account</td>
<td>2</td>
<td>11</td>
<td>64</td>
<td>57</td>
<td>95</td>
</tr>
<tr>
<td>Japan trade balance</td>
<td>8</td>
<td>23</td>
<td>72</td>
<td>78</td>
<td>118</td>
</tr>
<tr>
<td>Bilateral U.S.-Japan trade balance</td>
<td>4</td>
<td>15</td>
<td>45</td>
<td>44</td>
<td>41</td>
</tr>
</tbody>
</table>

Source: IMF International Financial Statistics and Direction of Trade.

Whatever the causes of the U.S. current-account deficits and Japanese surpluses, it is clear that the explanation must be specific to the 1980s because these sustained current-account imbalances are not in evidence before the early 1980s. It seems very difficult to argue that Japanese trading practices explain these current-account patterns since such an explanation would require a large increase in Japanese barriers to imports or subsidies to exports, which is contrary to all available evidence. If anything, Japan liberalized its trade policies in the 1980s, while the United States may have increased its protection.

Indeed, there is near unanimity among economists that current-account balances can be well understood in theory and in practice on the basis of...
macroeconomic factors. The standard framework, dubbed the "Mass. Avenue Model" by Krugman (1991), remains the Mundell-Fleming open-economy IS/LM model. According to this model, general equilibrium in the goods, financial, and foreign exchange markets jointly determine real exchange rates and foreign and domestic outputs. Real exchange rates and relative outputs are then the proximate influences on the current account, although the former operates with a substantial lag.

1. Saving, investment, and the current account

From the perspective of the Mundell-Fleming model, it is not difficult to explain the pattern of current-account balances in the 1980s. Declining national saving in the United States, primarily due to public sector dissaving, caused an excess demand for goods in the United States, or equivalently, a shortfall in national saving relative to investment, thereby driving up real interest rates in the United States and appreciating the dollar. In an environment of increasing international capital mobility, these higher real interest rates allowed the United States to finance its current consumption by running up a large foreign debt. Other shocks in the early 1980s, such as tight U.S. monetary policy and a portfolio shift

1/ The Institute for International Economics and the Brookings Institution are on Massachusetts Avenue in Washington D.C. and the Massachusetts Institute of Technology is on Massachusetts Avenue in Cambridge, Massachusetts. For recent applications of the Mundell-Fleming framework to current policy issues, see also Bosworth (1993) and Cline (1991). Bosworth provides a detailed empirical investigation of three critical links in the Mundell-Fleming model: trends in global savings and investment, the determination of exchange rates, and the responsiveness of trade flows to exchange rates.
towards dollar assets may also have contributed to the observed patterns of real exchange rate appreciation and current-account deficits. To varying degrees, these shocks were partially reversed in the late 1980s, resulting in declining U.S. real interest rates, depreciation of the dollar, and reduced U.S. current-account deficits. In the early 1990s, recessions in Japan and western Europe, combined with recovery in the United States have resulted in a renewed worsening of the U.S. current-account deficit.

Table 2 reviews the evidence on saving, investment, and the current account for the United States and Japan. In both countries there have been declines in both private saving and investment rates since the 1960s. The current-account balances in the 1980s were mainly the counterpart of divergent movements in government budget balances rather than private saving and investment. Rising international capital mobility in the 1980s also undoubtedly contributed to the widening of current account balances by increasing the ease of financing.

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1/ See Bergsten and Noland (1993, Chapter 2) for a review of the literature comparing U.S. and Japanese saving and investment rates. Two important points are: (i) Japanese saving and investment rates remain considerably higher than those of the U.S., and (ii) changes over time in these balances are well captured by the available data even if there is some uncertainty over levels. The conclusion that the U.S. current account deficits of the 1980s reflected a decline in national saving associated with the budget deficit is therefore not in doubt.
Table 2. Saving, Investment and the Current Account: The United States and Japan

*(Selected periods, percent of net national product)*

<table>
<thead>
<tr>
<th></th>
<th>1960-73</th>
<th>1976-79</th>
<th>1984-90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>United States</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private saving</td>
<td>10.2</td>
<td>10.1</td>
<td>7.4</td>
</tr>
<tr>
<td>Government budget</td>
<td>-0.9</td>
<td>-1.5</td>
<td>-3.7</td>
</tr>
<tr>
<td>Private investment</td>
<td>8.4</td>
<td>8.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Current account</td>
<td>0.6</td>
<td>-0.1</td>
<td>-2.9</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private saving</td>
<td>15.8</td>
<td>15.8</td>
<td>12.0</td>
</tr>
<tr>
<td>Government budget</td>
<td>2.1</td>
<td>-4.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Private investment</td>
<td>20.9</td>
<td>11.2</td>
<td>9.9</td>
</tr>
<tr>
<td>Current account</td>
<td>0.6</td>
<td>0.9</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Bosworth (1993), Table 2.1.
Note: Numbers may not add up due to statistical discrepancies.

2. **Exchange rates and the current account**

The macroeconomic shocks discussed in the previous section were transmitted to current accounts primarily through large fluctuations in real exchange rates. The link between exchange rates and trade flows has been studied at length, and, after some controversy in the late 1980s, a near consensus has reemerged that trade flows respond in a predictable fashion to
real exchange-rate changes. ¹/ Figures 1a and 1b show the pattern of real exchange rates and net exports of goods and services as a ratio of GDP for the United States and Japan. The real exchange rate is the IMF's real effective exchange rate index, inverted and shown with a two-year lag. Figures 1a and 1b indicate a strong correlation of net exports to exchange rates after allowing for the two-year lag.

The controversies over the adequacy of the adjustment mechanism in the late 1980s seem to have arisen from popular ignorance of the normal long lags as well as some special factors which confused even international economists. In particular, the dollar depreciation and yen appreciation which began in early 1985 were not starting from a position of initial equilibrium. There are several aspects of this. First, the effects of the previous appreciation of the dollar had not yet fully manifested themselves in trade flows, and some of the subsequent widening of current-account balances reflected the impact of earlier exchange-rate movements. Second, the perverse valuation effect—the downward part of the J-curve associated with rising import prices—was exacerbated by the initial U.S. and Japanese current-account deficits and surpluses in 1985. This initial gap also masked the extent of the adjustment taking place insofar as the value of the U.S. current-account deficit might fail to decline even if the growth rate of exports exceeds the growth rate of imports. The unusual behavior of a few sectors also contributed to the inaccurate judgment that current-account

¹/ See Goldstein and Khan (1985) for a comprehensive review of the literature on price elasticities of exports and imports and Lawrence (1990), Cline (1991), Meredith (1993), and Bosworth (1993, Chapter 4) for recent analyses. Krugman (1991) provides a lucid overview of the evidence.
balances were not responding in a normal fashion. The sharp drop in the
price of oil in the mid-1980s masked a huge turnaround in Japan's non-oil
surplus (Yoshitomi (1991)), while the problems of accurately measuring
computer prices turned out to have surprisingly large effects on the
decomposition of U.S. trade flows between prices and quantities
(Citrin (1989)). When computers are excluded, standard models of the U.S.
current account perform very well (Lawrence (1990)).

The behavior of trade volumes reveals the striking extent of the
adjustment since the dollar's sustained depreciation beginning in mid-1985.
In each year between 1986 and 1991, U.S. export volume growth outstripped
the industrial country average, usually by a substantial margin.
Conversely, Japanese export volume growth was below the industrial country
average in every year (except in 1990 when they are equal). Perhaps even
more revealingly, given the concern about the relative openness of the
Japanese market, Japanese import volume growth exceeded the industrial
country average in every year. Meanwhile, U.S. import volume growth was
below the industrial country average except in 1986, when U.S. import
volumes may still have been adjusting to the previous appreciation of the
dollar. As noted above, the Japanese terms-of-trade improvement mitigated
the decline in the nominal Japanese trade surplus, notably in 1986.

The main remaining puzzle is that while the dollar had reverted in 1990
to its 1980 level in real terms by most measures, and while the major
industrial countries' relative cyclical positions were roughly similar, the
U.S. current account, although much diminished, had not fully returned to

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Figure 1a
U.S. Net Exports and Real Exchange Rate Two Years Earlier

Figure 1b
Japan Net Exports and Real Exchange Rate Two Years Earlier

Source: IMF, International Financial Statistics
its 1980 level of near zero (except in 1991, due to the one-time transfers associated with the Gulf War). Comparing 1980 and 1991, the non-oil, nonfactor income trade balance of the United States had deteriorated by about $40 billion, or about 0.6 percent of U.S. GDP. There are several competing explanations of this phenomenon. Cline (1991) suggests that by the criterion of relative export prices, the dollar has not in fact depreciated as much as the conventional wisdom suggests. Lawrence (1990) argues that the U.S. income elasticity of demand for imports is higher than that of its trading partners, so that the dollar has to depreciate secularly in order to maintain trade balance. Conversely, Meredith (1993) finds that the income elasticity of demand for imports in Japan is lower than other countries’ income elasticities of demand for Japan’s exports. These differential income elasticities may reflect deeper structural trends in international trade, which are difficult to identify. While acknowledging some merit in Cline’s argument that correctly-measured real exchange rates have not fully returned to their 1980 level, Hooper (1991) argues that the estimated income elasticities reflect more rapid growth of foreign relative to U.S. export supply. In principle these changes in relative supply should be fully reflected in measured real exchange rates, but he suggests that measurement problems for Japanese and Newly Industrializing Economies’ trade prices may understate their competitiveness. Notwithstanding this controversy, all recent empirical studies confirm that U.S. and Japanese trade flows strongly respond to price signals.
III. Microeconomic Factors: Invisible Barriers to the Japanese Market

The issue of the openness of the Japanese market is much more controversial than the causes of the trade imbalances. As pointed out above, the trade balance is a macroeconomic phenomenon and has little to do with the degree of protection. In equilibrium, low imports also imply low exports, given the saving-investment balance. If Japan were to import more, it would eventually also export more. There are, however, several possible rationales for focusing on the level of protection. Dornbusch (1990), while recognizing that the trade balance is unrelated to Japan's import barriers, still favors U.S. pressure on Japan to increase imports on the grounds that the U.S. terms of trade will improve, but he provides no empirical evidence that the terms-of-trade effect will be substantial. Lawrence (1987) argues that Germany has not encountered the same hostility as Japan, despite equally large current-account surpluses because Germany engages in a large amount of intra-industry trade--i.e., the gross volume of trade matters. Saxonhouse (1993) questions this judgment, however, noting that it is the overall and sectoral bilateral trade balances which are always in the news, not the level of trade. It is also possible that Japan's import barriers are part of a strategic trade policy, but the evidence on this hypothesis is mixed. 1/ As Tobin (1991) observes, to the extent that the Japanese market is restricted by government regulation and oligopolistic collusion, the primary effect is likely to be a reduction in the Japanese standard of living. Nonetheless, the perception that the Japanese market is closed and

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1/ See Bergsten and Noland (1993, Chapter 4) for a balanced discussion of the sectoral impact of Japanese trade policies.
Japanese behavior is unfair may undermine support for a liberal trading system by other countries, and it is therefore important to investigate this question.

It is evident that Japanese trade is distinctive in that Japan has an unusually low volume of manufactured imports and intra-industry trade, and the level of inward foreign direct investment in Japan is much smaller than in other industrial countries. Table 3 indicates that, at least in some ways, the Japanese economy is more insular than other industrial countries. Economists seem to be quite evenly divided on whether these features indicate unusual protection or unusual economic characteristics and comparative advantage. Some, such as Dornbusch (1990), go so far as to advocate numerical targets for Japanese imports backed by trade sanctions as the only way to pry open the Japanese market. Others, such as Bhagwati (1991), denounce these views as Japan bashing and managed trade. While there is general agreement that overt Japanese protection in the form of tariffs and quotas is, if anything, lower than in most other industrial countries, with the notable exception of agriculture, there is a great deal of disagreement on the importance of intangible barriers to the Japanese market. By their very nature, intangible barriers are difficult to assess and quantify. A number of different types of studies have been carried out in an effort to determine the importance of barriers to the Japanese market. They can be classified as follows: (1) examination of specific Japanese business practices and government policies, (2) studies

1/ For a comparison of formal barriers to imports for the United States and Japan see Bergsten and Cline (1985), Tables 3.1 and 3.2.
attempting to ascertain whether Japan's gross trade, usually imports, is lower than "normal," (3) studies attempting to determine whether Japan's commodity composition of net trade (exports minus imports) is normal, and (4) comparisons of traded-goods prices in Japan and in other countries.

Table 3. Unusual Features of Japan's Trade

<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>U.S.</th>
<th>Germany</th>
<th>U.K.</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-industry trade</td>
<td>0.58</td>
<td>0.83</td>
<td>0.73</td>
<td>0.79</td>
<td>0.77</td>
</tr>
<tr>
<td>index, 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import share of</td>
<td>5.9</td>
<td>15.3</td>
<td>15.4</td>
<td>17.7</td>
<td>13.7</td>
</tr>
<tr>
<td>domestic consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of manufactures, 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign firms share of</td>
<td>1</td>
<td>10</td>
<td>19</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>domestic sales, 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Bergsten and Noland (1993), Table 3.3.

It is important to recognize that the macroeconomic evidence of the effects of exchange rates on trade flows, reviewed above, poses a challenge to those who argue that invisible barriers to the Japanese market are pervasive. Lawrence (1991b, p. 14) reconciles this seeming contradiction by arguing that "many barriers to the Japanese market operate like tariffs rather than quotas." But qualitative descriptions of the intangible protection in Japan suggest that many of the barriers are in effect prohibitive quotas, so Lawrence's resolution of this puzzle seems questionable. An alternative conclusion is that the macroeconomic evidence supports those who argue that the Japanese market is in fact quite open or
that the intangible barriers to imports in Japan are confined to a limited part of trade.

1. **Studies of particular sectors and practices**

There are numerous anecdotes and case studies reporting nearly impenetrable barriers to the Japanese market. For example, Prestowitz (1988) presents detailed case studies based on his experiences as a U.S. trade negotiator with Japan, all of which point to an extraordinarily closed Japanese market. Japan's informal barriers are seen as a combination of government policies and business practices, such as: 1/

- Government regulations (standards, testing, and certification requirements) that act as *de facto* protection and are often captured by special interest groups, even though they were not enacted for the purpose of controlling imports.

- Bureaucratic customs procedures that seem intended to impede imports.

- Oligopolistic practices such as *keiretsu* groupings that limit the ability of foreign firms to penetrate the Japanese market.

- Government procurement practices that are strongly biased towards domestic firms, although the extent to which this is more significant in Japan than in other countries is usually not discussed.

- The cumbersome and over-regulated Japanese distribution system that makes it very difficult for foreign firms to enter the Japanese market.

- Industrial policies that provide strategic advantages to domestic firms. It is widely acknowledged that the magnitude of direct

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1/ For further discussion of these barriers see Bergsten and Cline (1985), Balassa and Noland (1988), and Lincoln (1990). Bergsten and Noland (1993) examine a number of industries in detail.
subsidies to targeted sectors is no longer very large in Japan, but Prestowitz (1988) and others provide case studies to the effect that informal suasion by MITI and other government agencies remains very influential.

- Japanese consumers who display an unusual preference for their own country's products. 1/

Despite the large literature of case studies and anecdotes testifying to the importance of these barriers, it is difficult to assess their significance systematically, particularly since the sources of the anecdotes are not always disinterested parties. There is also evidence that at least some foreign firms do not find these barriers difficult to cross. Bergsten and Noland (1993, Chapter 3) report the findings of a survey conducted by the American Chamber of Commerce in Japan which revealed that 52 percent of U.S. firms in Japan viewed the environment in Japan as favorable or somewhat favorable for their business, while only 18 percent viewed it as unfavorable. Moreover, two thirds of the respondents expected the environment to improve.

There have been several econometric studies of Japanese business practices. Kreinin (1988) compared the purchasing behavior of Japanese, U.S., and European subsidiaries in Australia. While U.S. and European firms based their purchases of capital goods on market considerations and therefore did not confine their purchases to their home market, the Japanese

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1/ This feature may be surprisingly important. Srinivasan and Hamada (1990, p. 36) observe that "Japanese consumer organizations often lobby against the liberalization of agricultural imports. One of us (Hamada) tried hard to persuade the organizers of these associations to realize the benefit of less expensive and more varied merchandise from abroad, but to no avail."
firms sourced nearly exclusively from Japan. Kreinin infers that the Japanese market is less open than that of other industrial countries. In a similar vein, Lawrence (1991b) notes that an unusually large proportion of Japan's trade is intra-firm trade. Moreover, Japanese multinationals dominate these intra-firm transactions between the United States and Japan for both exports and imports, whereas with Europe the situation is more balanced: U.S. firms dominate intra-firm exports to Europe while European firms dominate intra-firm exports from Europe to the United States.

A number of recent econometric analyses of Japanese imports examine the role of industrial structure. Petri (1991) investigates the effects of factor endowments and transportation costs, as well as market structure and government policies. He finds some evidence of an inverse relationship between industry concentration ratios and import shares, and a positive relationship between the government share of demand and imports, supporting the view that government procurement is biased towards domestic goods. Lawrence (1991a) adds a variable for keiretsu sales to Petri's specification, and finds that keiretsu affiliation is strongly negatively correlated with imports, while the effect on exports is more ambiguous. Fung (1991) also finds that keiretsu affiliation contributes to a positive sectoral trade balance.

Saxonhouse (1993), the most prominent proponent of the view that Japan's trade pattern is not abnormal, criticizes the conclusions Kreinin
and Lawrence draw from their analyses. 1/ In response to Kreinin, he notes that other research does not find that Japanese firms rely so heavily on Japanese suppliers and that the Japanese sourcing behavior in Australia can be explained by the fact that Japanese direct investments in Australia are of more recent vintage than those of other countries and have replaced Japanese imports. Since Japan is likely to retain comparative advantage in many of these areas, the high import content is not surprising. Graham and Krugman (1992), noting the relatively high import content of Japanese foreign direct investment in the United States, also ascribe this to its recent origin. In particular, Saxonhouse stresses the different structure of Japanese institutions as an explanation for Lawrence's findings on intra-firm trade and keiretsu. Large trading companies handle much of Japan's trade. However, their role is diminishing because they trade mainly raw materials and food. Most U.S. sales of manufactures in Japan are conducted by U.S. firms. Saxonhouse also argues that Lawrence and others greatly exaggerate the role of keiretsu. "Definitions of keiretsu vary so widely it is often difficult to tell who is inside and who is outside.... Japanese firms do change their affiliations far more than is generally believed" (pp. 37-38). Many keiretsu groups are vertically integrated firms. This type of informal vertical integration may be efficiency-increasing. In the United States, for example, automobile firms are vertically integrated formally whereas Japanese auto producers are informally integrated with their suppliers. It is not evident which structure is superior or why such practices need to be harmonized. Srinivasan and Hamada (1990), while

1/ See also Citrin (1992) and Saxonhouse's comments on Lawrence (1991a, 1991b).
acknowledging that some regulations in Japan are blatantly anti-competitive and should be removed, also make the point that Japanese economic institutions, although seemingly inefficient by comparison to business practices in the United States, may at times serve a useful function in the Japanese context. Cultural and geographical factors which limit mobility more in Japan than in the United States may explain the greater role for long-term relationships in Japan.

2. **Empirical studies of the magnitude of trade**

In view of the difficulties in directly measuring invisible protection, economists have resorted to examining indirect evidence on the prices and magnitude of Japanese trade. These studies attempt to determine whether Japan is an outlier given a particular empirical model of trade. There is a serious problem of interpreting the results from this approach, however, as it is a joint test of the validity of the model and the normalness of Japan. The finding that Japan's trade is not consistent with the model is not necessarily an indication of protection since some dimensions of Japanese comparative advantage may not be adequately captured by the model.

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1/ See also Takeuchi (1989).
a. Imports

Most of the sizeable number of papers on this topic have used the volume of imports relative to output as the measure of Japan's openness. These studies have focused on total imports as well as manufactured imports.

A number of studies have adopted an essentially atheoretical approach and regressed import-GNP data on a variety of plausible variables such as country size, transportation costs, and natural resource endowments. These studies have arrived at conflicting conclusions regarding the normalness of Japan's import patterns. Bergsten and Cline (1985) find that Japan's import/GNP ratios, although lower than most OECD countries, is normal, after controlling for economic size, natural resource endowments, and distance from trading partners. Balassa (1986) and Balassa and Noland (1988, Appendix C) use the same approach but slightly different variables. Regressions with this model show unusually low Japanese imports, contrary to the Bergsten and Cline result. They also decompose imports into manufactured and primary imports and find that Japan is even more of an outlier for manufactured imports than for total imports. Barbone (1988) supports the finding of Bergsten and Cline (1985) that Japan's import behavior is not unusual. Barbone also finds that manufactured goods imports are abnormally low but primary products imports are larger than normal. These findings are inconclusive. The fact that Japan imports an unusually large amount of primary products and an unusually low amount of manufactures could reflect either comparative advantage (Japan's scarcity of natural resources) or a high degree of protection for manufacturing.
Lawrence (1987) adopts a somewhat different methodology, loosely based on the Krugman-Helpman (KH) model of intra-industry trade in differentiated products. Under a number of restrictive assumptions, the KH model implies that the share of domestically-produced differentiated goods sold within the home country should be equal to the country's share of world production of the goods. For all countries, domestic market share is usually greater than world production share, due to preferences for domestic goods and trade barriers, but the domestic bias is greater for Japan than elsewhere. Aggregating all manufactured imports shows an even more significant difference for Japan. Lawrence's finding that imports of manufactures in Japan are low is consistent with a number of other studies, but again does not prove that this difference is due to trade barriers. Moreover, Saxonhouse (1993) cites an unpublished paper in Japan which reverses Lawrence's finding when a theoretically more appropriate linear specification is used.

There is no reason to focus exclusively on imports when testing for unusual trading behavior. Rather than examining only imports, Leamer (1988) studies trade intensity, defined as exports plus imports divided by GNP. Japan's trade in agricultural commodities is significantly lower than expected in this study, but its manufacturing trade is not out of line with the other nations.
b. **Net trade**

Saxonhouse, in a series of papers (1983, 1989 among others) uses the Heckscher-Ohlin-Samuelson (HOS) theory to see if Japan's pattern of sectoral net trade is unusual. Saxonhouse (1983) modeled net trade of nine major countries in 109 different commodities with variables for quantities of capital, labor, educational attainment, distance, oil reserves, iron ore reserves, and arable land. Only 15 of these commodities had significant differences from the predicted level of net trade for Japan, and these commodities together made up only 4.3 percent of Japanese trade. By comparison, Italy had 21 commodities making up 10.4 percent of its trade and France had 31 commodities making up 15.9 percent of its trade. Saxonhouse (1989) reformulated his model to allow for intra-industry trade, by including both factor endowments and product differentiation, and analyzed trade in 61 different commodities. The difference between actual and predicted levels of trade is not significant for the United States or for Japan in this model, although it is for Canada and South Korea.

Saxonhouse's studies have the advantage that they are grounded in a well-established theory, unlike the studies discussed in the previous section. Nonetheless, his approach has been criticized on the grounds that the HOS model he specifies and estimates requires a large number of unrealistic assumptions, such as identical technologies. Also, some sectors, such as rice, which are clearly protected in Japan, are not identified as unusual by Saxonhouse's method. Balassa and Noland (1988)
note that Saxonhouse included some highly protectionist developing countries in his sample, which may explain why Japan did not appear unusual.

3. **Evidence from price differences**

The most direct test of intangible protection is to examine whether the prices of similar and preferably identical products are higher in Japan than in the United States. Even though Japan's import shares are unusually low, if its markets are contestable, prices should be about the same in Japan as elsewhere. There is a widespread belief that even Japanese-produced goods are cheaper in the United States than in Japan--the so-called "47th Street Photo Phenomenon." Lawrence (1991a) presents some OECD purchasing power parity data showing significantly higher prices in Japan, suggesting barriers to imports in Japan. Srinivasan and Hamada (1990) also report evidence of higher prices in Japan for some goods. As Lawrence acknowledges, however, comparisons of prices at the retail level are problematical, as the nature of the distribution system could have important effects on pricing. Moreover, the goods for which comparisons are made may not represent a random sample and may not be identical.

Saxonhouse (1993) points out that the retail price surveys which have been conducted by the U.S. and Japanese governments in fact reveal a mixed picture. The "47th Street Photo Phenomenon" turns out not to be true--Japanese goods are not generally cheaper in the United States than in Japan. It is true, however, that imported goods in Japan are more expensive than in their home markets. Saxonhouse argues that this pattern does not imply
protection of the Japanese market: if Japanese goods were truly protected, then Japanese as well as imported goods should have higher prices in Japan. Instead, he suggests that the pricing practices of foreign firms in Japan are responsible. Moreover, Saxonhouse refers to the literature on the pass-through effects of exchange rates to note that divergences from the law of one price in response to currency movements are not unusual. Saxonhouse cites Knetter’s (1992) research, which shows that Japanese exporters’ pricing behavior is similar to that of exporters from other countries. Indeed, as Isard (1977) demonstrated some time ago, exchange-rate movements induce large violations of the law of one price for both Japan and Germany. Given the large appreciation of the yen and widespread pricing to market throughout the industrial countries, it is scarcely surprising that prices in Japan are higher than in other countries.

IV. Conclusions

There are widespread concerns that Japan’s international economic policies and institutions differ fundamentally from those of other industrial countries and that these differences pose a threat to a liberal international economic system. At the macroeconomic level, Japan’s persistent trade and current-account surpluses are viewed as a destabilizing influence on Japan’s trading partners. At the microeconomic level, it is frequently alleged that Japan’s markets are much more difficult to penetrate than those of other developed countries. The following six concluding observations suggest that these concerns are misplaced or exaggerated.
1. From a macroeconomic perspective, there is nothing surprising about Japan's surpluses. Declining national saving relative to investment in the United States compared with Japan naturally entailed capital outflows from Japan and capital inflows into the United States, which had their counterparts in Japanese current-account surpluses and U.S. deficits. Even after allowing for the difficulties of comparing saving rates across countries, it is clear that the Japanese national saving rate exceeds that of the United States by a substantial margin. Both public and private saving rates in Japan are high, particularly compared to the United States. The fact that macroeconomic factors have determined the large current account imbalances raises the important issue of whether macroeconomic policies in the United States and Japan have been appropriate. This is a controversial issue which is well beyond the scope of this paper.

2. The current accounts of the United States and Japan have both responded to exchange rate changes in a normal fashion with about a two-year lag. Some of the controversy over the effects of the exchange rates in the later 1980s seems to have arisen from ignorance of these long lags.

3. Japanese trade policy has little or no effect on the overall trade balance, which is determined by macroeconomic factors. High levels of Japanese protection would imply both low imports and low exports, given the macroeconomic factors discussed above. Deregulation in Japan, however, would contribute to reduction of Japanese trade surpluses if it results in a decline in domestic saving or an increase in domestic investment.
4. Tariffs and quotas in Japan are lower than in most other industrial countries, except in agriculture.

5. Evidence on the extent of Japanese invisible protection is inconclusive.

6. The macroeconomic evidence on responsiveness of trade balances to exchange-rate change is inconsistent with arguments that Japanese trade is not responsive to market forces at the micro level.
References


