CHAPTER 10: FOREIGN DIRECT INVESTMENT: A CHALLENGE FOR CONTROL OF DOMESTIC CAPITAL

Introduction

In the preceding chapter we considered portfolio equity flows. Formally, these are defined as purchases of insignificant shares in domestic firms. From an economic point of view, the distinctive feature of portfolio flows is the lack of control and management. However, FDI is different from foreign portfolio investment, concerning control and management of the domestic firm.

FDI has proven to be resilient during financial crises. In situations of international illiquidity, when the country’s consolidated financial system has short-term obligations in foreign currency in excess of foreign currency the country has access to on short notice, FDI flows provide the only direct link between the domestic capital market in the host country and the world capital market at large. For instance, FDI flows to the East Asian countries were remarkably stable during the global financial crises of 1997-98. In sharp contrast, portfolio equity and debt flows as well as bank loans dried up almost completely during the same period. The resilience of FDI to financial crises was also evident in the Mexican crisis of 1994 and the Latin American debt crisis of the early 1980s. This may reflect a unique characteristic of FDI, which is determined by considerations of ownership and control by multinationals of domestic activities which are more long-term in nature. In contrast, portfolio flows may be influenced to a greater extent by short-term fluctuations in the value of domestic currency and the availability of credit and liquidity.

In this chapter we develop an information-based model of FDI which could explain
the relatively large flows of FDI. The model features a built-in flip side, especially when FDI is leveraged domestically, as is often the case in the real world. The next chapter discusses some positive externalities brought about by FDI flows. Note, nevertheless, that the model presented in this chapter is not intended to explain a sudden reversals of flows and therefore does not attempt to explain the emergence of financial crises; see chapters 7 and 8 for some possible explanations for such crises.

An Information-Based Model of FDI Flows

Conventionally, portfolio equity flows (discussed in the preceding chapter) are formally defined as purchases of small stakes (usually, less than 10%) in domestic firms. But we emphasized that from an economic point of view, the distinctive feature of portfolio equity flows is that the foreign investors remain “silent”, in the sense that they do not gain control of the domestic firm and do not put any managerial value added. An FDI, on the other hand, has a distinctive feature of gaining control and applying managerial value added to the domestic firm. This value added may attribute some positive externality to FDI - an issue that we shall address in the next chapter. In this chapter we focus on the control aspect which may render “inside” information to the foreign investor, possibly to the disadvantage of the FDI-recipient country.

To reemphasize, FDI is not only an exchange of the ownership of domestic investment sites from domestic residents to foreign residents, but also a corporate governance mechanism in which the foreign investors exercise management and control over the host country firm. In so doing, the foreign direct investors gain crucial inside information about the productivity of the firm under their control - an obvious advantage over the uninformed domestic savers, who
are offering to buy shares in the firm. Taking advantage of their superior information, the foreign direct investors will tend to retain the high-productivity firms under their ownership and control and sell the low-productivity firms to these uninformed savers.

We follow the preceding chapter in modelling the risk in this economy. Suppose there is a very large number \((N)\) of \textit{ex-ante} identical domestic firms. Each firm employs capital input \((K)\), in the first period, in order to produce a single composite good in the second period. We assume that capital depreciates at the rate \(\delta\). Output in the second period is equal to \(F(K)(1 + \varepsilon)\), where \(F(\cdot)\) is a production function exhibiting diminishing marginal productivity of capital and \(\varepsilon\) is a random productivity factor with zero mean and is independent across all firms. We normalize the number of firms to be one: \(N = 1\).

As before, capital investment decisions are made by the firms before the state of the world (that is, \(\varepsilon\)) is known. Since all firms face the same probability distribution of \(\varepsilon\), they all choose the same level of investment. They then seek funds to finance the investment. At this stage, the owner-managers of the firms are better informed than the outside fund-suppliers. Specifically, we assume that the owner-managers, being “close to the action”, observe \(\varepsilon\) before they make their financing decisions; but the fund-providers, being “far away from the action”, do not.

When investment is equity-financed, the original owner-managers observe \(\varepsilon\) while the new potential shareholders of the firm do not. The market will be trapped in the “lemons” situation described by Akerlof (1970). At the price offered by the new (uninformed) potential equity buyers, which reflects the average productivity of all firms (that is, the average level of \(\varepsilon\)) in the market, the owner-manager of a firm experiencing a higher-than-average
value of $\varepsilon$ will not be willing to sell its shares and will pull out of the market completely. In the absence of FDI, the equity market will fail.

However, a domestic credit market can do a better job of channelling domestic savings into domestic investment. Even FDI can utilize this market. In fact, it is often observed that FDI is highly leveraged domestically. After gaining control of the domestic firm, a foreign direct investor typically resorts to the domestic credit market, to finance new investments, and possibly sell (shares of) the firm in the domestic equity market later on.

The sequencing of firm decisions, all conducted in period one, is as follows (see figure 10.1). Before $\varepsilon$ is revealed to anyone (that is, under effectively symmetric information), foreign investors bid up domestic firms from their original domestic owners; then investment decisions are made; and finally, full financing through domestic credit is secured. Then, $\varepsilon$ is revealed to the owner-managers (who are all foreigners), but not also to domestic portfolio-equity investors. At this stage, shares are offered in the domestic equity market and the ownership in some of the firms is transferred to the domestic investors. In the initial stage (that is, when $\varepsilon$ is revealed to no one), the foreign direct investors are able to outbid the domestic savers because the latter are assumed to lack access to amounts of funds large enough to seize control of the firms; while the former, by assumption, are not liquidity-constrained.³

The domestic credit market operates as described in chapter 8. Since credit is extended ex ante, before $\varepsilon$ is revealed, firms cannot sign default-free loan contracts with the lenders. We therefore consider loan contracts which allow for the possibility of default. The loan contract is characterized by a loan rate ($r$), with possible default, and a threshold value ($\bar{\varepsilon}$) of the productivity parameter as follows:
\[ F(K)(1 + \bar{\varepsilon}) + (1 - \delta)K = [K - (1 - \delta)K_0](1 + r). \]  \hspace{1cm} (10.1)

When the realized value of \( \varepsilon \) is larger than \( \bar{\varepsilon} \), the firm is solvent and will thus pay the lenders the promised amount, consisting of the principal \( K - (1 - \delta)K_0 \), plus the interest \( r [K - (1 - \delta)K_0] \), as given by the right-hand-side of (10.1). If, however, \( \varepsilon \) is smaller than \( \bar{\varepsilon} \), the firm will default. In the case of default, the lenders must incur a cost in order to verify the true value of \( \varepsilon \) and to seize the residual value of the firm. This cost, interpretable as the cost of bankruptcy, is assumed, as before, to be proportional to the firm’s realized gross return, \( \mu [F(K)(1 + \varepsilon) + (1 - \delta)K] \), where \( \mu \leq 1 \) is the factor of proportionality. Net of this cost, the lenders will receive \( (1 - \mu) [F(K)(1 + \varepsilon) + (1 - \delta)K] \).

Since there is no aggregate risk, the expected rate of return required by domestic consumer-savers, denoted by \( \bar{r} \), can be secured by sufficient diversification. Therefore, the “default” rate of interest, \( r \), must offer a premium over and above the default-free rate, \( \bar{r} \), according to:

\[
\begin{align*}
[1 - \Phi(\bar{\varepsilon})][K - (1 - \delta)K_0](1 + r) &+ \Phi(\bar{\varepsilon})(1 - \mu)\{F(K)\frac{\bar{\varepsilon}}{1 + e^{-\bar{\varepsilon}}} + (1 - \delta)K\} \\
&= [K - (1 - \delta)K_0](1 + \bar{r}),
\end{align*}
\]

where \( \Phi(\cdot) \) is the cumulative probability distribution of \( \varepsilon \), and \( e^{-\bar{\varepsilon}} \) is the mean value of
$\varepsilon$ realized by the low-productivity firms (see chapter 8 or chapter 9). The first term on the left-hand-side of (10.2') is the contracted principal and interest payment, weighted by the no-default probability. The second term measures the net residual value of the firm, weighted by the default probability. The right-hand-side is the no-default return required by the domestic lender.

The firm in this setup is competitive (that is, a price-taker) only with respect to $\bar{r}$, the market default-free rate of return. This $\bar{r}$ cannot be influenced by the firm's actions. However, $r$, $K$ and $\bar{\varepsilon}$ are firm-specific and must satisfy equations (10.1) and (10.2'). As before, the firm takes these constraints into account in making its investment (that is, choosing $K - (1 - \delta)K_0$) and its financing (loan contract) decisions.

In the equity market, which opens after $\varepsilon$ is revealed to the (foreign) owner-managers, there is a cutoff level of $\varepsilon$, denoted by $\varepsilon_0$, such that all firms experiencing a value of $\varepsilon$ above $\varepsilon_0$ will be retained by the foreign direct investors and all other firms (with $\varepsilon$ below $\varepsilon_0$) will be sold to domestic savers; see also chapter 9. This cutoff level of $\varepsilon$ is given by:

$$
\frac{F(K)(1 + \varepsilon_0) + (1 - \delta)K - [K - (1 - \delta)K_0](1 + r)}{\mu \frac{\Phi(\varepsilon)}{\Phi(\varepsilon_0)}} = \frac{\mu}{\Phi(\varepsilon_0)} \cdot 0 \quad (10.3')
$$

$$
+ \frac{1}{\mu} \frac{\Phi(\varepsilon_0) - \Phi(\bar{\varepsilon})}{\Phi(\varepsilon_0)} \cdot \frac{\mu}{\Phi(\varepsilon_0)} \frac{F(K)[1 + \hat{\varepsilon}(\varepsilon_0)] + (1 - \delta)K - [K - (1 - \delta)K_0](1 + \bar{r})}{1 + \bar{r}^*}
$$

where $\hat{\varepsilon}(\varepsilon, \varepsilon_0) \equiv E(\varepsilon/\bar{\varepsilon} \leq \varepsilon \leq \varepsilon_0)$ is the conditional expectation of $\varepsilon$ given that $\varepsilon$ lies between $\bar{\varepsilon}$ and $\varepsilon_0$.

Notice that firms which experience a value of $\varepsilon$ below $\bar{\varepsilon}$ default and have zero value. These firms are not retained by the foreign direct investors; hence $\varepsilon_0 \geq \bar{\varepsilon}$. All other firms
generate in the second period a net cash flow of $F(K)(1+\varepsilon)+(1-\delta)K-[K-(1-\delta)K_o](1+r)$.

The left-hand-side of (10.3') represents the marginal (from the top of the distribution) firm retained by foreign investors. The right-hand-side of (10.3') is the expected value of the firms that are purchased by domestic savers. With a conditional probability of $[\Phi(\varepsilon_0) - \Phi(\tilde{\varepsilon})]/\Phi(\varepsilon_0)$, they generate a net expected cash flow of $F(K)[1+\hat{e}(\tilde{\varepsilon},\varepsilon_0)] + (1-\delta)K - [K-(1-\delta)K_o](1+r)$; and with a probability of $\Phi(\tilde{\varepsilon})/\Phi(\varepsilon_0)$, they generate a zero net cash flow. This explains equation (10.3').

We can substitute equation (10.1) into (10.2') and (10.3') in order to eliminate $r$ and then rearrange terms to obtain:

$$[1 - \Phi(\tilde{\varepsilon})] F(K)(1 + \tilde{\varepsilon}) + \Phi(\tilde{\varepsilon})(1 - \mu)F(K) \leq 1 + e^{-\tilde{\varepsilon}} \leq 10.2$$

$$[1 - \Phi(\tilde{\varepsilon})\mu](1 - \delta)K = [K - (1 - \delta)K_o](1 + \bar{r}),$$

and

$$\varepsilon^o - \tilde{\varepsilon} = \frac{\mu \Phi(\varepsilon_0) - \Phi(\tilde{\varepsilon})}{\Phi(\varepsilon_0)} \cdot \frac{\mu \hat{e}(\tilde{\varepsilon},\varepsilon_0) - \tilde{\varepsilon}}{1 + \bar{r}}. \tag{10.3}$$

Consider now the capital investment decision of the firm that is made before $\varepsilon$ becomes known, while it is still owned by foreign direct investors. With a probability of $\Phi(\varepsilon_0) - \Phi(\tilde{\varepsilon})$, it will be sold to domestic savers who pay a positive price equalling:
\[
\{F(K)[1 + \dot{e}(\bar{\varepsilon}, \varepsilon_0)] + (1 - \delta)K - [K - (1 - \delta)K_o](1 + r)\}/(1 + \bar{r}) = F(K)[\dot{e}(\bar{\varepsilon}, \varepsilon_0) - \bar{\varepsilon}]/(1 + \bar{r}),
\]

by using (10.1). With a probability of \(1 - \Phi(\varepsilon_0)\), it will be retained by the foreign investors for whom it is worth:

\[
\{F(K)[1 + e^+(\varepsilon_0)] + (1 - \delta)K - [K - (1 - \delta)K_o](1 + r)\}/(1 + r^*) = F(K)[e^+(\varepsilon_0) - \bar{\varepsilon}]/(1 + r^*),
\]

by using (10.1), where \(e^+(\varepsilon_0)\) is the mean value of the high-productivity firms. Hence, the firm seeks to maximize:

\[
V = [1 - \Phi(\varepsilon_0)] \cdot \frac{\mu F(K)[e^+(\varepsilon_0) - \bar{\varepsilon}]}{1 + r^*} + \Phi(\bar{\varepsilon}) \cdot 0 + [\Phi(\varepsilon_0) - \Phi(\bar{\varepsilon})] \cdot \frac{\mu F(K)[\dot{e}(\bar{\varepsilon}, \varepsilon_0) - \bar{\varepsilon}]}{1 + \bar{r}},
\]

subject to constraint (10.2), by choice of \(K\) and \(\bar{\varepsilon}\), given \(\varepsilon_0\). The first-order conditions are spelled out in appendix 10.1.

The (maximized) value of \(V\) in equation (10.4) is also the price paid by the foreign direct investors at the greenfield stage of investment. Since the value of \(\varepsilon\) is not known
at this point, the same price is paid for all firms. After $\varepsilon$ is revealed to the foreign direct investors, the low $\varepsilon$-firms are then resold to domestic savers, all at the same price, because $\varepsilon$ is not observed by these savers. Net capital inflows through FDI therefore are given by:

$$FDI = N[1 - \Phi(\varepsilon_0)]F(K)[e^+(\varepsilon_0) - \bar{\varepsilon}]/(1 + r^*)$$  \hspace{1cm} (10.5)

(see equation (10.4)).

The remainder of the equilibrium conditions is standard. Let there be a representative consumer with a utility function $u(c_1, c_2)$, where $c_i$ is consumption in period $i = 1, 2$. The first-period resource constraint is given by:

$$FDI = N[K - (1 - \delta)K_o] - [NF(K_o) - c_1].$$  \hspace{1cm} (10.6)

The second-period resource constraint is:

$$c_2 = N[F(K) + (1 - \delta)K] - FDI(1 + r^*) - NF(K_o) - N\mu\Phi(\bar{\varepsilon})[F(K)[1 + e^-(\bar{\varepsilon})] + (1 - \delta)K].$$  \hspace{1cm} (10.7)

Finally, the consumer-savers do not have access to the world capital market and can only borrow/lend from the domestic market. As a result, in maximizing utility, the
A representative consumer-saver will equate her intertemporal marginal rate of substitution to the domestic risk-free rate of return:

\[
\frac{u_1(c_1, c_2)}{u_2(c_1, c_2)} = 1 + \bar{r},
\]

(10.8)

where \(u_i\) is the marginal utility of \(c_i, i = 1, 2\).

In this model, the eight equations (that is, (10.2), (10.3), (10.5) - (10.8), together with the two first-order conditions associated with the choice of \(K\) and \(\bar{\varepsilon}\) derived in appendix 10.1) determine the eight endogenous variables, that is, \(K, \bar{r}, \bar{\varepsilon}, \varepsilon_0, c_1, c_2, FDI\) and the Lagrange multiplier \(\lambda\) associated with the constraint (10.2).

### Gains (Losses) from FDI Flows

To flush out in a simplified manner the kind of gains or losses brought about by FDI, we compare the equilibrium allocation in the presence of FDI with the closed economy equilibrium allocation. The latter economy is referred to as a financial autarky.

**Financial Autarky**

In the financial autarky case, the “lemons” problem will drive the equity market out of existence. Firms will have to rely solely on the provision of domestic credit in financing their investment projects. The firm-specific debt contract continues to be characterized by a default-risk interest rate \((r)\) and a threshold productivity level \((\bar{\varepsilon})\) that satisfy the cutoff condition (10.1). The default-free interest rate \((\bar{r})\) is still defined implicitly by (10.2') . The firm’s investment decision is to choose \(K, r\) and \(\bar{\varepsilon}\) to solve the following problem:
\[
\max_{\{K, r, \bar{\epsilon}\}} (F(K) - \Phi(\bar{\epsilon})\{F(K)[1 + e^{-\bar{\epsilon}}] + (1 - \delta)K\} \\
- [1 - \Phi(\bar{\epsilon})][K - (1 - \delta)K_o](1 + r)),
\]

subject to (10.1) and (1). We can again use (10.1) to substitute out the risky interest rate \(r\) in (1) as well as in the objective function above. The first-order conditions with respect to \(K\) and \(\bar{\epsilon}\) for this reduced problem are laid out in appendix 10.1. Utility maximization by the consumer-savers continue to yield the same intertemporal condition (10.8). In the absence of capital flows, \(FDI \equiv 0\) in the two resource constraints (10.6) and (10.7). The five equations (10.2), (10.6) and (10.7) and the two first-order conditions for \(K\) and \(\bar{\epsilon}\) (laid out in appendix 10.1) determine the five endogenous variables \(K^A, \bar{\epsilon}^A, c_1^A\) and \(c_2^A\).

**Numerical Simulations**

We employ numerical simulations in order to compare the FDI case with the autarky case. In the simulation, we consider a logarithmic utility function \(u(c_1, c_2) = \ln(c_1) + \gamma \ln(c_2)\), with a subjective discount factor \(\gamma\), a Cobb-Douglas production function \(F(K) = AK^\alpha\), and a uniform distribution of \(\epsilon\) defined over the interval \([-\beta, \beta]\). We set the parameter values as follows: \(\gamma = 0.28, \alpha = 0.33, \delta = 0.56, N = 1, A = 0.9, K_o = 0.03, \beta = 0.84\) and \(\mu = 0.05\). Since we think of each period as constituting half of the lifetime of a generation (that is, about 25 years), the values of \(\gamma\) and \(\delta\) are chosen in such a way as to reflect an annual time preference rate of abpit 3% and an annual depreciation rate of about 3%. We calculate also the welfare level of the representative consumer in the two cases.

The welfare gain (loss) from FDI is measured by the uniform percentage change in
$c_1$ and $c_2$ which is needed to lift the autarkic utility level to the FDI utility level. FDI is beneficial when, and only when, this percentage change is positive; FDI entails a loss to the host economy, if and only if, this percentage change is negative.

*The Welfare Effects of FDI*

FDI flows have two possibly conflicting effects on welfare. The first effect is to allow foreign sources to add to the resources available to finance domestic investment. Traditionally, this effect is welfare enhancing. However, in our model there are two factors that mitigate this effect: (i) FDI is domestically leveraged and the initial amount is pulled out partially after a short while, by a resale of some firms (the low-productivity firms) to domestic residents. Therefore, foreign savings finance a relatively small portion of the capital accumulation generated by FDI. (ii) The informational asymmetry associated with the control of the firm generates a market failure: The net marginal product of capital, as in chapter 9, is not equated to the world rate of interest even though the latter is equal to the social cost of capital. Thus, the amount of FDI flows may not be efficient. For instance, as we shall see in the simulations, capital may flow in even when the net marginal product of capital under autarky is lower than the world rate of interest. Thus, the aforementioned effect of FDI on welfare is not clearcut.

The second effect of FDI is to facilitate the channelling of domestic saving into domestic investment by getting around a “lemons” problem in the autarkic economy. With FDI a domestic equity market is sustainable, while without FDI the market collapses. However, here again there is a mitigating effect due to the informational asymmetry which creates a market failure. Therefore, once again we cannot ascertain that this effect is always welfare-enhancing; it may well reduce welfare.
As explained above, the first effect is potentially positive. The magnitude of its contribution to welfare depends on the size of the gap between the net marginal product of domestic capital under autarky and the world rate of interest, as elementary trade theory teaches us; see, for instance, Caves, Jones and Frankel (1996). If this return-gap is not large, the first effect should not be expected to be sizable. In addition, in our case there are also two mitigating factors that reduce its benefit and could even turn it negative. Similarly, the second potentially positive effect was also mitigated by an adverse-selection distortion. Hence, international openness which takes the form of FDI inflows in our context is not necessarily beneficial.

This point is illustrated in figure 10.2, where the FDI equilibrium is plotted for alternative levels of the world rate of interest. We compare the utility of the representative consumer, generated by free flows of FDI, for different world rates of interest \( (r^*) \), with the utility entailed under financial autarky. Naturally, the autarky utility level does not depend on the world rate of interest \( (r^*) \). We then measure the benefit (possibly negative) of FDI by calculating the percentage change in lifetime consumption under autarky (that is, the uniform change in \( c_1 \) and \( c_2 \)) which will lift autarkic utility to the corresponding utility level in the presence of FDI. When this percentage change is negative it means that autarkic utility is higher than the corresponding utility level under FDI, that is: Free FDI flows actually reduce welfare!

Notice that there is a strong element of circularity involved in two credit-market relationships, equations (10.1) and (1). To see this note that, on the one hand, a rise in the firm-specific rate of interest (including the risk premium), \( r \), implies that the cut-off productivity level (which determines the number of solvent firms and the number of insolvent
firms in equilibrium), $\bar{\varepsilon}$, must rise. This is because more firms are expected to default with the rise in the rate of interest (see equation (10.1)). On the other hand, when the cut-off productivity level, $\bar{\varepsilon}$, rises, the return on risky credit must rise, and therefore $\bar{r}$ should rise as well. The increase in $r$ is needed in order to restore the balance between the risky return and the alternative return on the risk-free credit, governed by the risk-free rate of interest, $\bar{r}$ (see equation (10.2')). Interacting with the adverse-selection effect of FDI, the circularity property leads, under some parameter configurations, to a multiplicity of equilibria.

The first equilibrium, represented by the curve with squares in figure 10.2, is characterized by a relatively high rate of default on credit ($\bar{\varepsilon}$) and a high firm-specific interest rate ($r$), while the second, indicated by diamonds, is characterized by a low default rate ($\bar{\varepsilon}$) and a low firm-specific interest rate ($r$). Evidently, a sudden shift from the bad equilibria to the good equilibria, triggered by a switch in expectations, can have significant effect on the economy. For example, as shown in figures 10.2 and 10.3, at the world interest rate of 7.8%, a shift from the good equilibrium to the bad equilibrium leads to a rise in the FDI from a medium fraction of GDP (about 8 percent) to a large fraction (about 13 percent) of GDP. At the same time, the capital stock rises, the risk-free rate of interest falls, first-period consumption rises while second-period consumption declines, the solvency/insolvency cut-off productivity level, $\bar{\varepsilon}$, rises, and the productivity cut-off level, $\varepsilon_0$, which determines the number of low-productivity firms that the FDIsors sell in the domestic stock market, declines.

A critical value of the rate of interest, which implies that the inflows of capital are neither welfare improving nor welfare reducing, is denoted by $r^c$. If the world rate of interest is equal to this rate, the beneficial effect of FDI, being the flow of foreign saving that complements domestic saving in the financing of domestic investment (when the world rate
of interest is still below the autarkic domestic rate of interest) is offset by the adverse-selection effect of FDI on the domestic stock market. When \( r^* < r^c \), FDI is beneficial. When \( r^* > r^c \), FDI flows reduce welfare. The rate \( r^c \) is shown in figure 10.2 by the intersection between the two curves representing the FDI equilibria (overlapping at this point) with the horizontal axis. This \( r^c \) is equal to 2.0%, below the autarkic rate of interest \((\bar{r}^A)\) which is 5.6%.

Consider first the case where the world rate of interest \((r^*)\) is below the critical rate of interest \((r^c)\), which, in turn, is smaller than the autarkic rate of interest \((\bar{r}^A)\). Recall that in a distortion-free, perfectly competitive set-up, the autarkic rate of interest is the benchmark rate for predicting the direction of capital movements. If the world rate of interest falls short of the benchmark rate, capital flows in and the larger the difference between the rates, the larger the gains from capital mobility. (When the world rate of interest exceeds the benchmark rate, capital should efficiently flow out.) Therefore, we expect the positive (traditional) welfare effect of FDI, which allows foreign-saving financing of domestic investment in addition to the domestic-saving finance, to dominate the adverse-selection, negative effect of FDI on the domestic equity market. One of the two equilibria (described by the squares curve) delivers utility levels above the autarkic level of utility, in accordance with the traditional gains-from-trade theorem. This “good” equilibrium is associated also with low FDI flows. The “bad” equilibrium (relative to the “good” equilibrium) is associated with high FDI flows; see figure 10.3. FDI flows may be excessive. In order to sustain the “good”, low-FDI equilibrium, policymakers may resort to a ceiling on FDI flows. Interestingly, the “good” equilibrium is associated with a high default rate \((\bar{\varepsilon})\) and a high firm-specific rate of interest \((r)\).

Consider next the other case where the world rate of interest \((r^*)\) is above the critical rate of interest, that is, \( r^* > r^c \). Our simulations show that FDI flows are clearly welfare
reducing. Among the two FDI-equilibria depicted in Figure 10.2, the equilibrium associated with the high FDI delivers low utility, while the equilibrium associated with the low FDI generates relatively high level of utility. However, the utility levels that are associated with low- and high-FDI equilibria, both fall short of the level of utility under financial autarky, in the absence of FDI. Therefore, the adverse-selection feature of FDI dominates, and the host economy loses from the excessive FDI inflows. Of particular interest in this case is when $r^*$ is also above $\bar{r}^A$. In this sub-case, in a distortion-free environment, FDI should have not efficiently flown in at all. Nevertheless, FDI does flow in and is therefore detrimental to welfare. The prescription policy is straightforward: A total ban on FDI inflows is warranted whenever the world rate of interest ($r^*$) exceeds a critical level ($r^c$).

Conclusion

In this chapter we explored the welfare implications of FDI, which is a major form of capital flows to developing countries. FDI flows, like other types of capital flows, are presumed traditionally to raise welfare in the host country, when the marginal product of its domestic capital is higher than the opportunity rate of return (the world rate of interest). We alluded to two pitfalls. First, FDI may be heavily leveraged domestically and also partially resold to domestic savers. In such a case the resulting net capital flow is substantially smaller than the initial gross amount recorded as FDI in the balance-of-payments statistics. Second, there typically exists an informational asymmetry between the “insiders” and the “outsiders” of a firm. This asymmetry happens to promote FDI flows. It enables the foreign investors who command large funds to gain access to the firm’s “inside” – a flip side of FDI flows from the point of view of the host country.