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# Tax Rules and the Effect of Foreign Direct Investment on U.S. National Income

Martin Feldstein

## 2.1 Introduction

Do existing tax rules cause the volume of outbound foreign direct investment (FDI) from the United States to be excessive in the sense that a decrease in the current level of such investments would raise the present value of U.S. national income? The evidence discussed in this paper suggests the opposite is true. The present value of the repatriated dividends and interest that would result from an additional dollar of outbound FDI would exceed the present value of the income that would result from a one dollar increase in domestic investment in business plant and equipment.<sup>1</sup> Thus, even if each dollar of outbound FDI displaces a dollar of domestic investment, an incremental expansion of outbound FDI would raise the present value of U.S. national income.

It is, of course, widely recognized that much of U.S. outbound FDI allows parent firms to earn especially high rates of return based on their existing patents, technical know-how, brand names, and other assets that cannot be fully exploited by producing at home and exporting or by licensing to foreign firms. The relevant economic question is therefore not about the desirability of outbound FDI as a whole, but about the appropriate extent of such investment. Critics argue that the existing U.S. tax rules induce firms to increase their overseas direct investment to a point at which the national return to the United

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1. The present analysis integrates research presented in Feldstein (1994).

States on that investment is less than the national return on an additional dollar of domestic investment.<sup>2</sup>

The analysis that leads to that conclusion can be summarized as follows:<sup>3</sup> U.S. parent firms receive a tax credit in the United States for the taxes paid by foreign subsidiaries to foreign governments (up to the tax rate that would be paid to the U.S. government on those profits). Since the parent firm is indifferent between paying taxes to foreign governments and to the U.S. government, the parent expands foreign subsidiary investment to the point at which the after-tax return to the firm is the same abroad and at home. Because the after-tax return abroad is the total return to the United States while the pretax return on domestic investment is the total return to the United States, the U.S. national return on the last dollar of outbound FDI is less than the national return on the last dollar of domestic investment. Equating the national returns on both types of investment requires replacing the credit for foreign taxes with a deduction (which treats foreign taxes paid like any other business expense).<sup>4</sup>

This widely accepted argument is wrong because it ignores the combined impact of debt finance and the imperfect integration of the world capital market. The evidence summarized below indicates that the FDI of U.S. multinational firms causes those firms to borrow more from foreign sources than they otherwise would. Because the after-tax cost of that capital is less than the after-tax return on the investments made abroad, the parent firm gains a net advantage. Unlike domestic borrowing in the United States (which just shifts the income among the providers of debt and equity capital and the government), this foreign borrowing represents a transfer from the fixed income investors (lenders) in the foreign country to the United States. With the actual prevailing patterns of finance and tax rates, the net advantage of foreign borrowing exceeds the disadvantage of paying taxes to the foreign government. The estimates described below indicate that FDI at the margin leads to a stream of net interest and dividend receipts to the United States with a present value of more than \$1.72 for every dollar of outbound direct investment.<sup>5</sup>

Although this net advantage could in principle be achieved by international

2. This argument is quite separate from the popular debate about whether outbound FDI reduces employment in the United States because it substitutes for domestic production and exporting or increases employment in the United States because parent firms export to their foreign subsidiaries. Economists recognize that this is a misplaced concern because the American labor market works well in assuring that all who want jobs at wages that reflect their skills can find work within a relatively short time. See Graham and Krugman 1991 and Lipsey 1995.

3. This argument, first presented in Richman 1963 and Musgrave 1969 and later formalized in Dutton 1982, has been widely accepted in tax-policy discussions (e.g., U.S. Congress, Joint Committee on Taxation 1991).

4. The use of a foreign tax credit is sometimes justified as a way of maximizing the global return to capital, that is, inducing firms to expand outbound FDI until the pretax return is the same in all countries. Horst (1980) shows that this issue is more complicated when the saving rate reflects the after-tax return on investment.

5. This present value is calculated at 12 percent, the real rate of return assumed to be earned (pretax) on incremental U.S. domestic investments in business capital.

portfolio investment without any FDI, the very imperfect integration of the world capital market means that this does not happen in practice. Section 2.2 discusses the nature of the imperfect global capital market integration and the way in which FDI circumvents the limited net movement of portfolio capital. Section 2.3 deals more explicitly with the effect of FDI on the level of domestic investment, and section 2.4 discusses the effect of such investment on the use of foreign debt and equity capital by American multinational corporations. The implications of this for the present value of the dividend and interest payments that are generated by outbound FDI are presented in section 2.5. There is a very brief concluding section.

## **2.2 The Limited Integration of World Capital Markets and the Circumventing Effect of FDI**

If the national capital markets around the globe were fully integrated into a single global capital market, a dollar of additional saving in any country would flow to the investment anywhere in the world that offered the highest rate of return, regardless of national boundaries. There is, however, strong and robust evidence that this does not happen. Despite the large volume of gross international capital flows, there is very little net capital flow. Saving generated in any country tends to stay in that country.

The evidence on this "home bias" in international capital markets indicates that a sustained increase in the ratio of domestic savings to gross domestic product (GDP) causes a sustained increase in domestic investment that is approximately 80 percent to 90 percent as large. This 80 percent to 90 percent "saving retention ratio" has been confirmed many times since it was first presented by Feldstein and Horioka (1980) and has been shown to be robust with respect to the time period, the estimation method, and the subsample of countries.<sup>6</sup> This conclusion, based on cross-country studies of decade average saving and investment rates, is consistent with detailed microeconomic evidence showing that only a very small fraction of the portfolios of large institutions are invested abroad. Moreover, only about 3 percent of the total U.S. private financial wealth of \$9.4 trillion at the end of 1991 was invested in foreign stocks and bonds.

This segmentation of the global capital market implies that an international flow of portfolio funds or bank loans does not automatically equalize the return on investments in different countries or the cost of funds to borrowers in different countries. It also has important implications for the impact of FDI. In a perfectly integrated world capital market, an incremental dollar of capital outflow from the United States in the form of FDI might be offset by a net inflow

6. See, for example, the papers by Feldstein and Bacchetta (1991) and Frankel (1985, 1991). Mussa and Goldstein (1993) present an excellent summary and interpretation of this literature.

of an additional dollar of portfolio capital, leaving domestic investment unchanged. The evidence summarized in the next section indicates that this does not happen in practice. An increase in outbound FDI appears to increase the outflow of domestic saving to the rest of the world.

A second way that FDI circumvents the segmentation of global capital markets is through the local financing of the foreign subsidiary. The evidence summarized in section 2.4 shows that the subsidiaries of U.S. multinational companies use substantially more foreign-source debt than domestic U.S. companies do. Although this does not cause a cross-border flow of capital, it does give U.S. equity investors an opportunity to use more foreign debt capital than they would without the outbound FDI. The importance of this for the national return on outbound FDI is discussed in section 2.5.

### **2.3 The Effect of Outbound FDI on Domestic Investment**

To understand the likely effect of outbound FDI on the aggregate volume of domestic investment, it is useful to begin with an analysis of the behavior of an individual multinational firm and then to consider the broader general equilibrium response of the capital market to the action of the firm.

A simplified version of corporate capital budgeting shows how a firm's decision to invest abroad could cause an equal reduction in its domestic investment. The company starts with a given projected level of after-tax profits for the current year. The management pays a current dividend based on the past level of dividends and shareholders' expectations about the link between dividends and reported earnings. The amount of retained earnings that remains after that dividend and the company's desired ratio of debt to capital together determine the amount that the company can borrow during the current year and therefore the firm's total funds available for capital investments. The company could supplement these funds by new equity issues or divestitures or could absorb some of these funds by share repurchases, but such transactions are unusual events rather than a part of the annual capital budgeting process. This capital budgeting process is carried out at the level of the corporation as a whole and not for the parent company or for any of the subsidiaries alone. Any portion of the total capital budget that is used for one investment reduces the funds available for other investments. In particular, an increase in the total amount of overseas investment reduces the amount of capital available for domestic investment within the firm by an equal amount.

Such a reduction in domestic investment within a single firm that makes an overseas direct investment does not imply anything about the effect of aggregate outbound FDI on the aggregate level of domestic investment within the U.S. economy as a whole. For example, the domestic investment opportunity that the firm forgoes because it invests abroad might be undertaken by another firm that would otherwise have invested those funds abroad. But when the entire business sector is aggregated, it is clear that a net increase in aggregate

FDI will reduce domestic investment by an equal amount if all firms use the type of capital budgeting process described above.

It is possible, however, that this description of the capital budgeting process is too restrictive. A sustained rise in total national outbound FDI could in principle leave domestic investment opportunities that induce firms to raise their debt-to-capital ratio with the additional funds coming from abroad. In other words, the increase in outbound FDI would induce an offsetting inflow of portfolio capital. The effect of outbound FDI on total domestic investment thus depends on the extent to which portfolio capital is internationally mobile.

To assess this, I have extended the earlier Feldstein-Horioka (1980) analysis of investment in the major industrial countries of the Organization for Economic Cooperation and Development. To do so, I have estimated regression equations with decade average ratios of gross domestic investment to GDP as the dependent variable and with the gross national saving ratio (GNS/GDP) and the FDI ratios (FDI-out/GDP and FDI-in/GDP) as the key explanatory variables. Other control variables that are likely to influence the investment rate and to be correlated with the FDI-out/GDP ratio are also included in the equation: the absolute size of the economy, an indication of whether it is a European country, the rate of real economic growth, the rate of inflation, and the rate of interest. The estimated coefficient of the ratio of FDI-out to GDP in such an equation is about  $-1$  (varying between  $-0.80$  and  $-1.59$  according to the decade of the data and the specific control variables included) and with large enough standard errors that in every case it is not significantly different from  $-1$ .<sup>7</sup> This indicates that each dollar of outbound FDI displaces approximately one dollar of domestic investment, a result that is consistent with the view that the Feldstein-Horioka capital market segmentation applies to portfolio capital and that FDI achieves a net cross-border flow of capital equal to the amount of the FDI.

## 2.4 The Effect of Outbound FDI on the Use of Foreign Capital

The cross-border capital flow that was discussed in the previous section represents only a small part of the total financing of the foreign affiliates of U.S. multinationals. The Commerce Department's *U.S. Direct Investment Abroad: 1989 Benchmark Survey* (1992) found that among majority-owned nonbank affiliates of U.S. nonbank companies only about 20 percent of the value of assets owned abroad is financed by cross-border flows from the United States. An additional 18 percent represents retained earnings attributable to U.S. parents. The remaining 62 percent is financed locally by foreign debt and equity, of which foreign debt is about 53 percent and foreign equity is the remaining 9 percent.<sup>8</sup>

7. The specific estimates are presented in table 2.3 of Feldstein 1995.

8. More details on this capital are presented in section 1 of Feldstein 1994.

This use of foreign capital is far greater than it would be for additional domestic investments, perhaps reflecting a greater willingness of foreign banks and other lenders to provide credit to local subsidiaries of U.S. firms that have local assets as implicit collateral. In addition, the parent firm may use foreign debt to hedge the effect of currency fluctuations on the value of reported overseas earnings. The multinational parent may also use local borrowing as a way to reduce expropriation risk. Whatever the reason, it is clear that U.S. firms borrow much more foreign funds when they have direct investments abroad. In this way, the flow of FDI also overcomes the apparent segmentation of the global capital market.

## **2.5 The Present Value of Dividends and Interest per Dollar of FDI**

The preceding analysis indicates the information needed to assess the impact on the United States of an incremental dollar of U.S. outbound FDI. Consider a firm for which the real pretax rate of return on an incremental investment in the United States would be 12 percent. If the tax rate faced by the firm's foreign affiliate is the same as the U.S. tax rate and the leverage used abroad is the same as the leverage at home, the firm will invest until the marginal pretax return on the foreign investment is also 12 percent.

From the point of view of the United States as a whole, there are two fundamental differences between the firm's domestic and foreign investment. First, the foreign investment will be taxed by the government of the foreign country, so that the entire 12 percent pretax return does not flow to the United States. In contrast, the tax collected on the firm's investment in the United States remains U.S. national income. Second, the borrowing by the foreign affiliate at an after-tax cost that is substantially less than the real return on capital confers a net benefit to the United States. In contrast, when the firm borrows domestically to finance the alternative domestic investment, the gap between the return on capital and the net cost of borrowing is simply a redistribution among equity owners, lenders, and the government with no net impact on U.S. national income.

The net impact of these two countervailing forces can be evaluated by estimating the present value of the dividends and interest (net of future lending from the United States) that would be paid to U.S. suppliers of capital on the incremental foreign investment. The present value of U.S. national income is increased by the incremental FDI if the present value of these flows, when discounted at the 12 percent real rate of return that would have been earned on the displaced U.S. investment, exceeds the initial value of the displaced investment.

In Feldstein (1994) I estimate this stream of dividends and interest (net of future lending from the United States) for a foreign investment with a financing pattern that corresponds to the mix of U.S.- and foreign-source debt and equity

described in section 2.4 above. More specifically, each dollar of initial assets abroad is financed with a mix of U.S. and foreign equity and debt. The U.S. investors provide 70 percent of the equity and 8 percent of the debt, essentially the ratios implied by the *U.S. Direct Investment Abroad: 1989 Benchmark Survey*. The debt finance equals 50 percent of the total capital investment. Annual dividends are equal to 70 percent of after-tax profits. The remaining retained earnings are leveraged with an equal amount of debt, with 8 percent of that incremental debt coming from U.S. sources and 92 percent coming from foreign sources. The interest rate is 8 percent, and inflation is 4 percent.

The present value of the net interest and dividends paid to U.S. investors that are generated by this process is \$1.72 per dollar of initial U.S. debt and equity investment when discounted at a 12 percent real discount rate.<sup>9</sup> Even with the conservative assumption that each dollar of cross-border FDI displaces a full dollar of domestic investment and that all of that investment would have earned the 12 percent available on additions to the business capital stock (rather than the lower return available on owner-occupied housing), this calculation implies that each dollar of outbound FDI raises the present value of U.S. national income by nearly twice as much as the value of the displaced investment. Measured in a different way, the assumptions described in the previous paragraph imply that the U.S. cross-border investment earns an internal rate of return for the United States of 15.1 percent.

## 2.6 Concluding Remarks

It is clear from the analysis in this paper that the credit for foreign taxes paid does not induce U.S. firms to expand FDI to a point at which the return to the United States on such investments is less than the return on the displaced domestic investment. A typical marginal FDI (which has the same net return to an American multinational parent as an alternative marginal domestic investment) actually has a higher return to the United States than the domestic investment that it displaces.

A rule for taxing FDI to maximize the present value of U.S. national income would certainly not replace the current foreign tax credit with a deduction for foreign taxes. It would instead move in the opposite direction from the current tax rule in order to encourage more FDI, particularly investments that employ substantial foreign debt per dollar of U.S. capital.

9. The net flow to the United States is the interest and dividends received minus the additional lending from U.S. sources. The analysis assumes that the incremental lending from U.S. sources continues to be 8 percent of the affiliate's total debt.

## References

- Dutton, John. 1982. The Optimal Taxation of International Investment Income: A Comment. *Quarterly Journal of Economics* 97 (May): 373–80.
- Feldstein, Martin. 1994. Taxes, Leverage and the National Return on Outbound Foreign Direct Investment. NBER Working Paper no. 4689. Cambridge, MA: National Bureau of Economic Research, March.
- Feldstein, Martin. 1995. The Effects of Outbound Foreign Investment on the Domestic Capital Stock. In *The Effects of Taxation on Multinational Corporations*, ed. Martin Feldstein, James R. Hines, Jr., and R. Glenn Hubbard. Chicago: University of Chicago Press.
- Feldstein, Martin, and P. Bacchetta. 1991. National Saving and International Investment. In *National Saving and Economic Performance*, ed. B. D. Bernheim and J. B. Shoven. Chicago: University of Chicago Press.
- Feldstein, Martin, and Charles Horioka. 1980. Domestic Saving and International Capital Flows. *Economic Journal* 90 (June): 314–29.
- Frankel, Jeffrey. 1985. International Capital Mobility and Crowding Out in the U.S. Economy. In *How Open Is the U.S. Economy*, ed. R. Hafer. Lexington, MA: Lexington Books.
- . 1991. Quantifying International Capital Mobility in the 1980s. In *National Saving and Economic Performance*, ed. B. D. Bernheim and J. B. Shoven. Chicago: University of Chicago Press.
- Graham, Edward, and Paul Krugman. 1991. *Foreign Direct Investment in the United States*. Washington, DC: Institute for International Economics.
- Horst, Thomas. 1980. A Note on Optimal Taxation of International Investment Income. *Quarterly Journal of Economics* 94 (June): 793–99.
- Lipsey, Robert. 1995. Outward Direct Investment and the U.S. Economy. In *The Effects of Taxation on Multinational Corporations*, ed. Martin Feldstein, James R. Hines, Jr., and R. Glenn Hubbard. Chicago: University of Chicago Press.
- Musgrave, Peggy B. 1969. *United States Taxation of Foreign Investment Income: Issues and Arguments*. Cambridge: Law School of Harvard University.
- Mussa, Michael, and Morris Goldstein. 1993. The Integration of World Capital Markets. In *Changing Capital Markets: Implications for Monetary Policy*. 1993 Annual Conference of the Kansas City Federal Reserve Bank. Kansas City, MO: Kansas City Federal Reserve Bank.
- Richman, Peggy B. 1963. *Taxation of Foreign Investment Income: An Economic Analysis*. Baltimore: Johns Hopkins University Press.
- U.S. Congress. Joint Committee on Taxation. 1991. *Factors Affecting the International Competitiveness of the United States*. Washington, DC: Government Printing Office.
- U.S. Department of Commerce. 1992. *U.S. Direct Investment Abroad: 1989 Benchmark Survey, Final Results*. Washington, DC: Government Printing Office.