

STYLISTED FACTS ON FDI

Data

FDI inflows as percentage of gross fixed capital formation (%)

	1986-91	1992-96	Index (1986-91=100)
<i>Developed countries</i>	3.5	3.2	91
<i>Developing countries</i>	3.4	6.8	200
<i>Africa</i>	3.9	7.2	185
<i>Asia</i>	2.8	6.0	214
<i>Latin America</i>	5.3	9.5	179
<i>Central and Eastern Europe</i>	0.1	6.2	6200

FDI and Total and Domestic Investment

Investment by MNEs (FDI) contributes directly to total investment because it is part of it:

$$I \equiv I_d + I_f$$

where the subscripts d and f refer to domestic and foreign.

But not all investment by foreign firms is FDI, and FDI does not always represent new investment. First, FDI comprises new investment as well as mergers and acquisitions (M&A):

$$FDI = I_f^n + M \& A$$

where the superscript n refers to new investment.

In many cases, *M&A may simply represent a transfer of assets already in operation from domestic to foreign ownership* (or to different foreign ownership). When this is the case, M&A does not involve new investment, and new investment would be less than FDI. M&A may even exert upward pressures on domestic interest rates and lead to real appreciation the exchange rate, which would result in less investment in producing for exports and for import substitution. This would be the case of massive M&A penetration, in the form of portfolio investment, in small economies.

However, it is possible for M&A to generate new investment. This would be the case if the shareholders who sold their assets would re-invest their financial gains (not very likely) and if the new owners implement a developed program for the asset acquired that require capital and technology investment. *Whether or not M&A generate new investment is an empirical question.*

It is also possible that *investment by MNEs may exceed FDI*, if MNEs are allowed to borrow in the domestic financial market to finance their investment. Borrowing in domestic markets may crowd out lending to domestic firms, put interest rates up and may even increase balance

of payment problems as domestic borrowing can easily be transferred abroad by firms that operate globally. This is not very likely as liquidity constrains and higher costs of borrowing make domestic financial markets not very attractive to MNEs.

Since total private investment comprises investment by domestic and foreign firms, to evaluate the impact of FDI one has to be able to *identify how much of the FDI is new investment, and what the dynamics between FDI and domestic investment is*. If FDI crowds in (CI) domestic investment, total investment increases by an amount larger than FDI when FDI increases. In this case, FDI contributes to the economy by more than its actual direct contribution to capital formation. If FDI crowds out (CO) domestic investment, the inverse happens. If there the two are not linked, total investment increases by as much as FDI weighted by the FDI share of total investment:

$$\frac{\Delta I}{\Delta FDI} = \Delta FDI \left(\frac{FDI}{I} \right) + \Delta FDI \left(\frac{\Delta I_d}{\Delta FDI} \frac{I_d}{I} \right)$$

$$\text{if there is CI, } \Delta FDI \left(\frac{\Delta I_d}{\Delta FDI} \frac{I_d}{I} \right) > 0 \text{ and } \frac{\Delta I}{\Delta FDI} > \Delta FDI \left(\frac{FDI}{I} \right).$$

$$\text{if there is CO, } \Delta FDI \left(\frac{\Delta I_d}{\Delta FDI} \frac{I_d}{I} \right) < 0, \text{ and } \frac{\Delta I}{\Delta FDI} > \Delta FDI \left(\frac{FDI}{I} \right).$$

$$\text{if the two are not linked, } \Delta FDI \left(\frac{\Delta I_d}{\Delta FDI} \frac{I_d}{I} \right) = 0, \text{ and } \frac{\Delta I}{\Delta FDI} = \Delta FDI \left(\frac{FDI}{I} \right).$$

The effects of FDI on I and Id may well vary from country to country, period to period, depending on factors such as the strength of the domestic firms and investment, government policy and strategy, MNEs corporate strategy, technological capabilities of the domestic economy, etc.

However, if FDI introduces new goods and technologies (example, investment in new sectors that domestic firms would not be able to develop), foreign investment makes a positive contribution to capital formation even if it does not CI domestic firms. CI would then depend on the linkages developed between domestic and foreign investment: technological, demand/supply and pecuniary. For example, if the development of a new sector by a MNE increases demand for the goods produced by domestic firms, or supplies cheaper and better quality inputs and equipment, or provides domestic firms with far greater availability of foreign exchange, then it can be said that FDI not only adds directly to the capital stock, but also helps to increase domestic investment (and total investment).

Although it can be argued that FDI in new sectors crowds out the possibility of domestic firms to take advantage of new opportunities if adequately nurtured by the state, such nurturing may be too slow, costly (if technological requirements are too far ahead of the domestic technological capabilities) and not all states can efficiently help firms to develop competitive assets and capacities.

If FDI enters the economy in sectors where there are plenty of competing domestic firms (producing for the domestic or export market), the MNE may take away opportunities from domestic firms or even make them go out of business. In this case, FDI would be crowding out domestic investment, and total investment would be increasing by less than FDI.

It can also be argued that a MNE entering such a crowded industry may force domestic firms to rationalise and make investment in technology and capital to become competitive, but

given the large competitive advantage of the MNE it is unlikely that domestic firms would stay in the market.

Hence, it can be said that *when the distribution of FDI is substantially different from the distribution of the existing capital stock or of production, the contribution of FDI to capital formation will tend to be more positive than when the distribution of FDI follows roughly the existing distribution of capital stock.* In other words, *the relationship between FDI and domestic investment is more likely to be complementary when FDI takes place in underdeveloped sectors of the economy* (if such underdevelopment is owed to technological factors or lack of knowledge of foreign markets).

Thus, the contribution of FDI to total investment is dependent on the new investment share of FDI, FDI not crowding out domestic investment, FDI being complementary to domestic investment, and FDI crowding in domestic investment. The crowding in depends on linkages developed between the MNE and domestic firms.

MODEL

$$I_t \equiv I_{d,t} + I_{f,t}$$

$$I_{f,t} = \Psi_0 FDI_t + \Psi_1 FDI_{t-1} + \Psi_2 FDI_{t-2}$$

assuming that $I_f = f(FDI)$, and that there is a lag between I_f and FDI.

$$I_{d,t} = \lambda (K_{d,t}^* - K_{d,t})$$

where $K_{d,t}^*$ and $K_{d,t}$ refer to desirable and actual capital stock, and $\lambda < 1$.

Domestic firms invest to adjust the actual stock of capital to the desirable level.

This adjustment is gradual because of liquidity constraints and the time lag of adjustment.

$$K_{d,t}^* = \phi_0 + \phi_1 G_t^e + \phi_2 y_t$$

where $\phi_1, \phi_2 > 0$. This means that $K_{d,t}^*$ depends on expected growth, G_t^e , and $y = Y_n - Y$, where Y and Y_n are actual and full-capacity output.

$$K_{d,t} = (1-d)K_{d,t-1} + I_{d,t-1}$$

where d is annual depreciation. This is the law of motion of capital stock.

$G_t^e = G_t$, following rational expectations. And...

$G_t^e = \eta_1 G_{t-1} + \eta_2 G_{t-2}$, following adaptive expectations.

FDI is exogenous, in the sense that it is determined outside the domestic economy, by factors such as international conditions, corporate strategy, etc.. Hence, the determination of FDI is not part of the model. This argument can be refuted on two grounds. First, FDI is sensitive to regulation: prohibition and liberalisation may induce large changes in FDI flows. Second, the test for exogeneity takes FDI as the dependent variable and the growth rates (current and

lagged) as explanatory variables, on the assumption that expected growth determines domestic investment. If one considers other determinants of investment (in addition to expected growth), one may find a significant relationship between FDI and endogenous determinants of investment.

However, the sectors chosen by FDI and the linkages that FDI may or may not develop in the economy (this is, the net contribution of FDI to capital formation) depends also on endogenous variables (such as government policy, the strength of domestic firms, etc).

The tests of the model show that:

	<i>Asia</i>	<i>Africa</i>	<i>Latin America</i>
<i>FDI</i>	Crowd in (CI)	Neutral (N)	Crowd out (CO)
<i>Disaggregated distribution</i>	CI+N	CI+N+CO	N+CO

The four most interesting facts to take notice are:

- only in Asia is FDI yielding crowding in effects;
- Asia has the strongest domestic entrepreneurship and technological capabilities, as well as the strongest investment dynamics of the group;
- Asia still applies selective industrial policies in crucial areas, to which even FDI is submitted; and
- Asia has the least liberalised FDI regime of the group (including prohibitions on M&A, screening of investment projects and application of different investment regimes to different firms and industries).

CONCLUSIONS

- FDI is not always beneficial; it will only be beneficial if it adds (net) to capital formation, is complementary and develops positive linkages (crowding in) with domestic investment;
- FDI is more likely to be beneficial if it involves new investment and in new sectors that take advantage, and help to develop, existing domestic capacities;
- FDI may be exogenous in the sense of not being determined by the factors that determine domestic investment, and being associated with international economic conditions and corporate strategy – it is, thus, important that firms and governments seeking FDI understand well such conditions and strategies;
- Although the determination of FDI may be exogenous, the direction, pattern and efficiency of FDI may be strongly influenced by domestic conditions and policies: the strength of domestic firms and technological capabilities, government policy, etc;
- Amongst developing countries, only South East and East Asian countries, on average, benefit from crowding in – this may be due to their economic strength (entrepreneurship, firms, technological capabilities and rates of investment and growth) as well as to their policies.
- FDI flows may also influence domestic conditions (economic, technological and political) very significantly.