

BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM

# Office Correspondence

Date November 1, 1988

To Mr. Truman  
From Guy V.G. Stevens

Subject: Data and Literature on the  
Effects of Direct Investment in the  
United States on Imports

## I. Introduction and Summary

For more than two decades economists and policymakers have been concerned with the impact of direct investment on the balance of payments, in general, and trade in particular. Heretofore, research has focused almost exclusively on U.S. direct investment abroad; however, much of this theoretical and empirical work is applicable to the study of foreign direct investment in the United States.

Two different effects of direct investment activities in the United States on U.S. import flows are identifiable.<sup>1</sup> Initially, when a foreign affiliate is being set up in the United States, or is in the process of expanding, some or all of its newly acquired capital equipment may be imported. Second, after the affiliate is operational, there will be an impact on existing U.S. imports of finished-goods substitutes and/or on imports of parts and components. In some cases imports of finished goods from the foreign parent will cease, as production is relocated to the United States; in others, in addition to the effect on finished goods imports, imports of parts and components will be stimulated, depending on the degree of integration of the production process of the foreign affiliate. The overall impact on imports will depend not only on the degree of production integration, but also on the effect of the direct investment on the demand curve for the good in

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1. This memo will deal only with primary or direct effects. It will not consider the indirect effects on imports caused by the impact of direct investment activities on the exchange rate or interest rates.

question; it may even be that the increase in the value of imports of parts and components will more than offset the reduction in the previous level of finished-goods imports.

Thus, neither the size nor the sign of the effect of direct investment on imports can be confidently determined by theoretical analysis alone. As detailed below, empirical work suggests the following conclusions:

(1) the initial effect of direct investment on U.S. capital goods imports is virtually zero;

(2) from studies of direct investment abroad, it is likely that the impact of direct investment production on imports from the home country will be small, but positive; the negative effect on finished-goods imports has typically been more than offset by increased imports of components. However, when the probable negative effect on imports from third countries is taken into account, the overall effect on imports may turn negative.

## II. Import and Other Data Concerning Foreign Direct Investment in the United States

Extensive data have been collected for the known universe of direct investors in the United States in the Census years of 1974, 1980 and 1987 (to be available in summer of 1989); since 1977, less detailed data, but nevertheless including information on trade flows, have been collected annually on a sample basis.<sup>2</sup> (These efforts are in addition to

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2. For the Censuses, see U.S. Department of Commerce, Bureau of Economic Analysis, **Foreign Direct Investment in the United States, 1980 (1974)**, Washington: USGPO, 1983 (1976). The results of the annual survey on the (Footnote continues on next page)

the quarterly balance-of-payments statistics.)

The annual survey contains somewhat limited data on balance sheets, income statements, fixed investment expenditures, employment and employee compensation, R&D expenditures, and trade flows. The latter are limited in the annual survey to exports and imports of U.S. affiliates by some 40 two- and three-digit industries with breakdowns by country of the ultimate owner and the type of transactor (shipped to or from the parent or third parties). Besides the universal coverage, the Censuses contain much greater detail in all categories of data. Concerning the trade data in particular, the 1980 Census, among other things, added a table breaking out imports by three intended uses: as capital equipment; for further processing; and for resale without further processing. This provided the first direct information on the level of direct investment imports of capital equipment.<sup>3</sup>

### III. Capital Goods Imports Related to U.S. Affiliate Expansion

Studies on U.S. direct investment abroad have consistently shown that the percentage of total capital expenditures filled by imports is quite small.<sup>4</sup> For direct investors in the United States the percentage is even smaller; the latest available data directly on this question, in

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operations of foreign direct investors in the United States (the BE-15) appear initially in abbreviated form in the **Survey of Current Business**, usually in the May issue; however, more extensive data from the BE-15 survey appear annually under the title **Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies** (various years); the data on the imports and exports of the affiliates appear only in this latter publication.

3. See Table G-1, p.141, of **Foreign Direct Investment in the United States, 1980**.

4. One of the earliest such studies was Hufbauer and Adler (1968).

the 1980 Census, showed the percentage to be a miniscule 1.7 percent.<sup>5</sup> The value of these 1980 imports was \$447 million, less than 1 percent of total affiliate imports into the United States.

Using the 1980 figure of 1.7 percent for later years, the following table shows the (modest) estimates for 1983-86 of capital goods imports induced by the plant and equipment expenditures of foreign direct investors in the United States:

Plant and Equipment Expenditures  
and Estimated Capital Imports  
(millions of dollars)

	<u>P&amp;E</u>	<u>Imports</u>
1983	23179	394
1984	25225	429
1985	28919	492
1986	28349	482

Thus, unless there has been a dramatic change since 1980, the effect of direct investment expansion on U.S. capital goods imports has been and can be expected to be virtually zero.

#### IV. Effects on Imports Related to Ongoing Affiliate Operations

On first blush one might expect that production in the United States by direct investors would, to a large extent, replace imports. The most straight-forward case would have U.S. production replace one-to-one foreign production of the same product. There has been no empirical work to test this hypothesis for direct investment in the United States, but extensive work on U.S. multinational operations abroad suggests that this case will not hold.

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5. Calculated from Tables G-1, p.141, and D-7, p.67, of **Foreign Direct Investment in the United States, 1980.**

Both theoretical and empirical work on direct investment abroad indicate that a number of complicating factors must be taken into account. First, direct investors rarely eliminate imports of parts and components; moreover, particularly in the early years of production, direct investment operations are likely to include a large percentage of assembly and distribution activities, both of which have a high import ratio. The latest data on direct investment operations in the United States, for 1986, show that of the total affiliate sales (including exports) of \$667 billion, 19 percent or \$124 billion was balanced by imports. Almost 40 percent of the affiliate sales fell in the category of wholesale trade; this industry had an average import ratio of 36 percent. Manufacturing firms had an import ratio of 11 percent.<sup>6</sup>

Given the fact that substantial flows of imported parts and components are associated with direct investment, an analysis of its impact on imports requires an investigation of demand conditions. It is possible, for example, that producing in the United States, closer to the market, with lower costs and prices, and with arguably enhanced marketing and servicing capabilities, could shift out the demand curve enough to actually increase total imports. In studies of direct investment abroad, it has turned out to be very important in estimating import effects to estimate demand effects -- whether foreign operations will merely substitute for previous imports of the parent firm, or whether they will also capture part of the market share of domestic firms or firms from third countries. These alternatives were first investigated by Hufbauer and Adler (1968), and examined more fully by Adler and Stevens (1974).

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6. See U.S. Department of Commerce, Bureau of Economic Analysis, **Foreign Direct Investment in the United States** (Preliminary 1986 Estimates), June 1988.

That they are still crucial today is made clear by examining the recent GAO study on the Japanese penetration of the U.S. auto industry [U.S. General Accounting Office (1988)]. Depending on the "displacement ratio," i.e., the degree to which Japanese sales displace the sales of U.S. producers, the estimate of net job losses to Americans varies from a loss of 360 thousand jobs to a gain of 112 thousand. A similar range is possible for the import effect.

Much empirical work has been completed on the import-direct-investment nexus for foreign investment abroad. While none of the work is faultless, all of the better studies come to similar conclusions: that on the average the level of imports from the home country and direct investment are complements rather than substitutes. That is, holding all other determinants of imports constant, a higher level of direct investment production is on the average associated with a higher level of imports -- at least from the home country of the direct investor. This conclusion has been reached for U.S. investment abroad by Bergsten, Horst and Moran (1978), Lipsey and Weiss (1981, 1984), and Blomstrom, Lipsey, and Kulchycky (1988). The last study and Swedenborg (1979) reached the same conclusion for Swedish multinational firms. Lipsey and Weiss (1981) discovered an important amendment to the general finding when they found that U.S. operations abroad frequently reduced the imports to the host country from third countries; thus, it is possible that the net effect of direct investment on host country imports could still be negative.

## V. Conclusions

All available evidence supports the conclusion that the plant and equipment expenditures of foreign direct investors in the United States lead to insignificant levels of capital goods imports.

With respect to the effect of ongoing foreign affiliate operations on U.S. imports, the evidence is indirect, coming exclusively from studies of U.S. and Swedish direct investment abroad. One robust, and somewhat surprising conclusion, supported by probably all recent studies, is that the impact of direct investment production on imports from the home country is positive, but probably small. Less firm is the finding that direct investment production has a negative effect on imports from third countries. None of these studies has been able to estimate the overall impact on total imports.

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