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FDI Flows: A Critical Look

Assaf Razin*

The resilience of foreign direct investment (FDI) during financial crises may have led many developing countries to regard this type of international capital flow as the private capital inflow of choice. But evidence on the size of the specific benefits of FDI inflows to emerging markets is still very sketchy. In Loungani and Razin¹ we note that while there is some evidence that FDI benefits host countries, they should assess its potential impact carefully and realistically². My recent research focuses on the economic effects of international factor movements and financial mobility³. In this report I will focus on FDI flows.

Like its theoretical counterpart, the empirical work has tended to focus either on underlying factors that explain the location of FDI flows across countries, or on explaining the cyclical behavior of FDI flows, using obvious macroeconomic variables, and assessing the contribution of FDI flows to investment in capacity and growth. Given the wide range of potential motives for FDI, it was difficult to provide a single model covering all possible circumstances.

Earlier, Kindleberger⁴ suggested that, in order to think about FDI, we must ask not why capital might flow into a country, but rather why some particular asset would be worth more under foreign control than under domestic control. This in turn could reflect either higher expected earnings under foreign control, or a lower foreign cost of capital, and hence a higher valuation of given earnings.

Evidence on capital inflows to developing countries shows that, although equity portfolio flows have risen rapidly in recent years, they still

compose a much smaller fraction of the total inflows than do portfolio debt instruments (such as bonds, certificates of deposit, and commercial paper). Furthermore, the latter flows are smaller than FDI flows, which make up more than half of private flows.

I develop a stylized model of FDI⁵ in the presence of asymmetric information between the “insiders” and the “outsiders” of the firm. Because of potential agency problems between owners and managers, the former set rigid investment rules before realization of productivity shocks. The management then implements these rules by seeking funds to finance the investment after the firm-specific productivity parameter is known. At the end of the planning stage, when the firm-specific productivity parameter is still not known, the foreign direct investors step in. Anticipating their better micro-management skills, they are willing to use a skimming technology to elicit higher productivity firms. Consequently, they outbid all other investors for these top productivity firms, and make larger investments than their domestic counterparts.

Although domestic investors also have access to the skimming technology used by the foreign director investors, they nevertheless cannot pay for the cost of this technology and compete with foreign direct investors for the top productivity firms, because they cannot design a state-dependent investment rule for these firms.

The open economy does gain from the inward FDI flows. In the absence of the skimming technology used by FDI, the original domestic owners would not be able to distinguish between the firms with productivity levels below a cutoff level and the top productivity firms. Thus, they would pre-determine the same investment level for the various groups of firms; in the presence of FDI, they can pre-

determine one investment level for the top productivity firms that are acquired by the FDI investors. Naturally, this one additional degree of freedom provided by FDI must be beneficial to the open economy; hence the “gains from trade” argument for FDI.⁶

I also address the possibility of a “pecking order” among the three major types of capital flows: debt, equity, and FDI in this theory. Based on a different asymmetric information assumption — that is between foreign and domestic savers — and segmented international capital markets (following the work of Roger Gordon and Lans Bovenberg), I argue that the information asymmetry favors domestic savers. Why is there any equity trade at all, given the “lemons” situation that arises from the information asymmetries between domestic and foreign investors? The answer hinges on the international setting. The domestic risk-free interest rate exceeds the world risk-free interest rate. This interest-rate wedge generates higher valuations of the equity assets from the point of view of foreign investors, as compared with the domestic potential investors; this counteracts the “lemons” effect and ensures that the domestic equity market will not collapse. This result relies on some segmentation in the international bond market in the background to prevent such equity trade from collapsing. In this context however, there are insufficient portfolio-equity inflows; that is, there is a home bias in equity holdings. Following up on this idea, my colleagues and I⁸ explore the “pecking order” for international capital inflows in the context of a model in which domestic savers and FDI investors are endowed with better information than the portfolio foreign investors. The ranking of capital inflows is somewhat similar to the “pecking order” of corporate capital structure. Recall that in corporate

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finance the hypothesis maintains that the firms prefer internal finance (retained earnings, the analogue of FDI in the case of international flows) to external finance. If the latter is required, then firms will issue the safest security (debt, the analogue of debt portfolio inflows), and they will issue new equity (the analogue of equity portfolio flows) only as a last resort.

Foreign investors who are not liquidity constrained at the same time their host country investors are subject to liquidity constraints could gain crucial inside information about the productivity of the firms under their control. FDI entails direct control of the acquired domestic firm, which the typical domestic savers with portfolio ownership positions in the firm do not have. Foreign operators of a multinational subsidiary therefore possess an inside-information advantage over potential domestic investors. The foreign investors can bid the investment project away from their domestic counterparts because of the foreigners' advantage: having access to funds available in the capital market because they can post better collateral. As a result of this asymmetry, owners of multinational subsidiaries with above-average valuations are unwilling to sell off equity at prices offered by uninformed potential domestic buyers. The resulting adverse selection can lead to over-investment by foreign direct investors. The apparently desirable property of FDI flow resilience during crises in fact may reflect a distortion in the secondary market for equity assets⁹.

Recently, a striking feature of FDI flows has been pointed out: the share of FDI in total inflows is higher in riskier countries, as measured either by countries' credit ratings for sovereign (government) debt or other indicators of country risk¹⁰. There is also some evidence that the FDI share is higher in countries where the credit risk is higher. This finding is consistent with the theory in my paper with Sadka, because the micro-management superiority of FDI investors over their domestic counterparts is more pronounced when the corporate gover-

nance in the host country is weak and financial institutions are not well developed. Credit ratings depend not only on firms' characteristics but also on some aggregate macroeconomic variables or political factors. In the context of a stylized model I demonstrate that a "good" equilibrium involves a "high" level of aggregate investment, with a moderate country-specific risk premium, which is hardly observable. However, there may be another, "bad" equilibrium with a very high country-specific risk premium, which reflects that capital flows dry up. The country may switch abruptly from the high-investment equilibrium to the low-investment equilibrium — that is, an endogenously determined reversal of capital flows¹¹.

Though it is true that the machines in the FDI parable are "bolted down" and, hence, difficult to move out of the host country on short notice, financial transactions sometimes can accomplish a reversal of FDI flows quite easily. For instance, the foreign subsidiary can borrow against its collateral domestically and then lend the money back to the parent company. Likewise, because a significant portion of FDI is intercompany debt, the parent company can recall this debt on short notice¹².

Both economic theory and recent empirical evidence suggest a beneficial impact of FDI on developing countries. But recent work also points to some sources of potential risks and excesses: FDI can be easily reversed through financial transactions in some circumstances; there is an FDI bias in the composition of capital inflows, because of adverse selection and "fire sales." A large statistical effect of FDI on the level of domestic investment is likely to be the result of an endogeneity bias, and of heavy reliance by multinationals on borrowings from domestic lenders. The high share of FDI in a country's total capital inflows may reflect its capital-market institutions' weakness rather than their strength. Though the empirical relevance of some of these sources remains to be demonstrated, they do appear to make a case for taking a nuanced view of the likely effects of FDI.

¹ L. Prakash and A. Razin, "How Beneficial Is Foreign Direct Investment?" *Finance and Development*, 38 (2) (June 2001), pp. 6-10.

² The name "foreign direct investment" usually brings to mind real investment and international flows of capital. But, as noted by Froot, FDI actually requires neither capital flows nor investment in capacity. Conceptually, FDI is an extension of corporate control over international boundaries: "When Japanese-owned Bridgestone takes control over the U.S. firm Firestone, capital need not flow into the U.S. The equity purchase can be largely financed by U.S. domestic lenders. Any borrowing by Bridgestone from foreign-based third parties also does not qualify as FDI (although it would count as an inflow of portfolio capital into the U.S.). And, of course, in such acquisition there is no investment expenditure; merely an international transfer in the title of corporate assets." See K. A. Froot, "Japanese Foreign Direct Investment," NBER Working Paper No. 3737, June 1991, and in U.S.-Japan Economic Forum, Vol. 1, M. Feldstein and Y. Kosai, eds., *National Bureau of Economic Research and Japan Center for Economic Research*, 1991.

³ A. Razin and E. Sadka, *Labor, Capital and Finance: International Flows*, Cambridge: Cambridge University Press, 2001.

⁴ C.P. Kindleberger, *American Business Abroad: Six Lectures on Direct Investment*, New Haven: Yale University Press, 1969.

⁵ A. Razin and E. Sadka, "FDI Flows and Domestic Investment: The Dominant Role of FDI," Tel Aviv University, mimeo, 2001.

⁶ Under asymmetric information between foreign and domestic savers, the theory resorts to segmented world capital markets to explain the special role of FDI. See also, A. Razin, E. Sadka, and C. Yuen, "An Information-Based Model of Foreign Direct Investment: The Gains from Trade Revisited," NBER Working Paper No. 6884, January 1999, and in P. Isard, A. Razin, and A. Rose, eds., *International Finance and Financial Crises: Essays in Honor of Robert P. Flood, Jr.*, Kluwer Academic Publishers and the International Monetary Fund. See also A. Razin, E. Sadka, and C. Yuen, "Excessive FDI under Asymmetric Information," NBER Working Paper No.

7400, October 1999, and in R. Glick, M. Spiegel, and R. Moreno, eds., *Financial Crises in Emerging Markets*, Cambridge: Cambridge University Press, 2001; and A. Razin, E. Sadka, and C. Yuen, "An Information-Based Model of Foreign Direct Investment: The Gains from Trade Revisited," *International Tax and Public Finance*, 6 (4) (1999). For an integration of various aspects of FDI, see A. Razin and E. Sadka, *Labor, Capital and Finance: International Flows*, Cambridge: Cambridge University Press, 2001.

⁷ R. H. Gordon and A. L. Bovenberg, "Why is Capital so Immobile Internationally? Possible Explanations and Implications for Capital Income Taxation," *American Economic Review*, 86 (1996), pp. 1057-75.

⁸ A. Razin, E. Sadka, and C. Yuen, "A Pecking Order of Capital Inflows and International Tax Principles," *Journal of International Economics*, 44 (1998); and "Implications of the Home Bias: A Pecking Order of Capital Inflows and Corrective Taxation," published as Chapter 4 in A. Razin and E. Sadka, eds., *The Economics of Globalization: Policy Perspectives from Public Economics*, Cambridge: Cambridge University Press, 1999, pp. 85-122.

⁹ Krugman considered two potential reasons for a surge in FDI inflows after a financial crisis, while at the same time, other forms of capital inflows (loans or portfolio flows) dry up: 1) Assume that foreign firms are more

efficient than their domestic counterparts. The macroeconomic moral-hazard view suggests that if domestic firms can borrow with implicit guarantees, they will be willing to pay higher prices than foreign owners despite their lower expected returns. As a result, foreign firms will be crowded out of the domestic market. In the aftermath of the financial crisis, however, when the regime of government guarantees collapses, the result will be a transfer of ownership to the more efficient foreign firms. In a pure moral-hazard version of the financial crisis, therefore, the drop in asset values as a result of the financial crisis, and the consequent transfer of ownership is an efficient move from the world's point of view. 2) The financial-panic point of view of the crisis (based on a model similar to Diamond-Dybvig type of bank runs) is, however, quite different. Suppose that foreign firms, unlike domestic investors during a panic, are not liquidity-constrained, but they are less efficient at running domestic investment projects than domestic firms. Evidently, in the absence of a crisis, the foreign firms will not get involved. But once there is a crisis, any firm that is not liquidity-constrained can earn more than the liquidation value by keeping half-finished projects in existence. It will therefore be in a position to buy the project from the crisis-stricken financial intermediary: a transfer of ownership to a foreign firm that is less efficient than the domestic firm, which is an efficient move from the world's point of view. See P. Krugman, "Firesale FDI," MIT Working Paper,

1998; also available on the web at: <http://web.mit.edu/krugman/www/FIRESALE.htm>.

¹⁰ R. Hausmann and E. Fernandez-Arias, "Foreign Direct Investment: Good Cholesterol?" *Inter-American Development Bank Working Paper No. 417*, Washington, DC, 2000; and R. Albuquerque, "The Composition of International Capital Flows: Risk Sharing through Foreign Direct Investment," *Bradley Policy Research Center Working Paper No. 00-08*, Rochester, New York: University of Rochester, 2000.

¹¹ A. Razin and E. Sadka, "Country Risk and Capital Flow Reversals," NBER Working Paper No. 8171, March 2001, and in *Economic Letters*, 72 (1) (June 2001), pp. 73-7; and *Labor, Capital and Finance: International Flows*, Cambridge: Cambridge University Press, 2001.

¹² S. Claessens, M. Dooley, and A. Warner demonstrate that a common characterization of FDI as "cold" capital flows and foreign portfolio investments as "hot" capital flows, is inconsistent with the data. See S. Claessens, M. Dooley, and A. Warner, "Portfolio Capital Flows: Hot or Cold?" *World Bank Economic Review*, 9 (1) (1995), pp. 153-74. See also G. M. Milesi-Ferretti and A. Razin, "Current Account Reversals and Currency Crises: Empirical Regularities," NBER Working Paper No. 6620, June 1998, and in P. Krugman, ed., *Currency Crises*, Chicago: University of Chicago Press, 2000.

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