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9 Corporate transparency, cream-skimming and FDI

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15
17 **Abstract**

19 We develop a simple information-based model of Foreign direct investment (FDI) flows. On the
21 one hand, the relative abundance of “intangible” capital in specialized industries in the source
23 countries, which presumably generates expertise in screening investment projects in the host
25 countries, enhances FDI flows. On the other hand, host-country relative corporate-transparency
27 diminishes the value of this expertise, thereby reducing the flow of FDI. The model also demonstrates
29 that the gains for the host country from FDI [over foreign portfolio investment (FPI)] are reflected in
a more efficient size of the stock of domestic capital and its allocation across firms. These gains are
shown to depend crucially (and positively) on the degree of competition among FDI investors. We
provide also some evidence on the effects of corporate transparency indicators, such as accounting
standards, on bilateral FDI flows from a panel of 24 OECD countries over the period of 1981–1998.
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33 *Keywords:* Foreign direct investment; Specialization; Transparency; Asymmetric information

35 **1. Introduction**

37 Foreign direct investment (FDI) has been growing faster than world GDP, and is
39 becoming a major component of foreign investment.¹ We usually observe both one-way
41 flows of FDI, from developed to developing economies, and two-way flows among

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45 ¹See the Australian Productivity Commission (2002) for a recent case study.

1 developed economies. The world flows of FDI rose about sevenfold in current US dollars
 over the 1990s; the vast majority flowed between developed countries (see Figs. 1A and B).
 3 The purpose of this paper is to explore two unique features of FDI, associated with host-
 country transparency relative to the source-country and source-country industry
 5 specialization relative to the host-country, that make this form of foreign investment
 stand out among the various other forms of capital flows, such as foreign portfolio
 7 investment (FPI). We develop a simple information-based model, in which the industry
 specialization in the source country provides a comparative advantage to potential direct
 9 investors in eliciting good investment opportunities in the host country, relative to
 domestic investors and foreign portfolio investors in the host country. The advantage
 11 stems from the ability of FDI investors to apply better industry-specific micro-
 management standards (an “intangible capital”). The advantage of FDI investors in their
 13 cream-skimming skills is less pronounced when corporate transparency and capital market
 institutions are of high quality; in which case FDI inflows are less abundant.²
 15 Our model also suggests that the gains from FDI to the host country are reflected in a
 more efficient size of the stock of domestic capital and its allocation across firms. Domestic
 17 firms that are controlled by FDI investors are typically the “cream” (high-productivity
 firms). The magnitude of these non-traditional gains from trade that arise in our model
 19 depends crucially (and inversely) on the degree of competition among potential FDI
 investors over the domestic firms. The non-traditional gains can vanish entirely if there is
 21 no such competition. Also, FDI inflows could make the size of the aggregate stock of
 domestic capital larger than otherwise (under some plausible assumptions).
 23 This result is consistent with some recent empirical evidence. For instance, [Borenstein](#)
[et al. \(1998\)](#) and [Bosworth and Collins \(1999\)](#) provide such evidence for a sample of
 25 developing countries during the period 1978–1995. More recently, in a sample of
 developing countries, [Razin \(2005\)](#) finds that the effect of FDI inflows on domestic
 27 investment is significantly larger than either FPI or loan inflows. He also provides evidence
 that FDI inflows promote efficiency: The effect of FDI on GDP growth is higher than the
 29 effect of other forms of foreign investment. In this paper, we also provide an empirical
 illustration of some implications of our model. It demonstrates how host-country
 31 transparency, relative to the source-country transparency, affects bilateral FDI flows from
 source to host countries; either through the source–host selection channel, or by affecting
 33 the intensity of the FDI flows.

The organization of the paper is as follows. Section 2 develops a simple information-
 35 based model, which emphasizes the role of host-country relative transparency, and source-
 country relative industry specialization in explaining the determinants of FDI and FPI
 37 flows. Section 3 compares the benefits for the host-country from receiving FDI inflows
 instead of FPI inflows. Section 4 provides an empirical illustration. Section 5 concludes.
 39

2. FDI and skimming high-productivity firms

41 Assume a large number (N) of ex ante identical domestic firms in an industry. Each firm
 43 employs capital input (K) in the first period, in order to produce a single composite good in
 the second period. As usual, we assume that capital depreciates at the rate $\delta (< 1)$. Output
 45 in the second period is equal to $F(K)(1 + \varepsilon)$, where F is a production function, which

47 ²See also [Wei \(2000\)](#), [Razin and Sadka \(2003\)](#), and [Albuquerque \(2003\)](#).

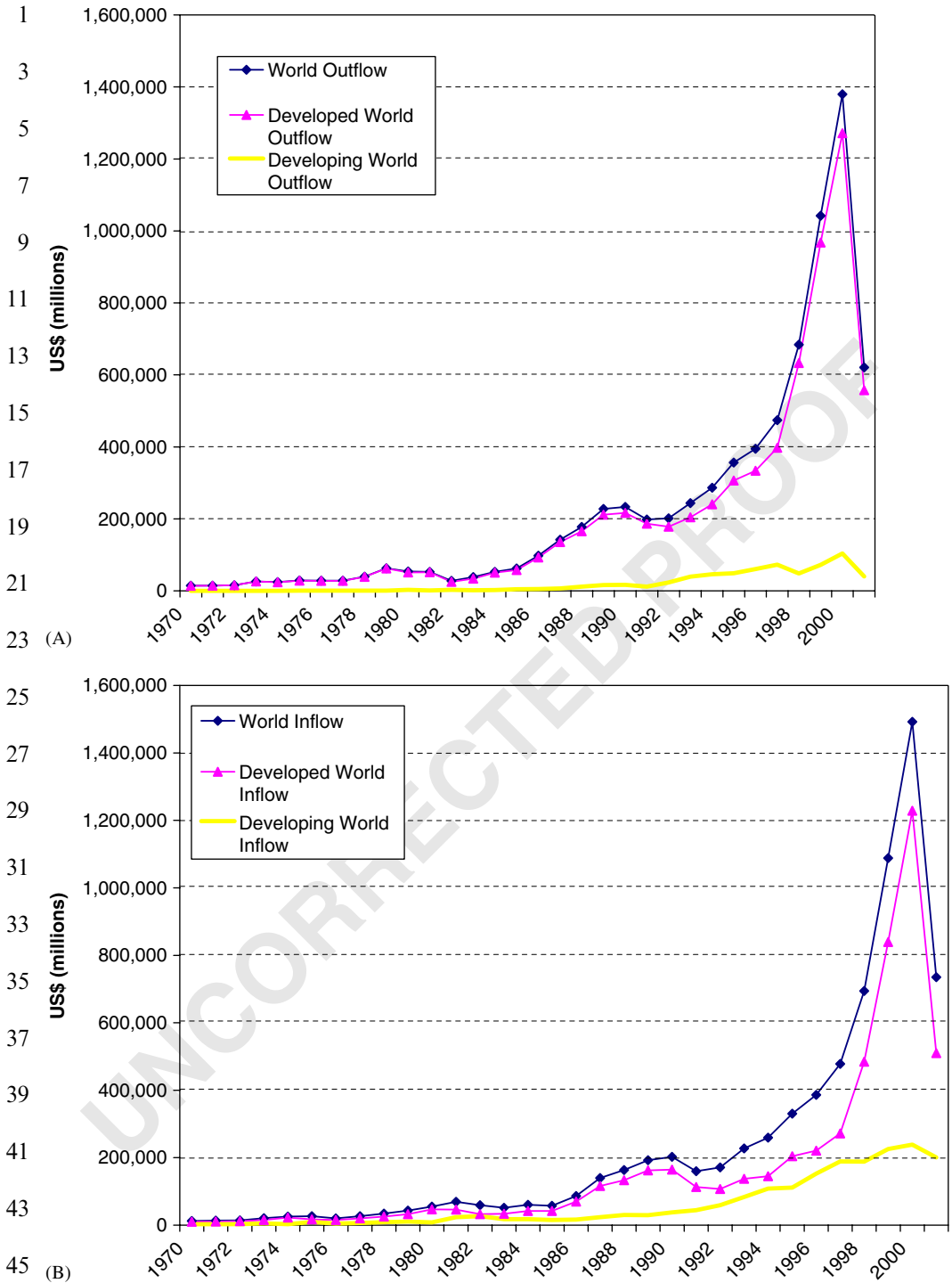


Fig. 1. (A) FDI outflows and (B) FDI inflows.

1 exhibits diminishing marginal productivity of capital. We assume that ε is bounded from
 2 below by -1 , so that output is always non-negative. For notational ease, we also assume
 3 that ε is bounded from above by 1. Suppose that ε is purely idiosyncratic, so that there is
 4 no aggregate uncertainty in the model. Consumers–investors are well diversified and will
 5 thus behave in a risk-neutral way. We denote by G the cumulative distribution function of
 6 ε , and by $g = G'$ the corresponding density function.

7 At the starting point of the agents' decision process, the productivity factor (ε) of each
 8 firm is not revealed with full accuracy in the first period. Rather, each firm receives a signal
 9 ε' about its productivity, which is common knowledge.³ The true ε of the firm is within an
 10 interval of $\pm\beta$ around ε' . Formally, given ε' the true value of ε is distributed according to
 11 the distribution of the productivity factor, conditional on its being in the interval $(\varepsilon' - \beta,$
 12 $\varepsilon' + \beta)$. The conditional distribution is therefore:

$$13 \quad \phi(\varepsilon/\varepsilon') = \frac{G(\varepsilon) - G(\varepsilon' - \beta)}{G(\varepsilon' + \beta) - G(\varepsilon' - \beta)}. \quad (1)$$

14 The conditional distribution $\phi(\varepsilon|\varepsilon')$ denotes the cumulative distribution function of ε ,
 15 conditional on the signal ε' . We assume that the signal ε' is distributed according to the
 16 distribution function G .

17 The firm chooses the level of the capital stock (and investment), denoted by $K(\varepsilon')$, after
 18 the signal ε' is received, so as to maximize its expected market value, conditional on ε' . This
 19 maximized value is

$$20 \quad V(\varepsilon') = \int_{\varepsilon' - \beta}^{\varepsilon' + \beta} \left\{ \frac{F[K(\varepsilon')](1 + \varepsilon) + (1 - \delta)K(\varepsilon')}{1 + r} - [K(\varepsilon') - (1 - \delta)K_0] \right\} d\phi(\varepsilon/\varepsilon'), \quad (2)$$

21 where $(1 - \delta)K_0$ is the initial stock of capital, and r is the world rate of interest.⁴ The
 22 optimal stock of capital in this case, $K(\varepsilon')$, is implicitly defined by the first-order condition:

$$23 \quad \int_{\varepsilon' - \beta}^{\varepsilon' + \beta} \left[\frac{F'[K(\varepsilon')](1 + \varepsilon) + (1 + \delta)}{1 + r} - 1 \right] d\phi(\varepsilon/\varepsilon') = 0.$$

24 This expression can be simplified to

$$25 \quad F'[K(\varepsilon')][1 + E(\varepsilon/\varepsilon')] = r + \delta, \quad (3)$$

26 where $E(\varepsilon/\varepsilon')$ is the conditional expected value of the productivity factor, given that this
 27 factor lies within the interval $(\varepsilon' - \beta, \varepsilon' + \beta)$, that is

$$28 \quad E(\varepsilon/\varepsilon') = \int_{\varepsilon' - \beta}^{\varepsilon' + \beta} \varepsilon d\phi(\varepsilon/\varepsilon'). \quad (4)$$

29 The level of capital $K(\varepsilon')$ is based on an imprecise signal ε' rather than on the true
 30 productivity of the firm. We refer to it as a signal-based optimal stock of capital, to
 31 distinguish it from what will be defined later as the productivity-dependent optimal stock
 32 of capital, which depends directly on the true productivity of the firm, ε .

33 Suppose that there is a screening (or search) technology, which, at some fixed cost per
 34 firm, can elicit the true value of the productivity factor of the firm, ε . A potential buyer can

35 ³One can think of this signal as sort of encapsulated information, provided by up-to-date financial statements.

36 ⁴Because of the assumption that there is a single composite good, which serves both for investment and for
 37 consumption, it is irrelevant whether the optimal K is above or below $(1 - \delta)K_0$.

1 apply the technology after she acquires and then gains control of the domestic firm. We
 2 assume that foreign direct investors have a cutting-edge advantage over domestic investors
 3 in extracting information about the true value of the firm. If foreign direct investors
 4 acquire a domestic firm, they can apply their superior micro-management skills in order to
 5 elicit the true value of ε . This advantage stems from some sort of “intangible capital”
 6 (specialized knowledge) in this particular industry. The basic idea is that firms get involved
 7 in foreign operations in order to exploit this unique advantage that they have accumulated
 8 over time in their source country. The advantage is modeled here by specifying a lower
 9 screening cost for foreign direct investors than for domestic investors. Formally, the cost
 10 per firm for a foreign direct investor is C_F , which is assumed to be lower than C_D , the
 11 corresponding cost for a domestic direct investor (i.e., a domestic investor who gains and
 12 acquires control of the domestic firm). This sort of comparative advantage is industry
 13 based, and is therefore not confined solely to flows of FDI from developed to developing
 14 countries. Thus, this sort of comparative advantage can explain also two-way FDI flows
 15 among (multi-industry) developed countries.

16 If the true value of ε were to be known, then the firm would choose an optimal capital
 17 stock, denoted by $K^*(\varepsilon)$, according to the marginal productivity condition:

$$18 \quad F'[K^*(\varepsilon)](1 + \varepsilon) = r + \delta. \quad (5)$$

19 This stock of capital is referred to as the productivity-dependent stock of capital.

20 Given the signal ε' , a potential foreign direct investor knows that the true value of ε must
 21 lie between $\varepsilon' - \beta$ and $\varepsilon' + \beta$, and that she will be able to elicit the true value of ε if she
 22 purchases the firm, at a cost C_F . Therefore, her gross bid price, given the signal ε' , is given
 23 by

$$24 \quad P(\varepsilon') = \int_{\varepsilon' - \beta}^{\varepsilon' + \beta} \left\{ \frac{F[K^*(\varepsilon)](1 + \varepsilon) + (1 - \delta)K^*(\varepsilon)}{1 + r} - [K^*(\varepsilon) - (1 - \delta)K_0] \right\} d\varphi(\varepsilon/\varepsilon'). \quad (6)$$

25 Her net bid price is then $P(\varepsilon') - C_F$. Because C_F is smaller than C_D , the bid price of the
 26 foreign direct investor is higher than that of the domestic investor.

27 Given the signal ε' , the value of information to the FDI investor (that is, the value of
 28 eliciting the true productivity of the firm) is $P(\varepsilon') - V(\varepsilon') > 0$. To see that indeed $P(\varepsilon') - V(\varepsilon')$,
 29 note that in calculating P it is assumed that K is optimally adjusted for the true value of the
 30 productivity, whereas in calculating V it is required that K is fixed across all firms in the β -
 31 interval. The associated cost of gaining the information is C_F . In order to incur this cost,
 32 the value of information must exceed this cost. Naturally, one would expect the value of
 33 information to rise with ε' . This is because, given the signal ε' , the deviations of the
 34 productivity-independent signal-based $K(\varepsilon')$ over the interval $(\varepsilon' - \beta, \varepsilon' + \beta)$, from the
 35 productivity-dependent $K^*(\varepsilon)$ over this interval, and consequently the deviations of
 36 $F(K^*(\varepsilon'))$ from $F(K(\varepsilon'))$ over this interval, are magnified by the productivity factor $1 + \varepsilon$. We
 37 therefore assume indeed that $P(\varepsilon') - V(\varepsilon')$ rises with ε' .⁵ Hence, there exists a cutoff level of
 38 the signal, denoted by ε'_0 , such that for all $\varepsilon' < \varepsilon'_0$, the bid-ask price difference $P(\varepsilon')$
 39 $C_F - V(\varepsilon')$ is negative and, similarly, for all $\varepsilon' > \varepsilon'_0$, the bid-ask price difference is positive.
 40 Thus, all the firms that receive a low-productivity signal will be retained by the original
 41 (domestic) owners, whereas all the firms that receive a high-productivity signal will be
 42

43 ⁵Indeed, Burstein (2003) provided us with an illuminating numerical example in which the bid-ask price
 44 difference rises with ε' , as expected.

1 acquired by foreign direct investors, who manage to outbid their domestic counterparts
 2 concerning the high-productivity firms. The cutoff level of the signal depends on the
 3 screening cost C , and is defined implicitly by

$$5 \quad P[\varepsilon'_0(C)] - C = V[\varepsilon'_0(C)]. \quad (7)$$

7 With FDI investors who can do the screening at a cost C_F per firm, the cutoff level of the
 8 signal is a function of C_F ; denoted by $\varepsilon'_{0F} \equiv \varepsilon'_0(C_F)$.

9 The assumption that $P(\varepsilon') - V(\varepsilon')$ rises with ε' implies also that as the screening cost (C_F)
 10 of the FDI investors falls, the cutoff productivity level (that is, ε'_{0F}) declines with C_F , as
 11 well. This means that with a fall in C_F , more firms will be acquired by FDI investors.
 12 Therefore, a lower screening cost of FDI investors gives rise to a larger volume of FDI
 13 inflows.⁶ By the same token, as the signal becomes more accurate (that is, as β becomes
 14 smaller), the benefit of the screening technology, which is $P(\varepsilon') - V(\varepsilon')$, declines. We
 15 interpret a more accurate signal as an improvement in corporate transparency. The
 16 advantage of FDI investors in their cream-skimming skills is less pronounced when host-
 17 country corporate transparency improves,⁷ and FDI inflows are expected to be less
 18 abundant. After the signals are revealed, then a firm with a signal ε' , below ε'_{0F} , actually
 19 adjusts its capital stock to the signal-dependent, productivity-independent level $K(\varepsilon')$. But a
 20 firm, which receives a signal ε' above ε'_{0F} , expects to adjust its capital stock to a
 21 productivity-dependent level $K^*(\varepsilon)$ with a cumulative distribution function $\varphi(\varepsilon/\varepsilon')$. The
 22 expected value of its capital stock, denoted by $E[K^*(\varepsilon)/\varepsilon']$ is given by

$$23 \quad E[K^*(\varepsilon)/\varepsilon'] = \int_{\varepsilon' - \beta}^{\varepsilon' + \beta} K^*(\varepsilon) d\varphi(\varepsilon/\varepsilon'). \quad (8)$$

27 Thus, the total expected value of the stock of capital (before signals are revealed) is

$$29 \quad K^F = \int_{-1}^{\varepsilon'_{0F}} K(\varepsilon') dG(\varepsilon') + \int_{\varepsilon'_{0F}}^{-1} E[K^*(\varepsilon)/\varepsilon'] dG(\varepsilon'). \quad (9)$$

31 This is our measure of the size of domestic capital.

35 3. FPI inflows versus FDI inflows

37 To understand the unique role played by FDI, suppose now that instead of FDI inflows
 38 there are only FPI inflows. That is, assume that the world rate of interest (rate of return)
 39 continues to prevail in the home country. Management under FDI ownership, however,
 40 may be plagued by the notorious “free-rider” problem. As noted succinctly by Hart (2001),
 41 “If the shareholder does something to improve the quality of management, then the
 42 benefits will be enjoyed by all shareholders. Unless the shareholder is altruistic, she will
 43 ignore this beneficial impact on other shareholders and so will under-invest in the activity
 44 of monitoring or improving management.” To capture this argument in our case, we

45 ⁶We refer to the sum of the acquisition price of the firm and the investment in its capacity (that is financed by
 the FDI owner) as FDI inflows.

47 ⁷Indeed, these results also hold in Burstein’s (2003) example, albeit with a different stochastic specification.

1 simply assume that FPI buyers will not be willing to incur the cost of eliciting the true
2 productivity of the firm whose equity they purchase.⁸

3 In this case, domestic direct investors acquire and gain control of the firms with the high-
4 productivity signals. Domestic and FPI investors will acquire all the other firms with low-
5 productivity signals. The cutoff level of the signal in this case is $\varepsilon'_{0D} \equiv \varepsilon'_0(C_D)$. Because
6 $C_D > C_F$, it follows that $\varepsilon'_{0F} < \varepsilon'_{0D}$ [see Eq. (7) and recall that $P(\varepsilon') - V(\varepsilon')$ is increasing in ε' ,
7 by assumption]. Thus, the difference in investment in capacity between the two regimes lies
8 only in the range of signals between ε'_{0F} and ε'_{0D} . The capital stock of a firm with a signal
9 below ε'_{0F} is the same in the two regimes. The expected capital stock of a firm with a signal
10 above ε'_{0D} will also be the same in the two regimes. But a firm, which receives a signal ε' in-
11 between these two cutoff levels, will invest a signal-dependent, productivity-independent
12 $K(\varepsilon')$ in the foreign portfolio-investment regime, compared to a productivity-dependent
13 schedule, $K^*(\varepsilon)$, with a cumulative distribution $\varphi(\varepsilon/\varepsilon')$, in the FDI regime. Naturally, the
14 latter is more efficient, in the sense that it yields a higher expected return.⁹

15 3.1. Gains to the host country

16 The economic gains from FDI, relative to FPI inflows, consist of the efficiency of
17 investment and the lower screening cost of FDI investors. Note that because the same
18 world interest rate, r , prevails in the home country in the two regimes, it follows that the
19 gains from FDI relative to FPI in our case do not include the traditional gains from
20 opening up the domestic capital market to foreign capital inflows. (Evidently, the
21 traditional gains are present also in the portfolio regime.) In the FDI regime the firms with
22 signals above the cutoff signal ε'_{0F} are screened; whereas in the FPI regime a smaller set of
23 firms, namely only the firms with signals above ε'_{0D} are screened (recall that $\varepsilon'_{0D} > \varepsilon'_{0F}$).
24 Therefore, the gains to the host country stemming from the efficiency of investment is

$$25 \text{GAIN}_E = \int_{\varepsilon'_{0F}}^{\varepsilon'_{0D}} [P(\varepsilon') - C_F - V(\varepsilon')] dG(\varepsilon'). \quad (10)$$

26 In addition, for the firms that are screened in the two regimes (that is, the firms with signals
27 above ε'_{0D}), the screening cost is lower under the FDI regime than under the portfolio flow
28 regime. This gives rise to further gains from FDI, which are

$$29 \text{GAIN}_C = (C_D - C_F)[1 - G(\varepsilon'_{0D})]. \quad (11)$$

30 Observe that the entire gain, attributable to the lower screening cost of FDI investors, is
31 captured by the host country because of the assumed perfect competition among the FDI
32 investors over the domestic firms. Competition among FDI investors must drive up the
33 price they pay for a domestic firm to their net bid-price [that is, $P(\varepsilon') - C_F$], which exceeds
34 the ask-price of the domestic owners [that is, $V(\varepsilon')$]; except for the cutoff firm (for which
35 the bid price and ask price are equal to each other). Thus, the total gain to the host country

36 ⁸In this paper, we do not distinguish between foreign and domestic portfolio investors. For an analysis of
37 information asymmetry between these two types of investors, which leads to the home-bias phenomenon in
38 portfolio investment, see Razin et al. (1998).

39 ⁹We have assumed that the only advantage of FDI investors over direct domestic investors lies in the search/
40 screening cost. Naturally, if we were to assume that FDI investors can also obtain better information about the
41 true ε (we have assumed that both can accurately elicit ε), then the difference between the two regimes may expand
42 to the entire range of $[-1, 1]$ of signals.

1 from FDI is

$$3 \quad \text{GAIN}_E + \text{GAIN}_C = \int_{\varepsilon'_{0F}}^{\varepsilon'_{0D}} [P(\varepsilon') - C_F - V(\varepsilon')] dG(\varepsilon') + (C_D - C_F)[1 - G(\varepsilon'_{0D})].$$

5 (12)

7 Note, however, that in the extreme opposite case of a monopoly, the single FDI investor
 9 will never offer a price for a domestic firm above the price that will be offered by domestic
 11 investors, which is $P(\varepsilon') - C_D$, as long as this price is above, or equal, to the ask price of the
 13 domestic owner, which is $V(\varepsilon')$. Thus, the price at which the foreign direct investor buys a
 15 domestic firm with a signal ε' is $\text{Max}[P(\varepsilon') - C_D, V(\varepsilon')]$. Because $P(\varepsilon'_{0D}) - C_D = V(\varepsilon'_{0D})$, it
 17 follows that $P(\varepsilon') - C_D < V(\varepsilon')$ in the interval $(\varepsilon'_{0F}, \varepsilon'_{0D})$. This means that in this interval the
 19 domestic firms are purchased by the foreign direct investor at the ask price $V(\varepsilon')$. Hence,
 21 the efficiency gain of investment, GAIN_E , vanishes. Similarly, firms in the interval $[\varepsilon'_{0D}, 1]$
 must be purchased at the price $P(\varepsilon') - C_D$ [rather than $P(\varepsilon') - C_F$ in the competitive case].
 Hence, GAIN_C vanishes as well. Thus, as expected, the entire gain from FDI accrues to the
 single FDI investor. To retain some of the gains of FDI, a possible remedy for the host
 country is to impose some sort of a floor on the sale prices of domestic firms. Another
 partial remedy for the host country is to impose a (source-based) capital gains tax on FDI
 investors. In the intermediate case of imperfect competition among a few FDI investors,
 but not a strict monopoly, the gains from FDI are split between the host country and the
 FDI investors.¹⁰

23 3.2. The size of investment in capacity in the host country

25 We have already established that the allocation of the capital stock (its aggregate level
 27 and distribution over firms) is more efficient in the FDI regime than in the portfolio
 29 regime. Is the capital stock also larger in the FDI regime than in the FPI regime? Recall
 31 that the fundamental difference between the two regimes is the screening cost C . Therefore,
 rephrasing the question one can ask whether a decline in the search cost increases the
 aggregate stock of capital. In order to answer this question, we write the aggregate stock of
 capital as a function of C , as follows (see Eq. (9)):

$$33 \quad \bar{K}(C) = \int_{-1}^{\varepsilon'_0(C)} K(\varepsilon') dG(\varepsilon') + \int_{\varepsilon'_0(C)}^1 E[K^*(\varepsilon)/\varepsilon'] dG(\varepsilon'),$$

35 (13)

37 where $\varepsilon'_0(C)$, $K(\varepsilon')$ and $E[K^*(\varepsilon)/\varepsilon']$ are defined by Eqs. (7), (3) and (8), respectively. Now,
 differentiate $\bar{K}(C)$ with respect to C , to get

$$39 \quad \frac{d\bar{K}(C)}{dC} = \{K[\varepsilon'_0(C)] - E[K^*(\varepsilon)/\varepsilon'_0(C)]\}g[\varepsilon'_0(C)]\frac{d\varepsilon'_0(C)}{dC}.$$

41 (14)

From Eqs. (3) and (5) we can conclude that

$$43 \quad K[\varepsilon'_0(C)] = H\{E[\varepsilon/\varepsilon'_0(C)]\}$$

45 (15)

and

47 ¹⁰Evidently this is an extreme case. If there is an additional domestic input, say labor, the host country still
 gains, even in the case of a single FDI investor, through infra-marginal gains to domestic labor. However, these
 gains are sharply smaller than what they could have been in case of competitive FDI investors.

$$K^*(\varepsilon) = H(\varepsilon),$$

where the function $H(\cdot)$ is defined by

$$H(x) = (F')^{-1}\left(\frac{r + \delta}{1 - x}\right)$$

and where the function $(F')^{-1}$ denotes the inverse of F' . Thus, we can rewrite Eq. (14) as

$$\frac{d\bar{K}}{dC} = (H\{E[\varepsilon/\varepsilon'_0(C)]\} - E[H(\varepsilon)/\varepsilon'_0(C)])g[\varepsilon'_0(C)]\frac{d\varepsilon'_0(C)}{dC}. \quad (16)$$

If the function $H(\cdot)$ is convex, then it follows from Jensen's inequality that $d\bar{K} = dC$ is negative (because $d\varepsilon'_0/dC > 0$). Indeed, one may plausibly assume that H is convex (for instance, this is the case with a Cobb–Douglas production function), in which case $d\bar{K} = dC < 0$. That is: The size of investment in capacity is larger under the regime of FDI inflows than under the regime of FPI inflows.

4. The role of transparency: Empirical illustration

In this section, we present some empirical evidence in line with some of the implications of our theory. This is done in the context of FDI flows between (source–host) pairs of countries. Our theory is interpreted to suggest that FDI depends on the accuracy of the productivity signals in the host country. The more accurate are the signals, the less pronounced is the advantage of FDI investors, and the less abundant are FDI flows to the host country. These signals are proxied by the level of transparency in the corporate sector in the host country (see Section 2). In principles the latter is proxied by a host of indicators as follows:

- (i) Antidirector Rights Index (La Porta et al., 1999). This is a summary measure of shareholder protection. This index ranges from zero to six and is formed by adding one when: The country allows shareholders to mail their proxy vote to the firm; shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; cumulative voting or proportional representation of minorities in the board of directors is allowed; an oppressed minorities mechanism is in place; the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10% (the sample median); shareholders have preemptive rights that can only be waived by a shareholders' vote. In essence, this index indicates how transparent must be the managers (whether or not they belong also to the controlling shareholders, in case if there are any) vis-a-vis all shareholders and, consequently, the public at large. But, the Antidirector index affect FDI through the corporate governance channel, as well.
- (ii) The Creditor Rights Index (La Porta et al., 1999). This is a summary measure of creditor protection. This index ranges from zero to four and is formed by adding one when: The country imposes restrictions, such as creditors' consent or minimum dividends to file for reorganization; secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay); secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; the debtor does not retain the administration of its property pending the resolution of the reorganization.

1 We stipulate that the transparency is positively correlated with the debt–equity ratio
 2 because firms that rely more heavily on debt have to present to their creditors and the
 3 public more reliable and detailed information about their business. Because the
 4 debt–equity ratio may be jointly determined with the FDI by other fundamentals, the
 5 Creditor Right Index can serve as an instrument.

(iii) Accounting Standards (La Porta et al., 1999). This is an index created by examining
 7 and rating companies' 1990 annual reports on their inclusion or omission of 90 items
 8 falling in the categories of general information, income statements, balance sheets,
 9 funds flow statement, accounting standards, stock data, and special items.

11 We use country fixed effects to capture time-independent country characteristics. At the
 12 same time, we have data for all the indicators of transparency just for one year. Therefore,
 13 we can employ these indicators one at a time only. We arranged the transparency
 14 indicators in source–host difference pairs. Therefore, we are likely to capture with these
 15 time-independent pairs the effect of transparency and not the effect of the country
 16 characteristics.

17 Our econometric approach is based on Razin et al. (2003) where attention is paid to the
 18 problems that arise when FDI flows are “lumpy”: FDI flows are actually observed only
 19 when they exceed a certain (unobserved) threshold. Therefore, the Heckman selection-bias
 20 method is adopted to jointly estimate the likelihood of surpassing this threshold (the
 21 “participation” equation) and the magnitude of the FDI flow, provided that the threshold
 22 was indeed surpassed (the “gravity” equation).

23 The data employed in the empirical illustration are drawn from OECD reports (OECD,
 24 various years) on a sample of 24 OECD countries, over the period from 1981 to 1998. The
 25 FDI data are based on the OECD reports of FDI exports from 17 OECD source countries
 26 to 24 OECD host countries.¹¹

27 We employ 3-year averages, so that we have six periods (each consisting of 3 years). The
 28 main variables we employ are (1) standard country characteristics, such as GDP or GDP
 29 per-capita, population, educational attainment (as measured by average years of
 30 schooling), financial risk ratings, etc.; (2) source–host (H–S) pair characteristics, such as
 31 H–S FDI flows, geographical distance, common language (zero-one variable), H–S flows
 32 of goods, bilateral telephone traffic per-capita as a proxy for informational distance, etc.
 33 Table 1 describes the list of the 24 countries in the sample, and whether they are observed
 34 in the sample (at least once) as a source or host country (but most source countries do not
 35 have positive flows more than with few host countries), and Table 2 describes the data
 36 sources.

37 Table 3 presents the effects of some key host-country transparency variables on FDI
 38 flows. We naturally include also in the empirical analysis a host of standard explanatory/
 39 control variables that are employed in studies of the determination of FDI flows. They are
 40 analyzed in details in Razin et al. (2003). These variables includes standard “mass”
 41 variables (the source and the host population sizes); “distance” variables (physical distance
 42 between the source and host countries and whether or not the two countries share a
 43 common language); and “economic” variables (source and host GDP per capita,

45 ¹¹The OECD reports accurately on *all* rich and poor countries that are a host to OECD FDI exports. But data
 46 are missing for non-OECD countries as a source of FDI exports. This is the reason that we restrict our sample to
 47 the group of OECD countries, as potential source and host countries, among themselves, with no missing data.

1 Table 1
 Frequency of source–host positive flows by countries

3	Country	Source	Host	Country	Source	Host
5	Australia	0.43	0.41	Korea	0.09	0.39
	Austria	0.66	0.38	Mexico	0.00	0.33
7	Belgium	0.03	0.56	Netherlands	0.68	0.54
	Canada	0.62	0.41	New Zealand	0.00	0.34
	Denmark	0.35	0.46	Norway	0.64	0.33
9	Finland	0.65	0.34	Portugal	0.00	0.49
	France	0.94	0.52	Spain	0.02	0.51
11	Germany	0.98	0.54	Sweden	0.84	0.45
	Greece	0.00	0.36	Switzerland	0.27	0.47
13	Ireland	0.00	0.49	Turkey	0.02	0.36
	Italy	0.81	0.46	United Kingdom	0.91	0.58
15	Japan	0.96	0.41	United States	0.87	0.64

17 Table 2
 Date sources

19	Variables	Source
21	Import of goods	Direction of trade statistics, IMF
	FDI inflows	International direct investment database, OECD
23	Unit value of manufactured exports	World economic outlook, IMF
	Population	International financial statistics, IMF
	Distance	Shang Jin Wei's Website: 222.nber.org/~wei
25	Bilateral telephone traffic	Direction of traffic: Trends in international telephone tariffs, International communication union
27	Educational attainment	International telecommunication union
	ICRG Index of financially sound ratings (inverse of financial risk)	Barro-Lee Dataset: www.nber.org
29	Antidirector rights index	Ashoka Mody, IMF
31	Creditor rights index	http://www.andrei-shleifer.com/data.html
	Accounting standards	

35 source–host differences in average years of schooling, and source and host financial risk
 37 ratings). In addition, we include a dummy variable (previous FDI) to indicate whether or
 39 not the source–host pair of countries have already established DI relations between them
 41 in the past; such past relations may facilitate new flows of FDI. The results in Table 3 are
 43 more or less in line with findings in Razin et al. (2003). For instance, a high gap in
 45 education in favor of the source country reduces the probability of having FDI flows to the
 47 host country. This is expected because a gap in years of schooling may be a proxy for a
 productivity gap; see also Lucas (1990). The host financial risk rating affects positively the
 flow of FDI, whereas the analogous variable of the source country is negative and
 significant in the selection equation. The existence of past FDI relations is positive and
 significant in the selection equation, as it may help to facilitate new FDI flows.

The first three explanatory variables in Table 3 are the focus of our hypothesis that a
 lower degree of transparency in the host country, relative to a potential source country, is

1 Table 3
 FDI bilateral flows, OECD countries (1981–1998)

3	Accounting for fixed country effects	Flow	Selection	Flow	Selection	Flow	Selection
5	Host–source antidirector rights	2.39 (1.210) ^a	−0.46 (0.849)				
7	Host–source creditors rights			−10.31 (3.619) ^b	2.50 (0.909) ^b		
9	Host–source accounting standards					0.47 (0.161) ^b	−0.77 (0.178) ^b
11	Host real GDP per capita	0.769 (0.921)	−0.509 (0.922)	0.259 (0.841)	−0.764 (0.896)	−1.053 (0.810)	0.305 (0.889)
13	Source real GDP per capita	(0.627)	−3.030 (1.760)	−0.105 (0.590)	−2.321 (1.603)	−0.204 (0.580)	−2.289 (1.957)
15	Host population	−3.828 (1.872) ^a	5.804 (1.849) ^b	−3.867 (1.669) ^a	4.976 (1.776) ^b	−3.074 (1.663)	4.725 (1.854) ^a
17	Source population	−0.745 (2.453)	−3.783 (2.403)	−0.282 (2.119)	−3.465 (2.324)	0.553 (2.110)	−4.118 (2.463)
19	Source–host difference in schooling	−0.102 (0.089)	0.188 (0.085) ^a	−0.101 (0.085)	0.231 (0.085) ^b	−0.087 (0.083)	0.232 (0.087) ^b
21	Common language	1.047 (0.142) ^b	0.382 (0.166) ^a	0.921 (0.128) ^b	0.456 (0.164) ^b	0.912 (0.137) ^b	0.475 (0.180) ^b
23	Source–host distance	−0.711 (0.096) ^b	−0.308 (0.082) ^b	−0.668 (0.093) ^b	−0.319 (0.076) ^b	−0.691 (0.096) ^b	−0.336 (0.082) ^b
25	Previous FDI (dummy)		0.723 (0.124) ^b		0.736 (0.115) ^b		0.703 (0.118) ^b
27	Number of observations	2184	2184	2398	2398	2184	2184

^aIndicates significance at the 5% level.

^bIndicates significance at the 1% level.

31 likely to increase the probability that this will become a source–host pair, with positive
 33 FDI flows. Lower degree of transparency may also increase the intensity of FDI flows
 between the source and the host country. We may detect in the data some evidence in these
 35 directions. Indeed, the coefficient of the H–S accounting standards is negative and
 significant in the selection equation: A lower level of these standards (that is, less
 37 transparency) in the host country, relative to the source country, increases the likelihood of
 attracting FDI flows from the source to the host country. Similarly, the coefficient of the
 H–S creditor rights is negative and significant in the flow equation: A lower level of this
 39 index (that is, less transparency) in the host country, relative to the source country,
 increases the flows of FDI from the source to the host country.

5. Concluding remarks

43 We develop a model in which foreign direct investors are better equipped to cream skim
 45 domestic projects than their direct domestic and portfolio counterparts, due to rich
 experience in the skimming of “good” firms. Employing this advantage, foreign direct
 47 investors are able to outbid direct domestic and portfolio investors for the good firms.

1 Better hands-on management standards, which characterize FDI investors, entails a
 2 cutting-edge advantage over portfolio investors in reacting in real time to a changing
 3 business environment. This feature is naturally more pronounced in high-productivity
 4 firms, resulting in the acquisition of high-productivity firms by FDI investors. This
 5 mechanism applies both to mergers and acquisitions and to green-field investments. The
 6 productivity signal, though, is likely to be coarser in the latter, conveying less information
 7 about the true productivity. Thus, the advantage of the FDI investors over their domestic
 8 direct investors counterparts is even more pronounced in the case of green-field
 9 investments than in mergers and acquisition.

10 We view FDI as distinct from FPI investment with respect to the quality of monitoring
 11 management. Foreign direct investors, by definition, acquire some significant control over
 12 the firm they invest in, whereas portfolio investors, plagued by free-rider problems, have
 13 no control. Consequently, foreign direct investors can apply hands-on management (or
 14 micro-management) standards that would enable them to react in real time to changing
 15 economic environments. This feature may stem from “intangible capital” accumulated
 16 through a specialization by the foreign direct investors in a certain niche.¹² Indeed, there is
 17 some microevidence in support of this hypothesis. For example, [Djankov and Hoekman \(2000\)](#)
 18 report that foreign direct investors pick the high-productivity firms in transition
 19 economies. Similarly, [Griffith and Simpson \(2003\)](#) find that foreign-owned manufacturing
 20 establishments in Britain, over the period 1980–1996, have significantly higher labor
 21 productivity than those that remain under domestic ownership.¹³ Britain is not an
 22 exception as a developed country attracting FDI. In fact, the vast majority of FDI flows
 23 among developed countries. The model in this paper is relevant when a developed country
 24 may specialize in certain niches and gain cutting-edge advantages in these niches over
 25 another developed country. The opposite may apply in some other niches.

26 We provide some illustrative evidence on the effects of transparency on FDI flows. Our
 27 data are country-pair data, but at the macro level. Thus, our evidence captures country-
 28 specific shocks rather than firm-level idiosyncratic ones.

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42 ———
 43 ¹²See [Gopinath \(2004\)](#) for a different application of a search model for a study of FDI flows into developing
 44 economies.

45 ¹³In addition, labor productivity improves faster over time and faster with age in foreign-owned establishments.
 46 Other studies found that this phenomenon is accounted for by the greater capital intensity of multinationals. For
 47 an overview see [Lipsey \(2002\)](#).

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