

American international competitiveness



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Since the beginning of the 1970s, the United States has experienced a virtual trade revolution. Trade has increased much faster than the economy as a whole. Both imports and exports expanded during the past 15 years. In the late 1970s, imports started outstripping exports by historically large margins. A merchandise trade deficit has been present every year since 1976. Moreover, this deficit has increased dramatically in the 1980s. What economic changes underlie the shift in U. S. competitiveness evidenced by the recent trade deficits?

While economists who have addressed this question have employed different approaches, most have examined changes in macroeconomic variables to see if they generated the economic pressures that led to the recent trade deficits. Economists who have employed this approach have generally concluded that macroeconomic changes probably are the cause of the recent deficits. Although macroeconomic theory suggests that trade deficits may be associated with a wide variety of factors, two events in the late 1970s and early 1980s have received particular attention: the rise in U. S.

aggregate demand relative to foreign aggregate demand and the increase in U. S. interest rates relative to foreign interest rates. Both may have been spurred by the U. S. government's budget deficit. The excess of spending over income provided a powerful expansionary fiscal policy while higher interest rates had to be used to attract foreign and domestic investors to finance the growth in debt. A relative increase in aggregate demand, whatever its source, is expected to lead to a trade deficit because a country's demand for imports is positively associated with the level of its aggregate demand.

In this instance, the theory predicts that U. S. demand for imports will rise relative to foreign demand for U. S. exports as U. S. aggregate demand grows relative to foreign aggregate demand. A relative increase in U. S. interest rates can also lead to trade deficits by increasing foreign demand for U. S. financial assets. The link between financial flows that respond to interest rate changes and trade deficits is evident in standard balance of payments accounting relationships.

The accounting relationships used in defining trade deficits require that a nation's current account (comprised of the merchandise trade balance, the balance of trade on services, and net unilateral transfers) equals in size, but with opposite sign, the capital account. In other words, if there are capital inflows, then there must be a trade deficit. Given this accounting relationship, the inflow of foreign capital that is attracted by relatively high U. S. interest rates must lead to a trade deficit to satisfy the fundamental accounting identities that underlie balance of payments accounting (McCulloch, 1978).

While explanations of recent trade deficits that are based on fundamental macroeconomic relationships are attractive to economists, many commentators have advanced alternative explanations that are rooted in microeconomic relationships. These commentators believe that the microeconomic characteristics have changed in ways that explain the relatively sudden substantial increases in imports and net imports. In addition, public opinion, for one reason or another, has not fully accepted the power of the macroeconomic explanations for the trade deficits.

We shall therefore investigate these explanations that have been offered by various sources. The logical connections between these microeconomic changes and trade deficits have not been clearly drawn. In particular, supporters of these microeconomic-based hypotheses have ignored the fact that (absent macroeconomic adjustments) changes in the exchange rate could compensate for shifts in microeconomic relationships, leaving trade flows in balance (Tarr, 1985). While the link between alleged microeconomic changes and trade deficits is unclear, empirical analysis of the microeconomic explanations can still be very useful.

Specifically, if we find that the alleged microeconomic changes in the structure of trade have not occurred, then we will be in a position to reject the microeconomic explanations directly. For advocates of the microeconomic explanations, this approach may be more convincing than one that evaluates the microeconomic explanations indirectly through the use of general equilibrium or macroeconomic models. The microeconomic explanations have focused on identifying three types of microeconomic changes. First, there may be technological changes that alter trade flows.

For example, changes in an industry's technology may alter factor intensities so that particular inputs are less important to successful international competition. Second, policy changes may alter trade flows through their effect on the openness of U. S. or other economies or through their effect on the relative cost structure of U. S. manufacturers. Changes in tariff, quotas, or government subsidies clearly can have this effect, but other government policies may also be important. Third, the availability of needed inputs may change so that the competitive position of U.

S. firms is altered. For example, when abundant mineral resources continue to be key for production, the U. S. position will change as the United States exhausts its relative supply of these needed resources. According to some commentators, any or all of these types of microeconomic changes might lead to growth in the manufacturing trade deficit. As a result, they have received substantial public attention. If changes in microeconomic factors are the source of recent trade deficits, we should observe a recent and major shift in the pattern of U. S.

trade, since some industries will be more sensitive to changes in particular microeconomic factors than other industries or experience bigger changes in these factors. For instance, if relative U. S. wage rates have become more important in international competition, we should observe a particularly large rise in net imports in industries that employ relatively large amounts of high-cost labor or have experienced particularly large increases in labor costs. In contrast, if macroeconomic variables underlie the recent deficits, this type of structural shift in trade flows is less likely to be present (Drucker, 1985).

As a result, we can reject many of the microeconomic explanations of recent trade deficits that have been advanced if we observe that economic relationships that traditionally have advantaged some industries over others in international trade have been stable and that key industry characteristics, such as labor intensity, have also been stable. In the case of U. S. wage rates, if the relationship between wage rates and imports has not changed over time, and U. S. wage rates relative to those in other countries have not

changed significantly, then wage rates are unlikely to have contributed to the increased trade deficit.

Of course, if we do find that the alleged microeconomic changes have occurred, the growth in the trade deficit can not be attributed to them unless logical causal relationships can be identified that are consistent with international trade accounting identities. Factors associated with U. S. competitiveness in trade appear to have been relatively stable throughout the 1970s and early 1980s. Manufacturing operations located in the States retain their traditional competitive advantage in production that requires sophisticated know-how and continue to experience a competitive disadvantage in production that uses unskilled labour intensively.

Moreover, it appears that, to the extent change has occurred, these relationships have strengthened over time (Marston 1986). Yet, as others have pointed out, the competitive performance of many U. S. industries appears to have declined (Landau and Rosenberg, 1986). Can these two observations be consistent? The competitive performance of U. S. industries can decline because of changes that do not affect the relationships between trade flows and the industry characteristics. First, the characteristics of particular industries, such as their factor intensities, may have changed so that net imports increased.

The higher unionization is associated with more imports, thus if unionization increased and this relationship remained stable, then unionization could be one cause of increased imports. Shifts in the relative competitiveness of an individual industry may reflect adjustments in the characteristics of the industry, within the context of stable comparative advantage relationships.

For example, if strong R&D efforts are associated with strong exports, but industries reduce their R&D expenditures, export performance would be expected to decline even though the relationship between exports and R&D was stable.

Put slightly differently, when relative factor abundancies are stable, changes in industrial input requirements will be reflected in shifts in the trade balance of particular U. S. industries. The rankings of industries with respect to their trade flows have been quite stable. While there have been some shifts in position during the last decade, statistical tests indicate that the shifting has not been substantial. The rank order of manufacturing industries by the level of net imports in 1975 is highly correlated with the rank order that existed in 1984.

Industry characteristics available in time series have also been quite stable. The values for industry characteristics in 1975 are highly correlated with their values in 1981. Moreover, the changes in mean values for these variables are relatively small, especially for the variables that are most directly related to the seven proposed explanations of the trade deficits that we analyze. The variables available in time series include the primary variables used in traditional trade models. Simple macroeconomic relationships suggest that the rise in the trade deficit is likely to be associated with changes in macroeconomic variables.

If this is true, then one would expect that many industries experienced a rise in their trade deficits (Benvignati, 1985). Consistent with this prediction, nearly all U. S. industries experienced declining international competitiveness to some degree between 1981 and 1984. In addition to this

general confirmation of the macroeconomic explanations for trade deficits, there is direct support for the view that recent inflows of foreign capital, attracted by relatively high U. S. interest rates, and increases in U. S.

aggregate demand relative to foreign aggregate demand are responsible for recent trade deficits. Specifically, exchange rates rose during the period studied and this led to an increase in net imports, as the macroeconomic theory of international financial flows predicts. Also there appears to be a positive association between recent increases in relative U. S. aggregate demand and net imports, as the aggregate demand theory suggests. According to the macroeconomic theory of international financial flows, higher U. S. interest rates will attract foreign capital. Since U. S.

financial assets are denominated in dollars, this will lead to an increase in the demand for dollars. Because increases in the value of the dollar make U. S. goods more expensive relative to foreign goods, there will be a reduction in the international competitiveness of U. S. manufacturers. This decrease in competitiveness is expected to be reflected in higher net imports, causing the trade deficit to equal the surplus on the capital account. There is empirical support for this argument. U. S. industries appear to have been under severe competitive pressure because of the relatively high value of the dollar.

For example, in the automobile industry, it has been argued that about \$700 of the roughly \$2, 000 cost disadvantage of U. S. automobile manufacturers in 1983 was due to the unusually high exchange rate (Detroit Battle, 1983). Similarly, in steel, machine tools, textiles, and many other industries, analysts have pointed to exchange rates as an important source of the U. S.

competitive disadvantage. As a result, it is not too surprising that the increase in the value of the dollar between 1980 and 1985 was associated with a decline in the U. S. trade balance.

While the adverse effect of the increased value of the dollar on the competitive position of U. S. industries seems to have been quite widespread, the effect has been larger in some industries than others. In particular, it appears likely that the effect will be largest for products where the demand for U. S. exports and imports was quite elastic, since these products are most sensitive to changes in relative prices. For example, estimates of price elasticities by Baldwin (1976) indicate that these elasticities are particularly large (between 3.20 and 4).

4) in the case of metal working machinery and office/computing machines. According to macroeconomic theory, imports are likely to vary positively with the level of aggregate demand, other things being equal. Specifically, as U. S. incomes rise, the U. S. demand for imports is likely to rise. Moreover, if U. S. incomes rise relative to foreign incomes, the U. S. demand for imports should rise relative to the foreign demand for U. S. exports. As a result, macroeconomic theory predicts that, during these periods, U. S. demand for imports will rise relative to foreign demand for U. S.

exports and growing trade deficits are more likely. At the end of 1982, the U. S. balance of payments deficit appears to have been reduced by aggregate demand effects, since the U. S. demand was falling relative to foreign demand. However, in 1983 and 1984 the U. S. economy grew relative to the economies of its trading partners (Economic Report of the President 1986). The relatively strong U. S. recovery and the general worldwide recession

were associated with a sharp rise in the U. S. trade deficit (Economic Report of the President 1985). There is no conflict between the observation that U.

S. trade deficits have risen and the finding that U. S. comparative advantage relationships have been relatively stable over the last decade. Evidently, there have been shifts in macroeconomic variables that have increased the level of imports in most industries, without shifting trade patterns across industries significantly. While other types of changes, such as shifts in omitted microeconomic variables or changes in the magnitudes of included variables, would also make the two observations consistent, these alternative explanations are not nearly as important.

Moreover, simple macroeconomic theories and available empirical evidence suggest strongly that macroeconomic forces underlie the growth of recent trade deficits. Changes in most microeconomic variables have either been gradual or narrowly focused. As a result, they are unlikely to generate the large trade deficits that are observed. Only the changes in international capital flows (with associated changes in exchange rates) and, for part of the period, changes in the relative levels of aggregate demand, have been large enough and sharp enough to explain the sudden rise in net imports. The growth of direct foreign investment by U.

S. firms during the last decade reflects, in part, the exploitation of their advanced technological and organizational know-how. This stability in the fundamental comparative advantage relationships is inconsistent with widely held views linking microeconomic changes to the growth in the trade deficit during the 1980s. Macroeconomic models provide explanations that are much more consistent with empirical observations. We conclude, as have

macroeconomists, that changes in macroeconomic factors, rather than any of the many microeconomic explanations that have been advanced, underlie recent U.

S. trade deficits. The comparative advantage structure that determines a country's trade patterns changes only slowly. For the United States, comparative advantage forces have meant, and still mean, that the country is a net importer of commodities that are efficiently produced with relatively large amounts of unskilled labour and a net exporter of commodities that require the relatively intensive use of skilled labour. These basic relationships have not changed significantly during the 1970s or early 1980s.

Similarly, the United States continues to be disadvantaged in industries that are energy-intensive, use depleting natural resources, or are heavily unionized. Higher minimum efficient scale requirements and higher R&D intensity continue to be associated with both higher imports and higher exports. Only weak relationships exist between capital intensity or industry concentration and the strength of the U. S. trade position. The relationships between industry characteristics and trade flows are evident despite the presence of tariff and nontariff barriers and other government trade policies.

Moreover, the effects of trade policies appear to be weak relative to the economic forces that result from differences in comparative advantage. Nonetheless, trade policies do have identifiable effects. As one would expect, U. S. tariff and nontariff barriers are associated with lower net import levels. However, the statistical findings for foreign trade barriers are less clear. We attribute this to the fact that U. S. exporters face different trade barriers in different countries. It may be the case that strong U. S.

exports continue in many countries although these exports face substantial barriers in other countries. In addition, foreign trade barriers and industrial targeting efforts may arise as a reaction to U. S. export successes, yet not be strong enough to make a substantial reduction in U. S. exports in foreign markets generally. Analyses of U. S. imports and exports test the competitiveness of the States as a geographical unit. However, these analyses do not capture fully the competitiveness of U. S. -controlled firms, since many U. S.

firms are multinationals. To measure the competitiveness of U. S. -controlled firms, output manufactured abroad using U. S. know-how must be considered (Marston, 1986). Similarly, U. S. output must be adjusted for output produced by foreign-controlled multinationals in the United States. To a large extent, the additional perspective offered by the analysis of the adjusted trade flow data simply confirms the findings based on the unadjusted data. The United States remains relatively strong in the same industries where it was strong in the previous decade.

However, when the trade flow data are adjusted to reflect the presence of multinational corporations, some structural changes in trade patterns become evident. Basically, these changes evidence a strengthening of the relationships that have traditionally shaped U. S. trade flows. Apparently U. S. firms have increasingly exploited their more mobile competitive strengths by investing abroad. There is some evidence that this effort has been undertaken to overcome historical comparative disadvantages associated with producing in the States.

Most notably, there is some evidence that this foreign investment is increasingly prominent in industries that are heavily unionized. Together, the analyses of adjusted and unadjusted trade flow data indicate that U. S. firms are not losing their relative competitive strengths. The adjusted data suggest that some changes are occurring in international direct investment, but these changes have not been echoed in changes in the composition of U. S. net imports. The gradual nature of any changes that are occurring highlights the basic stability of the structure of U. S. trade flows.

The structural stability that we observe is consistent with the view that shifts in microeconomic relationships are not an important source of recent trade deficits. Absent evidence of changes, there is no reason to believe that these potential microeconomic issues contend with macroeconomic factors as the real explanations for the large observed increases in the U. S. trade deficit. Turning to the first two microeconomic explanations (high labor cost explanation and union work rule explanation), traditional relationships between labor market variables and trade patterns still hold.

The United States continues to be at a comparative disadvantage in labor-intensive industries. To the extent there has been change, it has been gradual and statistically insignificant. Moreover, the United States appears to be doing well, and has slightly improved its performance, in high-wage industries. Evidently, the advantage continues in industries where human capital is important. While union activities have affected the structure of U. S. manufacturing industries, this impact has been different from that suggested in the second explanation.

No change in the relationship between unionization and U. S. trade flows has taken place. However, various studies do suggest that multinational corporations in unionized industries have shifted larger and larger shares of their output overseas. Apparently, this direct investment has added to U. S. - controlled output, rather than entirely substituting for exports from unionized industries located in the States. The third and fourth explanations (foreign government trade practices explanation and OPEC cartel explanation) involve actions taken by foreign governments.

Foreign governments do not appear to have uniformly targeted " U. S. industries"--that is, industries where the United States has had a competitive advantage. While foreign government interventions are evident, these efforts vary from country to country and do not appear to have a significant effect on overall U. S. trade patterns. This does not mean that particular foreign tariffs, nontariff barriers, or targeting subsidies could not disrupt natural trade flows. However, it does mean that currently these effects are limited among our major trading partners (Maskus 1981).

Actions by foreign governments that may have supported OPEC's efforts to raise energy prices did not significantly alter the structure of U. S. manufacturing trade, as the fourth proposition contends. The increases in world energy prices during the 1970s were dramatic and clearly had a significant effect on the overall balance of payments. However, only when trade flows are adjusted to recognize the presence of multinationals is there a significant change in the comparative advantage structure across manufacturing industries. Turning to the fifth microeconomic explanation (declining R&D explanation), U. S.

firms have not lost their comparative advantage in R&D-intensive products. While U. S. imports of high-technology products have increased over time, so have exports. Moreover, the overall structural relationships that determine U. S. comparative advantages with respect to R&D do not appear to have changed significantly. To the extent change is evident; it appears that the growth of U. S. multinational firms has allowed them to exploit their comparative advantages in high technology through their foreign affiliates. The remaining explanations (inadequate investment explanation and antitrust explanation) involve policies of the U.

S. government. According to these two explanations, high taxes on capital formation and overly aggressive antitrust enforcement efforts have undermined the competitiveness of U. S. firms. The notion that relatively high taxes on capital, and resulting lower U. S. investment rates, have led to a growing U. S. disadvantage in capital-intensive industries is not confirmed by the statistical tests. While some earlier studies using 1958 to 1976 data found that the United States had a growing comparative disadvantage in capital-intensive industries, this trend did not continue in the late 1970s and early 1980s (Maskus 1981).

The United States was a strong exporter in industries where economies of scale (MES) are important. Moreover, we did not find substantial advantages of concentration beyond the levels associated with these plant-level scale economies. There also was no sign of significant changes in the comparative advantage relationships with respect to scalerelated or concentration-related variables. Conclusion Given the stability of U. S. comparative advantage

relationships over time, why has the U. S. trade deficit increased by so much?

For some industries, the rise in net imports may simply reflect the fact that the characteristics of the industry have changed, so U. S. firms no longer have a comparative advantage. In particular, when the know-how needed to produce a commodity becomes standardized and cheap labour becomes a relatively more important input, we should expect that U. S. manufacturers will lose share to foreign manufacturers. As is suggested by simple macroeconomic models, much of the rise in net imports appears to be attributable to macroeconomic forces that have more than offset the advantages that U.

S. firms have traditionally had in some industries. In fact, most industries have experienced increased levels of imports, suggesting that economy-wide changes underlie the problem. Examination of macroeconomic variables that could produce this type of shift in trade flows confirms that the rise in interest rates with the associated increase in the value of the dollar and, during some recent periods, the relatively rapid growth of U. S. aggregate demand appear to have stimulated net imports generally.

Generally, there has been relatively little shifting in either comparative advantage relationships or in industry characteristics that affect imports and exports. Indeed, the growth in direct foreign investment, which appears to support the most dramatic changes that have occurred, has been associated with the exploitation of traditional U. S. advantages. Moreover, the shift in the overall position of the United States relative to its trading partners has been fairly general, which is consistent with the argument that individual

microeconomic explanations are unlikely to explain much of the recent rise in U.

S. trade deficits. Given this finding, it is probable that the U. S. recent loss in competitive position is largely attributable to macroeconomic forces. In particular, it appears likely that changes in relative interest rates and levels of aggregate demand best explain most of the recent increases in the U. S. trade deficit. Both of these may be related to large increases in the government's budget deficit. The rise in trade deficits during the 1970s and 1980s led to substantial concern about the competitiveness of U. S. firms.

Many of the microeconomic explanations that have been advanced to explain the recent deficits do not appear to be supported by available empirical evidence. Because these microeconomic explanations do not explain the recent trade deficits, policy prescriptions based on shifting microeconomic variables are a poor bet to change trade flows fundamentally. In particular, wage restrictions, trade restrictions, subsidization programs, and policies that promote market concentration are unlikely to alter the trade deficit substantially. Indeed, efforts to implement these policies are likely to hurt U. S.

competitiveness, as interest groups attach riders to legislation that promotes their special interests at the expense of the broader economy. Focusing the public debate on microeconomic factors rather than macroeconomic factors seems to be, at best, ill-advised. It tends to distract the public from the real, difficult issues of government deficits, international investment, and economic growth. More likely, it provides a convenient cloak in which to wrap

the costly protections so fervently sought by special interest groups that ultimately increase costs, retard productivity growth, and harm consumers.

Since the strategic use of trade policies can disadvantage one country at the expense of another, it is better to view findings as indicating that care must be taken in responding to recent trade deficits. Specifically, policy makers must be careful that they are not so caught up in the dramatic deficits that they accede to special interest groups that have inappropriately linked their troubles to those of the economy as a whole (Krugman, 1986). History provides very little reason to believe that such objectivity is possible in trade policy. Failure to exercise caution has its risks.

Not only can the improper protectionist policies cause sizeable immediate losses, but they may also lead to longer term losses as well. For example, it may be short-sighted to impose import restraints on products that are key inputs into subsequent production activities, since this can have adverse effects on domestic producers that use these inputs. Indeed, protectionist policies of this type may have long-run adverse effects on the protected industry, since potential customers may choose to locate abroad and, as a result, not be well-positioned to purchase the input from U. S.

suppliers even after protection is no longer necessary. In addition, poorly designed protectionist efforts can trigger trade wars, as foreign governments retaliate to unjustifiable U. S. trade restraints. Indeed, the threat of spiraling beggar-thy-neighbor policies continues to be a key reason for supporting free trade, even in a world that offers strategic opportunities. Reference: " Detroit Battle: The Cost Gap," New York Times, May 28, 1983, pp. 35, 37. Baldwin

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