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10 United States–Japan Economic Relations

Rachel McCulloch

The bilateral relationship with Japan now dominates American thinking on the benefits and costs of foreign trade. Japan has become the model of all things modern and efficient, the standard against which the United States measures its own economy and finds itself wanting. But Japan is also firmly established as the villain in the industrial adjustment woes that have plagued the United States in recent years; most Americans remain unaware that Japan has encountered many of the same difficulties in reducing excess capacity, often in the same industries.

Such paradoxes typify the intense and stormy relationship between the world's economic superpowers. Against a background of ever-increasing bilateral imbalances, ever-escalating protectionist rhetoric, and even some action at the official level, individual Americans continue to vote with their dollars for still more Japanese imports. Can U.S. producers hope to reverse the trend? Can American consumers be persuaded to give up their Toyotas and their Sonys in favor of domestic goods? These questions are themselves rapidly becoming obsolete. Thanks to the recent flood of Japanese direct investments into U.S. manufacturing industries, it is now often possible to "buy American" without sacrificing Japanese design and quality.

This chapter reevaluates the past and future course of United States–Japan economic relations. The first section asks whether there is indeed a "Japan problem" and, if so, exactly what that problem is. Section 10.2 examines the macroeconomic roots of the United States–Japan bilateral trade imbalance and weighs alternative macroeconomic remedies. Section 10.3 deals with trade issues at the sectoral level. Section

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10.4 reviews the technological rivalry between the United States and Japan. Section 10.5 draws some conclusions and looks to the future of the relationship.

10.1 Is There a Japan Problem?

Given the surfeit of recent writings, both scholarly and popular, on the unprecedented size and continuing growth of the United States–Japan trade imbalance, it may seem odd to ask what the problem is, let alone whether a problem exists. Yet in some important respects, Japan is perhaps better seen as part of the solution rather than the source of the problem. To see why, it is helpful to examine the various aspects of the United States–Japan economic relationship that may underlie the continuing friction. Here there are at least six possible candidates: (1) growing bilateral imbalance on merchandise trade, particularly on trade in manufactured goods; (2) growing net capital inflows from Japan to the United States; (3) the yen/dollar exchange rate and perhaps also the present system of exchange rate determination; (4) sectoral nontariff barriers (whether real or imagined) limiting Japanese imports of U.S. products, Japanese trade-distorting industrial policies, and export incentives depriving U.S. firms of sales at home and in third-country markets; (5) successful emulation by Japan of the technological supremacy of U.S. industry; and (6) social, economic, political, and cultural differences between the two nations.

These categories are not mutually exclusive. Automotive products loom so large in total bilateral trade that this "sectoral" issue necessarily has implications for aggregate imbalances. The narrowing technological gap is intimately linked to the sectoral composition of trade and is itself affected by Japanese policies to promote economic growth. And while cultural and social conditions in, say, Indonesia are equally exotic to an American observer, Americans are much more interested in—and worried about—contrasts between Japan and the United States precisely because of the growing economic rivalry. Still, it is helpful to sort out the relative importance of each type of irritant and to examine the main causes and potential remedies in each.

10.1.1 Aggregate Imbalance

Highly aggregated measures of bilateral interaction are regarded by most economists as the visible "symptoms" of underlying macroeconomic conditions—and, specifically, *not* caused either by defects of trade or industrial policies at home or by skillful application of the same abroad. While the symptoms are themselves problematic, the causes and thus the effective potential remedies are to be found at the mac-

roeconomic level. Yet the justification of every new proposal for trade legislation prominently features the latest hitherto unimaginable data on the nation's global external imbalance and bilateral deficit with Japan—with the strong implication that tough new trade policies (or creative new competitiveness policies) are the measures required for the United States to redress the present imbalance.

10.1.2 Capital Inflows

Matching Japanese global surpluses on merchandise trade and current account are massive foreign investments. The recent rates have been rivaled only by the petrodollar flood of the 1970s. But the petrodollars were recycled primarily through the Eurodollar market and went ultimately to many borrowers. In contrast, Japanese funds (autodollars?) have in large measure moved directly into U.S. financial markets. Thus, while there is no conceptual reason why the nation's largest bilateral merchandise trade deficit and its largest bilateral capital account surplus should be with the same trading partner, it is certainly true in this instance. If the oil surpluses had materialized later, or if U.S. fiscal policy had changed sooner, it is likely that more liabilities of the U.S. Treasury would now be held by Saudi Arabia and fewer by Japan.

The rapidly growing U.S. official debt to foreigners (or, indeed, to anyone) raises important issues of intergenerational equity. However, the concerns of many Americans focus on one particular component of the capital inflows, direct foreign investments in U.S. industries. On the one hand, state and local officials vie to attract new investments—jobs and the future tax base are the main reasons. But domestic firms worry about new competition as well as the effects on their own labor costs and taxes.

Apparently oblivious to U.S. official insistence on national treatment by foreign governments for U.S. subsidiaries abroad, the president of Ford Motor Company called in early 1987 for further reductions in auto imports from Japan, to compensate for increased production by Japanese plants in the United States. In the troubled U.S. semiconductor industry, national security concerns were raised in objection to the proposed acquisition of Fairchild Semiconductor by Fujitsu, Japan's largest computer company.[1]

10.1.3 The Dollar/Yen Exchange Rate

The exchange rate, too, is viewed by economists as fundamentally a symptom rather than a cause. However, the relationships determining exchange rate movements are poorly understood. Professional opinion remains divided particularly on the appropriate role and effectiveness

of official intervention in foreign exchange markets, either directly, via purchases or sales of foreign exchange, or indirectly, via manipulation of discount rates.

Through 1985, dollar strength offered a plausible explanation of the nation's growing deficit on merchandise trade. But the subsequent dramatic decline in the dollar failed to induce a corresponding turnaround in U.S. trade performance. Analysts then rushed in to explain the nonevent with traditional J-curves and newer "hysteresis" effects. While differing in their microeconomic underpinnings, both theories suggest that for foreign trade, what goes up does not necessarily come down, or at least not as quickly as policymakers would like. As a result of continuing growth in the U.S. trade deficit, a yen/dollar exchange rate of 160, seen in 1986 by U.S. officials as an appropriate policy target, had given way to target values of 140 or below by mid-1987.

10.1.4 Who Is the Problem?

While the domestic consequences of large bilateral imbalances and major exchange rate movements surely constitute unsolved problems for U.S. policymakers, it is difficult to make a convincing case that the basic fault lies with the Japanese rather than elsewhere. True, the imbalances reflect mismatch between the macroeconomic conditions and policies of Japan and the United States. But if the main problem is simply the large aggregate imbalance, the main cause is macroeconomic policy in the United States.

Indeed, only Japan's offsetting surpluses permitted the U.S. economy to enjoy moderate growth during the 1980s while continuing on an unchanged macroeconomic course. In retrospect, perhaps the United States should have altered its fiscal policies sooner. Does that mean Japan is at fault for leaving the United States "free to choose" instead of being forced to confront immediately the full implications of its actions?

10.1.5 Sectoral Distortions

Although customarily raised along with the issue of growing bilateral imbalance, sectoral trade distortions present a conceptually different type of problem for the United States. The primary effect of such policies is to reduce the mutual benefits from trade based on comparative advantage. While individual firms and even industries often stand to gain from distortive sectoral policies, national gains from export promotion or import restriction are likely to be the exception rather than the rule.[2]

The conclusion that trade policies, whether good or bad, affect mainly the composition of trade rather than the aggregate balance stems from a general equilibrium view of economic activity. Simply put, although

a trade policy may change the balance of trade for a particular product or even an industry, offsets arise via induced movements in exchange rates and input costs, foreign retaliation, and other indirect channels.[3]

Likewise, any positive employment effects in a specific sector are offset by reduced employment opportunities in other areas. Moreover, to the extent that the jobs "saved" are in relatively inefficient firms or in activities where the United States has lost comparative advantage, the overall composition of employment opportunities may be adversely affected.[4] Still, this does not alter the important economic and political issues raised by the distribution of the gains from maintaining relatively open international markets.

A separate concern is the changing composition of U.S. production. If the level of domestic activity in particular manufacturing industries has important positive effects on other parts of the economy, loss of market share in such "strategic" activities could reduce future U.S. industrial competitiveness across the board. No clear evidence of such externalities is yet available, but some fear that further delay in reversing present trends may leave the United States at a permanent competitive disadvantage.

10.1.6 How Important Are Trade Distortions?

The existence of subtle trade-distorting policies and industrial practices on the part of Japan is acknowledged by almost all international economists. The more interesting question is how important such policies are in shaping the overall relationship between Japan and the rest of the world, and particularly with the United States. While there are differences of opinion concerning the importance of such distortions to the performance of individual sectors (see, for example, Borrus and Zysman 1985), there is broad agreement that the consequences for the size of the aggregate imbalance are minor.

Even when there are significant benefits to be achieved by negotiating reductions in sectoral trade distortions, it is crucial that this task be divorced from the more pressing macroeconomic issues.[5] The persistent linkage of aggregate and sectoral issues allows policymakers to delay needed macroeconomic remedies and promotes U.S. allegations of bad faith on the part of Japanese officials when inappropriate means fail to achieve their stated ends.

10.1.7 Technological Rivalry

Perhaps most significant to the long-range development of the United States–Japan relationship is the successful emulation by Japan of U.S. technology–based economic growth. While many nations have sought to close the technology gap with the United States, only Japan has come so far so fast. Once primarily an importer and adapter of technologies

developed elsewhere, Japan now rivals the United States in many areas of industrial innovation.

Japan's challenge to U.S. technological supremacy has important implications for the composition of bilateral trade flows. Through much of the post–World War II period, access to superior technology allowed the United States to compete effectively on world markets while maintaining average wages well above those abroad. U.S. industrial exports were increasingly concentrated in the high-technology industries, while the remainder of U.S. manufacturing lost ground to foreign suppliers. But with the loss of its decisive technological lead, U.S. industry can no longer compete on the basis of unique products or advanced processes alone. As a consequence, earnings in U.S. manufacturing are becoming more closely linked to those in Japan and other nations with access to advanced technologies and to the capital required to implement them.

Another long-term issue is the influence of the "Japanese model" of industrial development on policy choices of developing nations, especially in Asia. Does the future hold "many Japans" competing with the United States in world markets? South Korea is often labeled the next Japan because of its successes in promoting the same export industries—successes fostered in part by North American and European trade discrimination directed at Japan's most competitive export industries. Nationalistic Koreans reject the implied linkage with its one-time oppressor but often privately admire Japan's economic strategy. Other newly industrializing nations are also studying Japan's industrial policy and in some cases adopting certain elements. The specter of a world economy dominated by many nations all saving, innovating, and exporting at Japanese rates raises obvious concerns in the West.

Beyond the important but narrow issue of increased competition in high-technology manufacturing industries, the challenge to the U.S. lead in scientific and technological areas may have implications for the nation's key role in global security systems. This latter issue is linked to the ambivalence of the United States and its allies regarding increases in Japan's military expenditures. Japan's military budget for 1987 broached the "one percent threshold" relative to gross national product for the first time since the end of World War II.

10.1.8 Being Different

The final but by no means minor problem area in United States–Japan relations arises from the myriad social, political, and economic structures of the Japanese nation that contrast so sharply with their U.S. counterparts. While the net contribution of these differences to relative economic performance and to the bilateral imbalances remains largely in the realm of conjecture, many serious suggestions for re-

lieving tensions between the two nations are based on efforts to reduce these differences, whether by making the United States more like Japan (higher savings, quality circles, a cabinet-level Department of Trade and Industry) or by making Japan more like the United States (deductability of mortgage interest, shorter work week, bigger defense budget). Made forcefully, such suggestions in effect challenge the relevance of traditional notions of national sovereignty in an increasingly interdependent world economy.

The importance of the many departures of Japanese governmental and business practice from Western norms remains an area of controversy even among scholars. Overall, political scientists such as Johnson (1982) seem more willing than economists to attribute Japanese industrial and trade successes to unique structural features. But even economists are divided on the importance of Japanese industrial policy and government-firm relationships in comparison to a high savings rate as key factors underlying the "Japanese miracle."

Contrasting economic and political systems also complicate the narrower issue of what constitutes a level playing field in trade and investment matters. Allegations of sectoral trade distortions often arise from differences in administrative structure and industrial organization. So far, neither U.S. trade law nor the General Agreement on Tariffs and Trade (GATT) has been able to deal effectively with the resulting disputes. Bilateral negotiations and ad hoc agreements, often short-lived, remain the major approach for addressing United States–Japan sectoral trade conflicts.

A darker side of the contrasts between the two nations lies below the surface. The overt U.S. racism of the World War II era has receded, but subtle racism is a plausible explanation for the very different official and private attitudes of Americans toward Japan (and the newly industrializing "four little dragons" of Asia) and toward Canada or Europe. Government officials and the media pass up no opportunity to remind the public of the gargantuan U.S. deficit on trade with Japan, but how many Americans realize that the nation's second largest bilateral deficit is on trade with Canada?[6]

However, racial prejudice is a two-way street, as Prime Minister Nakasone's well-publicized gaffe in 1986 amply demonstrated. In a nation where careful checks of ancestry are part of the usual preparation for marriage, many Japanese privately view the eclipse of U.S. industrial might as the inevitable consequence of its ethnic and racial diversity.

On this last score there may be grounds for some modest optimism. The intensification of economic ties between the United States and Japan has promoted a great desire on the part of each nation for better understanding of the other. Even if the primary motivation on each

side springs from the lure of a large and lucrative foreign market, the resulting familiarity with a previously alien and inscrutable society can help to smooth those frictions based on differences alone.

10.2 Macroeconomic Roots of U.S. International Imbalance

Like an economic Sputnik, the rapid growth of the U.S. trade imbalance galvanized the American public. To many observers, escalation of the U.S. trade deficit in the 1980s was simply tangible and dramatic evidence of the nation's declining industrial competitiveness, in turn reflecting erosion of the commanding lead in science and technology the United States once enjoyed. Others variously sought explanations in trade-distorting practices abroad, export disincentives at home, and poor management practices of U.S. companies. Likewise, Japan's ever-increasing surpluses were interpreted either as evidence of Japanese bad faith in complying with agreements to open its markets to foreign goods or as confirmation of the wisdom of Japanese private and public economic management.

Each explanation spawned a detailed agenda of private and public action designed to arrest the decline. As with any broad policy initiative, both wise and foolish proposals have been advanced in the name of increased competitiveness. But for reasons discussed below, most of these proposals would do nothing to reduce the aggregate imbalance.[7]

10.2.1 The U.S. Budget Deficit

While the competitiveness frenzy continued unabated, an alternative analysis offered a very different assessment of the forces underlying rapid escalation of the U.S. trade deficit. According to this view, promoted as early as 1982 by the Council of Economic Advisors, the growth of the trade deficit was the largely predictable result of a single important macroeconomic development in the United States: a major increase in the size of the federal budget deficit. The corresponding prescription for restoration of U.S. competitiveness: cut the budget deficit.

The Council's macroeconomic explanation, initially met by disbelief and even ridicule, gained broad acceptance as the continued tandem rise of the "twin deficits" offered further circumstantial evidence in support of a linkage. The basic insight was, at least after the fact, a rather simple one. The large increase in the federal deficit translated into a comparable drop in the nation's total saving, pushing up U.S. interest rates. Drawn in by higher rates, foreign funds filled the gap. But the foreign demand for U.S. assets also drove up the value of the dollar, pricing U.S. goods out of many markets at home and abroad. Thus, rather than crowding out domestic capital formation as some

had initially feared, the larger federal deficit crowded out domestic production of tradable goods.

Like most simple explanations, this one was too simple. The analysis focused on the U.S. demand for foreign funds but slighted important factors that influenced the supply of those funds to the U.S. market. While the enlarged federal deficit alone would have put upward pressure on domestic interest rates and promoted U.S. capital inflows, the actual size of those inflows was also the result of important "supply" factors in international capital markets.

10.2.2 Capital Inflows and Exchange Rates

In addition to its neglect of factors influencing the supply of funds to U.S. borrowers, the conventional wisdom implied that the appreciation of the dollar was a necessary consequence of the inflow of foreign funds. In fact, the theoretical consequences of a financial transfer for the exchange rate are ambiguous, depending crucially on spending patterns at home and abroad. The more similar those spending patterns and the larger the proportion of total expenditure devoted to tradable goods, the less the exchange rate would have to move to "effect" the transfer of current purchasing power to the United States.

Thinking in these terms helps explain how the dollar could fall so much with capital inflows still rising. The prolonged period of a very strong dollar caused permanent changes in consumer information and in producer costs of serving the U.S. market. Specifically, at a *given* exchange rate, more U.S. consumers would choose foreign products over their domestic counterparts when priced comparably in dollars, while foreign producers would be able to set lower dollar prices for goods aimed at the U.S. market. Both types of changes are hysteresis effects. They rest on once-and-for-all changes in demand and supply conditions, rather than on the short-term sluggishness, especially of demand, that underlies the J-curve analysis.[8]

10.2.3 The Supply of Foreign Funds

If growth in the federal budget deficit explains the greatly increased U.S. appetite for foreign funds, it is only one of many reasons why foreign lenders stood ready to satisfy that appetite. Other factors influencing the supply of foreign funds to U.S. capital markets can be grouped into three categories. Of these, two apply to lenders generally (including U.S. lenders, who cut back their own foreign loans in favor of domestic alternatives), while the third is specific to the most important foreign lender, Japan: (1) increased attractiveness of U.S. investments, reflecting, among others, enhanced tax incentives for capital formation, financial and industrial deregulation, repeal of the withholding tax on earnings of U.S. assets held by foreigners, and successful

anti-inflationary macroeconomic policies; (2) reduced attractiveness of lending abroad, due to economic stagnation in much of Europe and the debt problems and capital flight affecting many less-developed countries; and (3) increased capital outflows from Japan, resulting from liberalization of restrictions on capital outflows (accelerated at the request of the United States as part of the 1984 dollar/yen agreement[9]) and lower Japanese budget deficits. Even without the large increase in U.S. federal deficits, these factors would have tended to push the U.S. capital account toward surplus, putting upward pressure on the international value of the dollar and downward pressure on U.S. merchandise trade performance.

10.2.4 Stock Adjustments and Continuing Flows

A further complication in the link between the U.S. budget deficit and U.S. borrowing from abroad is that the rise in the deficit created an ongoing demand for foreign capital, while the inflows from abroad have reflected both one-time readjustments of asset holdings in response to new market conditions and ongoing supply effects. In the specific case of capital inflows from Japan, the liberalization of capital outflows resulted in a sizable shift of accumulated Japanese assets into U.S. securities with higher yields. But the chronic surplus of Japanese private savings over domestic absorption of those savings (by domestic capital formation or government deficit spending) translates into an ongoing supply influence that can be expected to push new capital into world markets year after year.

Over time, the resulting increases in foreign holdings of U.S. assets and in U.S. holdings of foreign assets have direct implications for the composition of the current account and for the relative value of the dollar. The rising net indebtedness of the United States should mean rising net outflows of interest and profits, pushing the U.S. services account toward deficit. For a *given* level of net capital inflow, rising debt service entails a shrinking deficit on merchandise trade and less upward pressure on the value of the dollar.[10] This compositional effect within the balance of payments would tend to reinforce the influence of hysteresis on equilibrium exchange rates.

10.2.5 Correcting the Aggregate Imbalance

Given the full set of contributing macroeconomic conditions, what can be said about the outcomes of alternative corrective policies? The U.S. external imbalance reflects an excess of total "absorption"—spending (public plus private) for both consumption and investment purposes—over production in the United States, and a corresponding shortfall of absorption relative to production abroad. Measures to reduce the imbalance can seek to reduce the U.S. spending excess or to reduce the foreign shortfall.

Reducing U.S. Absorption

The most obvious choices for direct U.S. action have become the bread and butter of national policy debate: raise taxes, cut government spending, or both. A third alternative for bringing total U.S. spending into line is to reduce domestic capital formation. This option, seldom explicitly considered, has obvious negative implications for the future growth of U.S. productive capacity. However, it may be chosen by default if policymakers are unable to cut total public and private spending for other purposes, or if new taxes enacted to reduce the deficit also reduce incentives for domestic investment.

Moreover, even a successful effort to reduce the budget deficit need not produce a comparable reduction in the nation's demand for capital imports. Although customarily described in terms of the increased federal deficit, the root of the nation's increased appetite for foreign funds (or, equivalently, of its increased deficit on current account) is actually increased *spending*—specifically, the increase in total domestic absorption of goods and services. Because changes in the federal government's plans for taxing and spending usually have important effects on decisions of state and local governments and of the private sector, merely reducing the federal deficit does not necessarily have a comparable effect on total absorption; major offsets are possible.[11]

Raising Foreign Absorption

As a practical matter, progress on deficit reduction has been slow in coming, and conflicts between President Reagan and the Democratic-controlled U.S. Congress are likely to make things even more difficult in 1987 and 1988. Meanwhile, Treasury Secretary James Baker III has pushed U.S. trading partners, especially West Germany and Japan, to assume more responsibility for effecting the desired adjustment. In the case of Japan, proposals have focused on means to reduce the Japanese savings surplus by increasing domestic consumption and investment spending. This could perhaps be accomplished by general economic stimulation, but the prospects are most favorable for narrowly targeted policies intended to raise specific components of Japanese spending.

The two areas mentioned most often in this connection are housing and public works. For housing, relatively modest changes in Japanese tax laws and financial regulation could make mortgage-financed owner-occupied housing far more attractive than it is today, thereby presumably increasing total expenditures in that category and probably overall.[12]

Increased government spending for highways, railroads, and especially sewers is a second potential area of expanded domestic absorption. By Western standards, Japanese spending in these areas is surprisingly low. Fewer than three Japanese households in five are connected to a central sewer system; incredibly, the ratio is only about

four out of five even in the Tokyo-Yokohama area, one of the world's most densely populated urban centers (*Japan 1986,* 88). But second-guessing such domestic spending decisions seems of doubtful efficacy, and of even more doubtful appropriateness.

One last area for a major increase in Japan's domestic absorption is defense. Currently at a postwar high of just over one percent of gross national product, Japan's defense expenditures are, for example, only about half those of neutral Switzerland and a third those of West Germany (*Japan 1986,* 86). Other major U.S. allies spend still more. Should the United States urge Japan to share more of the collective burden of global security? Viewed strictly on its economic merits, this seems a more appropriate area than housing or sewers for pressure from other nations. However, proposals for a substantial increase in Japanese defense spending have so far encountered formidable political resistance both in Japan and in the United States.

While acknowledging that Japan's capital account surplus mirrors the nation's imbalance between saving and domestic investment, some analysts believe that the underlying macroeconomic imbalance is not appropriately viewed as exogenous. Rapp (1986) and Balassa (1986) link high Japanese savings to profits generated by sectoral protection. If this effect were quantitatively important, import liberalization would, in addition to its expected effects on sectoral composition of trade flows, raise Japanese domestic absorption and thus reduce the aggregate trade surplus.

Redirecting Foreign Funds

If the United States does not want Japan's capital surpluses, perhaps other borrowers do. An important alternative to increasing Japanese domestic absorption is redirecting Japan's foreign lending toward other nations, especially less-developed nations. Debt problems have led many developing nations to restrict imports of capital equipment supplied by the United States and other industrial nations. With more purchasing power at their disposal, these nations would be able to resume such imports; U.S. exporters would benefit accordingly.

In the past decade Japan has increased by nearly 50 percent its share of GNP devoted to official development assistance, while the U.S. share, initially the same (0.24 percent), remained unchanged. But compared to other prosperous nations, Japan's spending is still on the low side.

Although the Japanese have in fact continued to step up their spending for foreign aid, the increases have not always met with cheers from other donor nations. The problem arises from informal arrangements that link aid to expenditures for Japanese goods and services. While little aid is explicitly tied, aid is rarely committed without specific project plans; potential borrowers rely on Japanese expert advice in

formulating the plans, which typically call for imports of Japanese capital equipment and other products. Mixed-credit financing is a related problem, although Japan has not been the major offender in this area.

Commercial lending and direct foreign investments in developing countries are other means by which Japanese surplus savings could be "recycled." Given the ongoing debt problems of many developing nations, this route currently looks hazardous to both potential lenders and potential borrowers. In the longer term, however, it is likely that "normal" capital-flow relations between rich and poor nations will be reestablished, with funds from Japan playing an important role.

Taxing Capital Imports

Only the net inflow of capital from abroad has kept the greatly increased federal deficit from pushing U.S. interest rates through the roof. Instead, the U.S. trade deficit has gone through the roof. Until U.S. domestic absorption can be cut, the nation will continue to face the same basic choice between high interest rates and foreign borrowing. Over time, the exact terms of the trade-off will depend on investors' preferences, but the United States can tilt that choice by taxing capital imports.[13]

Controlling U.S. capital imports would shift a greater part of the adjustment to higher deficits onto U.S. lenders and borrowers, rather than allowing much of the "crowding out" to be exported. From the U.S. perspective, the effect is similar to what would be obtained via expansion abroad. However, there are two potentially important differences. First, without specific expansionary policies in place abroad, imposition of capital controls by the United States could push the rest of the world into a deflationary spiral. Second, and perhaps key for some U.S. officials, capital controls would reverse recent U.S. gains in penetrating foreign (especially Japanese) markets for financial services.

10.3 Sectoral Issues

Allegations about Japan's relatively closed markets for industrial products reflect concerns of much longer standing than the aggregate imbalances of recent years. The encroachment of Japanese products into the U.S. market and their displacement of U.S. exports in markets elsewhere is likewise an old story, not a new one. However, emergence of a very large bilateral imbalance has exacerbated those longtime concerns, since the impact of competition with Japan is concentrated in a small number of U.S. manufacturing industries.[14]

Bilateral friction on agricultural trade is also an old story. However, with U.S. global surpluses on agricultural trade shrinking rapidly, one

consequence has been renewed focus on the import barriers of Japan, already the largest market for U.S. agricultural exports. Changes in Japan's current policies in support of domestic agriculture, and especially of rice farming, could mean still larger imports of food from the United States. But, like other industrialized nations, Japan has so far found reductions in its expensive agricultural support policies politically unpalatable. Indeed, were the United States to reform its own costly and distortionary policies toward agriculture as it has urged the Japanese to do, any increase in Japanese imports of rice might well come from Thailand or China rather than from the United States.

10.3.1 Are Exports and Imports Separate Issues?

Are the issues raised by Japan's low imports and high exports two separate concerns, or are they linked aspects of a single developmental policy? Some argue that market closure, along with government assistance for generic research and development projects, was an essential element of the Japanese national policy responsible for subsequent export successes in motor vehicles and electronics.[15]

Moreover, as described in the previous section, Japan's overall trade balance is determined largely by macroeconomic influences. Any broad import-inhibiting factors, whether national policy or industrial practice, ought therefore also to inhibit exports. Conversely, any successful move to liberalize imports will likewise promote exports—although this is hardly a result U.S. trade negotiators are likely to stress.[16]

A third link between exports and imports arises from Japan's poor endowment of natural resources. For any given trade balance consistent with macroeconomic conditions, Japan's heavy dependence on imported oil and food means a correspondingly larger surplus on trade in manufactures (or in services—but Japan currently runs a deficit on services trade).[17] Still, the required surplus could be achieved through higher-than-average manufactured exports, as in the case of West Germany, rather than lower-than-average manufactured imports (Lawrence 1987).

Perhaps more important than the direct effect on the composition of Japan's trade flows, perennial dependence on imports of raw materials and food has shaped national attitudes, public and private, toward importing. To many Japanese, their economy's extreme vulnerability to changes in global market conditions, both for raw material imports such as oil and for manufactured exports, casts an omnipresent shadow over today's prosperity.

10.3.2 Japan's Low Import Share

In terms of conventional trade-distorting government practices, Japan was formerly a major offender among industrial nations but now must be counted as one of the most open.[18] Foreign products and

services, from IBM to McDonald's, are to be found everywhere. Yet the Japanese ratio of imports to gross national product, and especially of manufactured imports to total imports, remains strikingly low in comparison to other industrial countries. Many of the "foreign" goods now so conspicuous in Japanese daily life are in fact produced domestically by local affiliates or licensees of foreign companies.

Are the low import ratios evidence of subtle trade barriers or simply a reflection of transport costs and an atypical factor endowment? Much of the evidence on Japan's "hidden" barriers to entry is anecdotal (e.g., Rapp 1986; Balassa 1986). While attesting to real frustrations experienced by U.S. producers in their attempts to serve a potentially lucrative market, such anecdotes provide little indication of whether public or private action in Japan differs significantly from that in, say, France. Christopher (1986) goes further, suggesting that while disappointed would-be exporters have clear motives for making their grievances known, successful U.S. exporters and direct investors wisely shun publicity. Kept from the public eye, their successes—and resulting profits—are less likely to promote further entry by competing U.S. producers. If so, anecdotal evidence may be a seriously biased measure of import barriers.

10.3.3 Econometric Evidence

Several researchers have used econometric methods to determine whether Japan's trade structure is basically a reflection of relative costs or has been shaped significantly by hidden but important barriers to imports. Starting from standard models linking trade patterns to national factor endowments and other determinants of relative cost, these researchers examine the deviations of actual trade flows from those predicted by the underlying model.

While based on different specifications, data, and time periods, studies by Saxonhouse (1983, 1985), Bergsten and Cline (1985), and Noland (1987) all found Japanese trade to be adequately explained by the same basic determinants as that of other areas, thus rejecting a major role for import barriers in Japan compared to its trading partners. In contrast, Balassa (1986) found significant shortfalls of Japanese imports relative to values predicted from a model very similar to Bergsten and Cline's. Noland conjectures that the conflicting results reflect differences in the samples and in the definitions of the independent variables but emphasizes that neither set of regressions is derived from a formal model. Deviations of actual from predicted values, ascribed by Balassa to trade policies applied, may simply indicate misspecification of the regression equation.

Noland's own regression equations are derived from an explicit two-sector model incorporating differentiated products and scale economies, an approach motivated by recent developments in the theory

of international trade (e.g., Helpman and Krugman 1985). Despite the different theoretical underpinnings, Noland draws basically the same conclusion as Saxonhouse and Bergsten and Cline, that Japanese exports, imports, and total trade "do not appear to be out of the ordinary." But in interpreting his own results as well as those of earlier researchers, Noland emphasizes the need for caution in making any strong inference from the size of residuals, given uncertainty as to specification of the "true model."[19]

Although intended to cast light on the extent of Japan's sectoral barriers to imports, the studies by Bergsten and Cline, Balassa, and Noland all used aggregate trade data, while the one by Saxonhouse employed industry data but focused on net exports rather than imports. To focus directly on sectoral anomalies, Lawrence (1987) used import, export, and production data for twenty-two manufacturing industries. Like Noland, Lawrence adopted a theoretical framework incorporating differentiated products and scale economies. However, while Noland treated manufacturing as a single sector, in the Lawrence model each manufacturing industry produces a separate differentiated product.

The critical step in Lawrence's analysis is the assumption that tastes are similar across countries. With the additional assumption of no transport costs or trade barriers, a country's share in each market will then be proportional to its share in world production and independent of the size of the aggregate trade balance; larger countries will thus be more "closed" as measured by trade flows as a share of GNP. The implied relationship between a country's production and trade in each industry is used by Lawrence to infer the existence of "unusual barriers" to imports at the industry level.

Lawrence's data show that the industrialized countries are remarkably similar in patterns of domestic production and use (consumption plus investment) by industry. Contrary to the conventional wisdom, Japan is not unusual in its overall export performance, although Japan's manufactured exports are highly concentrated in a small number of industries. But Japan *is* atypical in its low manufactured imports and the very minor extent of intra-industry trade. From his regression analysis of industry trade and production data, Lawrence concludes that "unusual barriers reduce Japanese imports of manufactured goods substantially—by about forty percent." As Lawrence notes, his results are not inconsistent with Noland's finding of no significant anomaly in Japan's aggregate trade. Since manufactured goods were less than a quarter of Japan's total imports in 1980, substantial "underimporting" in some sectors could be masked by the use of aggregate data.

Despite his striking result, Lawrence casts doubt on sectoral trade liberalization as a cure-all for aggregate imbalances, suggesting that the increase in manufactured imports thereby produced would be largely

offset by an associated rise in exports. Thus, the main effect would be an expansion of Japan's intra-industry trade, rather than a dramatic reduction in the nation's surplus on trade in manufactured goods. A more basic issue is, as with the earlier studies, the extent to which Japan's import shortfalls from Lawrence's predicted values reflect model misspecification or errors in variables (e.g., transport costs, for which Lawrence used mileage) rather than import barriers.

10.3.4 Lack of Intra-Industry Trade

A somewhat different argument made by Borrus and Zysman (1985) also takes as its starting point Japan's atypically low level of intra-industry trade. Borrus and Zysman point to the virtual absence of two-way trade in specific manufactured products: Japan tends not to import the manufactured goods that it exports.

According to Borrus and Zysman, past protection from imports has allowed Japanese producers to achieve a decisive competitive advantage. Indeed, the resulting advantage is so great that even when import barriers are no longer in place, foreign firms are unable to penetrate the domestic market, while Japanese firms can quickly displace other suppliers in the United States and third-country markets.[20] But Borrus and Zysman supply no evidence that Japan's intra-product and intra-industry trade are systematically depressed in sectors previously protected by import barriers. Although the cases of semiconductors and autos are suggestive, generalization to manufacturing as a whole requires further support.

A more fundamental issue is, as with any post hoc ergo propter hoc argument, the lack of evidence establishing that past protection of the Japanese domestic market from imports played a key role in developing present technological superiority. If a large and profitable market were the main necessary condition for developing a decisive competitive advantage, U.S. automakers, not Japanese, ought to dominate world markets today. That the Japanese experience with import substitution actually ended with internationally competitive production and termination of infant industry protection makes it an exception to the global norm. But if the Japanese experience is so different from what has been observed with import substitution elsewhere, perhaps other Japanese policies, not barriers to imports, were the essential ingredient.

10.4 The U.S. Technology Race with Japan

A persistent technology gap between the United States and other industrialized nations shaped the nation's trade in manufactured goods for several decades after World War II. Over this period, large public and private expenditures on research and development created a

continuing flow of new products and processes. Early access to this superior technology allowed U.S. firms to remain internationally competitive despite labor costs far in excess of those abroad. As late as 1980, the U.S. trade position in high-technology manufacturing was still rising almost every year, while net trade in other manufacturing followed an opposite trend.

10.4.1 Closing the Technology Gap

The breakdown of trading relationships based on U.S. technological superiority reflected several major changes in the global economic environment. First, other industrial nations, impressed by U.S. economic gains from technology-driven growth, stepped up their own R&D expenditures. Some of the funds went for basic research, but much was used to speed the acquisition and adaptation of technology from abroad, especially from the United States. At the same time, dramatic improvements in communications and transportation helped to internationalize both research and production activities.

The growth of U.S. multinational corporations served as an important vehicle for the international transfer of new commercial technologies, providing not only access to proprietary technological information but also to the know-how and financial capital needed to implement the new technologies. The technology-disseminating activities of multinationals, while profit motivated, were in many cases actively encouraged by host countries' policies toward direct investments.

The closing of the technology gap between the United States and its commercial rivals meant increased competition on other dimensions of cost. Labor productivity and earnings rose rapidly abroad, while the growth of U.S. earnings slowed. Although the catch-up abroad probably benefited the nation as a whole by raising foreign demand for U.S. goods and services and by opening the possibility of importing as well as exporting new technologies, some U.S. workers clearly lost ground. In a number of U.S. manufacturing industries, real earnings actually fell for the first time in the postwar period as U.S. producers attempted to remain internationally competitive.

10.4.2 Japan's Technological Development

In contrast to most other industrial nations, Japan virtually excluded foreign investments in industries targeted for development during its period of technological catch-up. Instead, it relied primarily on licensing to acquire critical technologies from abroad. Imports of technology were controlled by the Ministry of International Trade and Industry (MITI), which prepared lists of desired technologies and reviewed most licensing proposals.[21] As a supplement to MITI's role as "doorkeeper" to technology imports, the Ministry of Finance ensured access of innovating firms to financial capital.[22]

Some developing countries have modeled their own policies toward imported technologies on those of Japan, particularly screening of licensing agreements and allocation of capital. However, none are in a position to duplicate the commitment of skilled workers that facilitated Japan's success in adapting imported technologies. In 1969, two decades into its catch-up phase, Japan employed about thirty scientists and engineers per ten thousand workers in the labor force, less than half the comparable figure for the United States but similar to the major European nations (*Science and Technology Data Book 1987,* 37–38). Fifteen years later the Japanese proportion of scientists and engineers in the work force had more than doubled, closely approaching the U.S. figure, while the European nations had more modest increases. Japanese spending for research and development (R&D) tells a similar story. Although Japan is only average among industrial nations in its overall proportion of gross national product devoted to R&D, it now enjoys the world's highest ratio of nondefense R&D to GNP.

As with trade in manufactured goods, Japan has in recent years greatly liberalized its policies toward technology imports while rapidly expanding its own technology exports. Japan's "technological balance of payments," recording payments and receipts of royalties and licensing fees for the use of trademarks, copyrights, and patents, still shows a large deficit. However, this is mainly a reflection of agreements made in earlier years during Japan's catch-up phase. Japan's gross receipts from technology exports have grown steadily. By 1984 Japan was the third, after the United States and the United Kingdom, in earnings from foreign use of its technology (*Japan 1986,* 26).

Like other technologically advanced nations, Japan has also increased its direct investments abroad, pairing financial capital, superior technology, and managerial know-how with the lower labor costs of developing countries. Current or anticipated import barriers have provided the main motivation for recent Japanese direct investments in the other industrialized nations, but even these investments may entail substantial transfers of technology.[23] For Japanese investments in U.S. high-technology industries, there is likely to be a two-way flow, with the Japanese gaining speedier access to state-of-the-art technical information while themselves disseminating superior methods of management and organization.

10.4.3 Japanese Productivity and Trade

Bilateral comparisons of industry-level productivity and trade performance confirm Japan's catch-up to the technological level of the United States. In their comparison of productivity levels for twenty-eight industries, Jorgenson, Kuroda, and Nishimizu (1987) found that by 1979 nine Japanese industries had already closed the productivity gap with the United States; in the remaining nineteen industries the

difference narrowed over the period studied. The analysis indicated that Japan's rising productivity levels were strongly influenced by major increases in the relative capital intensity of production as well as improved technology.

A recent study of U.S.-Japanese trade patterns in 1977 (Audretsch and Yamawaki 1986) found bilateral U.S.-Japanese trade structurally different from trade between the United States and other countries. In contrast to the consistent empirical result that U.S. export strength is greatest in the high-technology industries with relatively large employment of skilled workers, U.S. trade performance in its bilateral trade with Japan was negatively related to the skill level of the U.S. labor force. A possible interpretation of this finding is that at least in trade with Japan, the U.S. technological lead is no longer an important factor; an abundance of skilled workers and a lower wage premium for technical skills can give Japan a cost advantage over the United States in these industries.

However, the experience of Japanese-owned auto plants in the United States has shown that neither massive capital investments nor state-of-the-art technologies are essential ingredients of the Japanese cost advantage. In autos, Japanese producers operating in the United States have achieved lower costs than their indigenous counterparts while typically using less capital per worker and no highly advanced production technology. This raises the possibility that at least in the auto industry, a significant aspect of the Japanese competitive advantage is "technological" only in a very broad sense that includes organizational and managerial know-how.

But recent findings of Lipsey and Kravis (1986) suggest that Japan's advantage in auto production may not be typical. In terms of overall manufacturing exports, Lipsey and Kravis found that U.S. multinational corporations have maintained a virtually unchanged share of world totals since 1966; declining exports from U.S. production have been offset by rising exports from subsidiaries abroad. These results imply that loss of U.S. international competitiveness in manufacturing as a whole cannot be attributed to deficiencies in U.S. management skills or technology. However, in the case of transport equipment, the United States did lose substantial ground; by 1983, both the United States as a country and U.S. multinationals had lost about a quarter of their 1966 global market shares.[24]

10.5 Looking Ahead

Japan's rapid growth during much of the postwar period has been based on technological catch-up. The slowing of that growth in recent years reflects, among other things, the completion of the catch-up phase.

Can the Japanese policies and institutions that facilitated successful importation and adaptation of existing technologies work as well in producing new ones? Some claim that the Japanese educational system, in comparison to its U.S. counterpart, ensures a uniformly high standard of performance but systematically crushes individuality and creativity. However, it is too early to judge whether these differences have any implications for scientific innovation, and in any case both systems are in the throes of significant change. The increasing economic intimacy between the two nations has itself served as one major impetus for change.

I have argued that the rapidly growing bilateral imbalances between the United States and Japan were produced by macroeconomic conditions, not trade or industrial policies. In this sense, the imbalances can be viewed as "temporary" factors rather than long-term developments. But elimination of the imbalances without serious damage to the U.S. economy and those of its trading partners may be difficult to achieve. If Japanese investors turn away from U.S. financial markets before the United States is able to reduce domestic absorption, U.S. interest rates will be forced upward, with potentially disastrous consequences for the economy.

In terms of sectoral adjustments, the U.S.-Japanese relationship may well be entering a new phase. As the nations grow more similar in terms of technology base, abundance of capital and skilled labor, and per capita income, intra-industry trade is likely to grow. In particular, two-way trade in technology and in technology-based services should become increasingly important as Japan moves from adaptation into innovation. In the mature industries and even in some that are now considered "high-technology" sectors, both Japan and the United States will be faced with increasing competition from a new tier of competitors in Asia and elsewhere.

For both nations, problems of sectoral adjustment will continue to generate strong pressures for import protection and other forms of assistance to industries losing ground to newcomers. Sectoral trade conflict between the United States and Japan will be concentrated on the two ends of the industrial spectrum in terms of technological sophistication, with issues raised both by contrasting approaches to the phasing out of industries losing their comparative advantage and by contrasting approaches to the nurturing of new industries.

Could the United States return to its one-time position of unquestioned technological preeminence? Even with vastly increased resources allocated to research and development, this kind of advantage probably can no longer be sustained—by the United States or any country—in a world that has become highly interdependent. The commercial advantage of being first in innovation has been undermined by

the greatly increased speed with which new technical knowledge becomes available to potential competitors all over the globe. This does not mean that research and development have become less important. On the contrary, technological improvements will continue to provide the basis for a rising standard of living both in the United States and abroad. However, the benefits of R&D efforts can no longer be counted mainly in terms of the advantages conferred to one nation's industries over competitors elsewhere.

Notes

1. In August 1987, National Semiconductor Corporation announced that it would buy Fairchild—at what industry analysts described as a bargain price, far less than that offered earlier by Fujitsu. National was one of several U.S. companies that opposed the sale to Fujitsu.

2. For a summary of the practical difficulties in using trade policy "strategically" to promote national advantage, see Richardson 1986.

3. See McCulloch and Richardson 1986, 61–64. Although protectionist measures are traditionally condemned as beggar-thy-neighbor policies, in reality they often turn out to be beggar-thy-brother policies, impairing performance of other industries in the same country. This is an important distinction for public servants, who seem relatively unconcerned about costs inflicted outside the nation's (or even the congressional district's) borders. For some examples of undercutting indirect effects of trade restrictions, see Baldwin 1982.

4. An opposite argument is sometimes made by analysts concerned about deindustrialization of the U.S. economy. They believe that foreign targeting of basic and high-technology manufacturing industries reduces U.S. employment opportunities in "high-value-added" activities. But high value added per worker may simply reflect firms' optimizing responses to strong unions, rather than a technological characteristic of the industry. It is far from obvious that national policy ought to bolster the resulting wage advantage by limiting imports. In the case of steel, probably the industry most frequently targeted worldwide, employment in the United States and other industrialized countries has dropped dramatically while wages remain well above the U.S. average for comparable skills and experience.

5. Moreover, even the existence of a real distortion does not assure that "corrective" policies will actually make things better rather than worse. Examples such as textiles and apparel, steel, autos, and semiconductors suggest that cartelization, not active competition based on comparative advantage, is the likely outcome of sectoral policy initiatives.

6. Relative to gross national product, the Canadian surplus on trade with the United States actually exceeds Japan's. But in early 1987, Canadian government statisticians showed that U.S. recording procedures have systematically missed certain U.S. exports, particularly those transported by truck into Canada. U.S. statistics have thus overstated the U.S. merchandise trade deficit and particularly the bilateral deficit with Canada.

7. McCulloch 1985 and McCulloch and Richardson 1986 examine in detail the types of policies usually recommended to restore U.S. competitiveness

and evaluate their likely effects (or lack of effects) on the nation's overall trade balance or current account.

8. On supply-side hysteresis effects arising from economies of scale and sunk costs, see Baldwin 1986.

9. See Frankel 1984 for a review of this agreement. The agreement was promoted as a means to raise the value of the yen by increasing its role as a reserve currency. However, the predictable short-run result, borne out by subsequent events, was just the opposite.

10. The assumption that net capital inflows are independent of current earnings on past investments is, however, suspect. Tax law in the United States and some other nations tends to favor reinvestment abroad of current earnings from foreign investments. Other governmental policies toward international capital transactions may also link the rate of new investment to current interest and profits.

11. An ongoing debate concerns the relative effects of tax-financed and bond-financed government expenditures. The issues are complex, hinging on such imponderables as the public's anticipation of future changes in tax rates. An extreme view is that, because of public anticipation of future tax liability, bond-financed spending has the same overall effect on today's absorption as tax-financed spending.

12. Saxonhouse 1985 characterizes the Japanese as "notorious target savers," with future housing a main target. This is a critical point, since increased spending in any one category does not necessarily translate into higher overall spending (lower saving). Saxonhouse also notes a possible bonus from increased housing expenditures for other spending: more living space may lift a major constraint on purchases of consumer durables.

13. This has been proposed in recent years by James Tobin and Rudiger Dornbusch, among others. See Dornbusch and Frankel 1987.

14. Conversely, a return to a more "normal" pattern of global capital flows should reduce sectoral frictions. Krugman 1986 and Petri 1987 use this logic to anticipate some reversal of recent competitive pressures on U.S. industry. Based on simulation analysis, Petri concludes that output structures in the United States and Japan could become quite similar by the 1990s.

15. For example, this argument is made by Borrus, Tyson, and Zysman (1987) for the case of the semiconductor industry.

16. If sectoral liberalization does reduce aggregate Japanese savings, as suggested by Rapp 1986 and Balassa 1986, the induced rise in Japanese exports would not fully offset the rise in imports.

17. Krugman 1986 links the "Japan problem" of rapid growth of manufactured exports to the United States to large increases in world oil prices from 1973 until 1984. His analysis suggests that lower oil prices will translate into a higher value of the yen and slower growth of Japanese manufactured exports.

18. Komiya and Itoh 1986 provides a detailed account of the gradual liberalization of Japanese imports. Saxonhouse 1983 and 1985 document the minor importance currently of conventional instruments of protection. Ahearn 1985 divides current Japanese import barriers into four categories: formal, regulatory, strategic, and business and cultural. He concludes that the most onerous remaining barriers to manufactured imports are in the last category, where Japanese public policy has relatively little direct impact.

19. Leamer 1984 gives a more comprehensive discussion of both specification issues and data problems associated with empirically relating resource endowments to trade patterns, also emphasizing the problem of sensitivity. While he

acknowledges the probable importance of scale economies, for practical reasons his own specification is based on a model with constant returns. Leamer does not focus on the existence of significant distortions but concludes from his analysis that resource endowments provide a "surprisingly good" explanation of the trade data.

20. Although Lawrence's data support the contention that Japanese intra-industry trade in manufactured goods is unusually low, he attributes this finding to remaining current barriers to imports, not technological advantages resulting from past protection.

21. Harris 1985 gives a comprehensive review of past and current Japanese policies toward international technology transfers.

22. Yamamura 1986 suggests that the role of the Ministry of Finance (MOF) was perhaps the most essential element of Japan's progrowth policy in this period. Given the underdeveloped state of Japanese domestic capital markets, their insulation from world financial markets, and regulated below-market-clearing interest rates on loans, MOF exercised enormous economic leverage over domestic firms as a consequence of its ability to allocate loans in a situation of chronic excess demand.

23. Bhagwati 1982 has pointed out that some direct foreign investments may be used in heading off new protection rather than in anticipation of producing inside the restricted market.

24. The atypical performance of the auto industry relative to U.S. manufacturing as a whole points up the danger in generalizing from the experience of a single sector, even a very important one, as Halberstam 1986 does in comparing Ford and Nissan.

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Comment

Robert W. Staiger

Rachel McCulloch's chapter on the state of United States–Japan economic relations provides an excellent synthesis of an important and complex relationship, a synthesis from which I learned a great deal and can add very little. While covering both aggregate and sectoral sources of friction between the two countries, McCulloch is careful to keep these two broad issues separate. This is important for two reasons. First, the current high degree of friction between Japan and the United States stems predominantly from an aggregate imbalance, and may therefore be expected to decline in large part as the aggregate imbalance declines. Second, from the perspective of policy design, it is important to address the aggregate imbalance with aggregate policies that affect national absorption and/or income, reserving the use of sectoral policies for the pursuit of sectoral goals. But I would like to suggest several reasons why it may be appropriate in the midst of large aggregate imbalances for there to be heightened U.S. interest in the sectoral aspects of the United States–Japan relationship, though this attention should not be viewed as a way to address the aggregate issues, and why now may be a good time to take a hard look at both the sectoral policies of these countries and the importance for each country of the sectoral composition of its productive activity.

The first reason concerns the effect of the large U.S. trade deficit on the bargaining position of the United States with regard to tariff and nontariff barriers in Japan. The political pressure in the United States for protection has grown with the size of the U.S. trade deficit, making

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credible the promise of protectionist measures if the United States cannot come to an agreement with its trading partners on the rules for a free and fair trading environment. This increased credibility augments the ability of the United States to gain trade concessions in the form of more open international markets, and ought to heighten the interest in identifying and determining the importance of existing trade barriers. Of course, there is no guarantee that this change in bargaining power will lead to more open trade: it is perhaps more likely that VERs and other forms of managed trade will be the result. Nonetheless, the link between aggregate and sectoral issues is likely to be strong, and for this reason renewed focus on just what sectoral barriers to trade remain seems appropriate.

The second reason concerns the permanence of the changes in the sectoral composition of production in Japan and the United States that have come about as a result of the temporary aggregate imbalance. It is quite possible that the sectoral makeup of U.S. production will be substantially altered long after the close of the "introductory sale" of many foreign products in U.S. markets brought on by the great real appreciation of the dollar in the first half of the 1980s. If these sectoral changes do prove to be permanent, then whether the United States (or any other country) should be concerned with the sectoral composition of its productive activity takes on an added importance whenever an aggregate imbalance arises.

In short, whether and to what extent Japan distorts its trade patterns seems especially relevant now, not because the elimination of those distortions will have a predictable effect on Japan's aggregate imbalance, but because Japan's aggregate imbalance with the United States should strengthen the U.S. bargaining position with regard to sectoral issues. And whether the United States should be concerned about the sectoral composition of its production should be a question of intense interest now, since the current U.S. trade deficit is likely to have an impact on the sectoral makeup of production in the United States long after the aggregate imbalance subsides.

Japan's Distorting Policies

Though anecdotal evidence abounds concerning the alleged height of Japan's trade barriers, quantitative support for this claim is harder to come by. Indeed, with one exception, the econometric studies reviewed by McCulloch reject the notion that the trade patterns of Japan are more distorted than those of other countries. These studies avoid attempts to actually measure existing trade barriers, choosing instead to infer the existence of trade restrictions from the unexplained portion of standard trade equations applied to the trade of various countries. For example, Saxonhouse (1983), pooling data for 109 commodities

across countries and time, relates each country's trade flows to its factor endowments and looks for country-specific fixed effects in each commodity equation. His econometric evidence suggests a relatively minor role for Japan-specific fixed effects, a result interpreted as indicating the absence of uncommonly high barriers to trade in Japan.

While such studies are certainly useful, their interpretation becomes more clouded if a country's trade barriers are thought to be related to its factor endowments (as in, for example, Magee and Young 1987). If this is the case, much of the effect of trade barriers may already be captured in the equation's coefficients on factor endowments, and testing for an additional country-specific fixed effects may yield little in the way of information on uncommonly high trade restrictions. This is not to say that these studies are not valuable, but I would have more confidence in their conclusions if other approaches to analyzing relative distortions yielded broadly similar results.

Having said this, I mention briefly the results of a project undertaken by Alan Deardorff, Robert Stern, and myself on the distortions introduced by Japanese tariff and nontariff barriers (see Staiger, Deardorff, and Stern 1987). We estimated the distortionary effects of existing tariff and nontariff barriers in Japan and in the United States by simulating trade flows in the absence of trade barriers using the Michigan Computational Model of World Production and Trade. Several available estimates of existing trade restrictions in Japan and the United States were used alternatively in an attempt to acknowledge the inevitable inaccuracy of any one measure, and the results reported below were robust to these various measures. Taking the simulated changes in trade patterns that would arise if existing protection were dropped, we calculated the factor content of these changes and provided a theoretical argument for why relative changes in the factor content of trade should be related to changes in relative factor prices. Our results, then, concern the distortions in relative factor prices brought about by Japanese policy as compared to the distortions associated with U.S. policy, and can be summarized in three points:

- Comparing the effects of each country's trade policy on its own factor markets, Japanese policy is more distortionary than U.S. policy.
- Comparing the effects of each country's trade policy country by country, Japanese policy is again more distortionary than U.S. policy. In particular, Japanese tariff and nontariff barriers distort U.S. factor markets to a larger degree than do the trade policies of the United States itself.
- In Japan, farm workers are the biggest relative gainers from existing protection, while in the United States, operatives and craftsmen are

the biggest relative gainers, and farmers the biggest relative losers, from existing protection.

These results support the conclusion that Japan's trade policy may indeed have uncommonly high distortionary effects on U.S. factor markets, and that the United States–Japan sectoral issues may be a legitimate source of friction. But equally important is the point that, according to our results, Japanese trade policy actually has a favorable effect on workers in the U.S. manufacturing sector relative to other factors in the U.S. economy: as such, the recent decline in the U.S. manufacturing sector relative to other sectors is not attributable to the tariff and nontariff policies of Japan.

Sectoral Composition of Production

The concern over changes in the composition of U.S. production that have come about as the world becomes more integrated has often, though not exclusively, focused on the effects of Japanese policy in contributing to these changes. Such concerns have generated a great deal of scholarly interest in whether a country can gain by having, or having more of, a certain sector operating within its borders. As McCulloch points out, while theory raises this possibility, no clear evidence exists on whether such concerns are in fact well founded. Yet the answer to this question takes on an added importance now if, as seems likely, many of the changes in sectoral market share brought about by the large U.S. trade imbalance will persist long into the future. This brings up the important question, noted by McCulloch, of whether the United States is too cautious in its pursuit of trade policy, and the possibility that by waiting for "clear evidence," further delays in reversing present trends may leave the United States at a permanent disadvantage.

Here I suggest that the United States would not be overly cautious in continuing to wait for further and better evidence before pursuing activist trade policies to affect the sectoral composition of U.S. output. While the recent trade/IO results have shown under a variety of circumstances that activist trade policies can in principle raise national welfare from its free trade level, they have also demonstrated how carefully such policies must be designed: the form of welfare-improving intervention will hinge on the characteristics of the industry considered, and trade policy must be determined on a case by case basis. Unfortunately, the kind of discretion and flexibility with which an institution pursuing such trade policies must be endowed is likely to undermine its ability to augment national welfare, both because of the institution's heightened risk of becoming the servant of special interest groups, and because of its likely inability to credibly pursue the optimal

trade policies that rationalize its existence. As such, even if there exist good reasons to be concerned about the changes in sectoral composition of national output brought about by the U.S. trade imbalance, it is not at all clear what, if anything, should be done.

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Comment Peter A. Petri

Rachel McCulloch's treatment of the "Japan problem" is comprehensive, balanced, and analytically rigorous—a welcome addition to the growing and often frustrating body of literature in this area. Refreshingly, the chapter has no ax to grind—say, against recalcitrant Japanese bureaucrats or impotent American exporters—and no simple solutions to offer. The present crisis is attributed to macroeconomic forces, and in particular to the U.S. tax cut and the decline in the rate of investment in Japan. There is no promise of an early resolution, since the underlying macroeconomic imbalances call for difficult-to-swing changes in the levels of absorption in the United States and Japan.

Since this conference brings together sophisticated trade specialists, it is appropriate that the chapter begins by asking Is there really a Japan problem? McCulloch never explicitly answers this question, but the reader is left with the impression that there is no *economic* problem, in the sense that economic events are roughly in line with the (sometimes ex post) predictions of theory. In turn, the root of the *political* problem—the large U.S. bilateral deficit—is the result of temporary macroeconomic forces rather than other potential factors such as technological rivalry, nontariff barriers, or cultural differences. Even with the caveats surrounding the required macroeconomic adjustments, this is an optimistic message: after a few years of macroeconomic adjust-

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ments, Japan-bashing may become nothing more than an unpleasant memory.

Unfortunately, the opposite case is also reasonable. United States–Japan trade may always tend to be politicized—creating continuing friction that tends to flash into crisis in the appropriate macroeconomic context. This more pessimistic view rests on the argument that certain characteristics of the United States–Japan economic relationship make it unusually prone to political intervention, regardless of the economic logic of actual trade and capital flows. Thus, there is a *political economy* Japan problem—a persistent, undesirable interaction between economic variables and political behavior. The economic structure of the relationship just does not seem conducive to political peace and leads to chronic pressure for government management of bilateral trade.

Since McCulloch's chapter concentrates on purely economic issues, it is perhaps useful to focus these comments explicitly on the political economy perspective. Why is there so much conflict between the United States and Japan when in fact the United States runs a larger trade deficit (relative to GNP) with Canada and several other countries? Why was there sharp conflict as early as the late 1960s, well before the spectacular macroeconomic imbalances of the 1980s? Why is such a large proportion of bilateral trade (in textiles, steel, automobiles, chemicals, and semiconductors) managed by either one or both governments? The answers to these questions must be sought in the scale and structure of United States–Japan trade.

To begin with, the bilateral trading relationship is inherently imbalanced. The United States has run a bilateral trade deficit with Japan since 1965, and the ratio of U.S. exports to Japan to U.S. imports from Japan was already below .6 in the early 1970s. The export/import ratio hovered in the .5–.6 range until 1983, when it began a decline toward today's 0.32. Detailed analysis of the specialization patterns of the two countries (e.g., Petri 1984, chap. 5) suggests that a substantial U.S. bilateral deficit would emerge even when both countries' overall trade is balanced. There is nothing surprising or even significant about a bilateral deficit—except for its political economy implications.

A large bilateral deficit tends to tip political scales toward bilateral protection. In the case of balanced trade, the weight of intense protectionist interests (import-competing producers) is counterbalanced by that of intense trading interests (export producers) and to a lesser extent by that of diffuse trading interests (consumers). In the case of highly imbalanced trade, however, the absence of intense trading interests (the exporters' lobby) leaves the overall political balance vulnerable to protection. At present, domestic producer support for free bilateral trade is very thin and is not adequately replaced by direct Japanese lobbying efforts. (Incidentally, the declining importance of

exports in *overall* U.S. trade has also contributed to a general increase in protectionist pressures.)

Imbalanced trade not only makes protection more likely, but also less risky. With imbalanced trade, the deficit country has the advantage of an asymmetric threat. In principle, U.S. discriminatory trade action against Japan could be subject to multilateral retaliation under GATT rules. In practice this is extremely unlikely, and U.S. policymakers will seldom look beyond Japan's relatively modest direct counterthreats.

Other structural features of United States–Japan trade exacerbate the problem. U.S. imports from Japan are dominated by politically important industries such as automobiles and semiconductors, and earlier, textiles and steel; research on the determinants of protection has shown that these large, concentrated industries are more apt to win protection than smaller, more competitive industries such as footwear (Lavergne 1983). In addition, the sectoral impact of imports from Japan is unusually intense because of their scale and high product concentration.

Finally, imports from Japan are more visible and protection-prone than other imports because they often consist of products that the United States did not previously import or perhaps even exported. In this context, Japanese exports displace primarily U.S. products rather than the products of other exporters and raise troubling implications for long-term competitiveness. Often, the industries affected have (or are thought to have) steep learning curves and concentrated global markets. Thus, requests for trade action against Japan are increasingly based on long-term strategic grounds—along lines that are now also attracting theoretical support from the industrial organization approach to trade policy.

There is no doubt that trade conflict will moderate if and when the present macroeconomic imbalances diminish. But some of the factors cited will continue to operate, and I suspect it is too early to declare the Japan problem dead. For the foreseeable future, governments are likely to remain deeply involved in managing this major bilateral trade flow.

Let me conclude with some observations about the macroeconomics. The prospects for an early reduction of current account imbalances may be better than argued in the chapter. *In Japan,* the decline in domestic investment rates is largely over, while savings rates are continuing to fall. The boom in Japanese asset prices has created a great deal of new wealth, especially when evaluated in foreign prices. Consumption levels are beginning to adjust to this new equation, as evidenced by burgeoning sales of German luxury cars, Korean knitwear, and U.S. vacations. *In the U.S.,* it is customary for new administrations to adopt fiscally conservative policies early in their term, and some

fiscal tightening is likely in 1989. Private spending reductions could also follow; households and firms have been accumulating debt for several years now in an unusually favorable interest rate environment. Indeed, recent exchange rate changes suggest that investors are already anticipating a partial reversal of present capital flows.[1]

The trade effects of these macroeconomic adjustments are complex and interesting. It is possible, as I have argued elsewhere, that over the next few years the Japanese market will become the leading absorber of the growth of world trade, much as the U.S. market absorbed such growth in the early 1980s. Even this does not necessarily mean dramatically higher imports from the United States: Japan's most rapidly growing imports now are labor-intensive manufactures from East Asia and luxury goods from Europe. It is also possible, however, that U.S. imports will stop growing without compensating import growth from any other country. This is the scenario for global recession.

In either case, as Japanese firms accelerate their efforts to replace lost markets, they will compete aggressively with U.S. firms in sophisticated machinery, electronics, and services. In the end, the United States and Japan are close competitors in production with similar tastes in demand—a combination that simultaneously breeds vigorous trade and keen conflict.

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1. One interpretation of the decline in the dollar and the rise of the yen is that investors' willingness to invest in U.S. assets has already sharply declined. This is not inconsistent with the fact that foreigners continue to finance an essentially unchanged (as of mid-1987) U.S. current account deficit. For the most part, the financing is now coming from official sources. But even private investors will provide capital if they believe that the dollar exchange rate is now so low that it can be expected to appreciate (or at least not fall further) as the trade adjustments proceed.

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