

Developing Countries' Attractiveness for Foreign Direct Investment – Debt Overhang and Sovereign Risk as Major Impediments?

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I. INTRODUCTION

With declining debt inflows, foreign direct investment (FDI) has again become one of the major pillars of private financial flows to developing countries (DCs). This has created some expectation to replace private bank lending by FDI. However, many heavily indebted countries may not only be constrained in terms of new private lending, but also in terms of FDI inflows.

In order to overcome constraints in the supply of FDI, the determinants of FDI flows have to be identified in the first place. This has been done by the Kiel Institute of World Economics in a comprehensive study commissioned by the World Bank. The present paper summarizes some of the major results for details, see Agarwal *et al.* (1991). The focus is on the impact of sovereign risk on FDI and on possible disincentives for FDI arising from a debt overhang, i.e. on those aspects that reflect the most important recent changes in international capital market conditions.

The empirical analysis concentrates on the 1980s. Regressions are run for an overall sample of about 35 host DCs and for various subgroups. The paper is organized as follows. Section II presents the major hypotheses. The empirical results are summarized in Sections III and IV. Finally, some policy conclusions are drawn in Section V.

II. MAJOR HYPOTHESES

After risk illusions had been destroyed with the eruption of the debt crisis in 1982, the sovereign risk of capital transfers to DCs has become evident. It has been shown that default on sovereign obligations is not only a matter of the capital recipients' ability to service external liabilities, but also of their willingness to pay [Eaton and Stiglitz (1986)]. Rational capital providers will consider the recipients' incentives to default when deciding on whether or not further capital

transfers are granted. Sovereign risk has been discussed intensively in the literature on international debt. But it has been largely neglected in studies on the determinants of FDI, although it is to be expected that also foreign investors will shy away from countries where sovereign risk is increasing.

A similar reasoning applies to the well-known debt overhang argument [Krugman (1988); Sachs (1989)]. The presence of an inherited debt sufficiently large that creditors do not expect to be fully repaid is said to create strong disincentives for the borrowers to implement growth-oriented adjustment programmes and for the creditors to continue new voluntary lending. FDI may be subject to similar disincentives problems although this is hardly taken into account in the literature. Due to this neglect, recent proposals to replace debt by FDI, and thereby to reduce foreign debt problems, are based on rather naive (implicit) assumptions on the substitutability of different types of capital transfers to DCs. Against this background, two hypotheses are raised in the following:

1. A considerable debt overhang is expected to discourage FDI inflows to a significant extent; and
2. The risk of willful default on sovereign debt is assumed to have its counterpart in the risk of expropriation and willful restrictions on profit and capital remittances in the case of FDI. More specifically, FDI is supposed to be negatively related to the potential benefits DCs may reap from sovereign measures against FDI, and positively related to the potential costs of such a behaviour.¹

These hypotheses are tested in the subsequent paragraphs by contrasting the decisions of German investors with evidence for total FDI flows to the sample countries from all sources. Pooled cross-country OLS regressions are run for the 1980s.

III. THE IMPACT OF A DEBT OVERHANG

Data problems render it difficult to assess the impact of a debt overhang on FDI empirically. Secondary market notations for DC debt, that may provide the best indicator, are only available for a limited set of countries, and comparable

¹The potential benefits are given by the resources the host country may save by expropriating foreign property or by not transferring dividend payments. Potential costs may represent a safeguard for foreign investors and are related to possible sanctions imposed on host countries taking sovereign measures against FDI.

data are collected only since 1986. Subsequently, it is assumed that a strong decline in the country's credit rating after 1980 (DII) reflects a considerable debt overhang [for the data, see Institutional Investor Magazine]. Consequently, the sign of DII should be significantly positive in the simple² regression analysis reported in Table 1 if a debt overhang discouraged FDI. Results are presented for FDI from all sources (DIT) and from Germany (German FDI in all industries: NEW, TOT; in manufacturing: MAN; in trade: COM).³

Similar to foreign creditors, foreign investors were on average fairly reluctant⁴ to increase their engagement in countries with a declining country rating. They were aware of impaired profitability of FDI due to stagnating markets or

Table 1

Debt Overhang and FDI: Regression Results 1981-1987^a

Dependent Variable ^b	Const	DII	GDP ^c	\bar{R}^2	CHISQ ^d	Degrees of Freedom
FDI from						
All Sources (DIT)	209.5** (3.23)	9.65** (2.84)	5.75** (5.61)	0.42	46.26 ⁺	143
FDI from Germany						
- All Sectors (NEW)	-61.2* (-2.08)	-1.80 (-1.27)	0.84** (3.62)	0.36	56.07 ⁺	103
- All Sectors (TOT)	-4.9 (-0.19)	0.43 (0.29)	0.33 (1.26)	0.04	40.03 ⁺	146
- Manufacturing (MAN)	-12.4 (-0.47)	0.55 (0.41)	0.27 (0.99)	0.02	38.41 ⁺	132
- Trade (COM)	2.9 (0.82)	0.15 (0.78)	0.00 (0.17)	-0.01	14.89 ⁺	122

Source: Own calculations.

Notes: ^aSee the text for the definition of variables. Dependent variable not equal "0"; regressions run for countries with $II_{1980} \geq 40$; ** significant at 1 percent level; * significant at 10 percent level; *t*-statistic in parentheses. ^bIn million US-\$ (DIT) and million DM (remaining variables) respectively. ^cIn billion US-\$ (in the case of DIT) and billion DM (remaining regressions) respectively. ^dIf the Chi-square statistic is significant at the 5 percent level (denoted by ⁺), corrected standard errors of the estimated coefficients are used to calculate the *t*-statistic given in parentheses.

²Only those sample countries are considered for which the credit rating (II) was fairly favourable in 1980 ($II_{1980} \geq 40$). DII (= $II_t - II_{1980}$) carries a negative sign in the case of a debt overhang. GDP of the host DCs is introduced as a controlling variable to account for their size and income status.

³FDI flows are proxied by changes in FDI stocks in the case of TOT, MAN and COM.

⁴The reluctance of creditors to provide fresh money to over-indebted borrowers is well documented in the literature e.g. Nunnenkamp (1989).

higher expected taxes resulting from a considerable debt overhang. Total FDI flows from all sources (DIT) in the 1980s were – as expected – comparatively low when the host countries' rating deteriorated. In sharp contrast, German investors did not react to the emergence of a debt overhang by limiting their engagement. None of the coefficients of DII is significantly positive, irrespective of the sector in which German FDI took place.

This peculiarity in the behaviour of German investors is probably because they got stuck in host DCs with considerable debt problems [for a more detailed discussion, see Agarwal *et al.* (1991)]. Their particularly strong engagement in the manufacturing sector of Latin American countries, once undertaken, had long gestation periods and became immobile in the short run. Part of the recent FDI in those countries was "involuntary" because of repatriation restrictions imposed by the host governments.

Generally, however, foreign creditors and investors responded in a similar way to debt problems in DCs. A debt overhang not only discouraged further lending, but also new FDI. Parallel behaviour of foreign capital providers renders it extremely difficult for the recipient countries to change their external financing structure in favour of FDI.

IV. THE IMPACT OF SOVEREIGN RISK

Similarities between different types of private capital flows may also prevail with regard to the effect of sovereign risk on capital transfers.⁵ In the case of FDI, sovereign measures may take the form of outright expropriation and – more realistically – of imposing restrictions on profit and capital remittances. The investors' risk is supposed to be the higher and, hence, the flow of FDI to be the lower, the higher (lower) the benefits (costs) of sovereign measures for the host country. The potential benefits are proxied by the resource outflow that is due to servicing existing FDI ($B1$)⁶ or, alternatively, by the ratio of FDI stocks from all sources over the host countries' GDP ($B2$).⁷ The incentives to impose sovereign measures against FDI may also increase when balance-of-payments pressure (BOP) and the foreign debt situation (UMS) are becoming unmanageable. The possibility of trade sanctions (TRADE) and the threat of being cut off from future

⁵A recent study on the determinants of bank lending to DCs supported the standard argument advanced by Eaton and Gersovitz (1981) that lending is negatively related to the benefits that sovereign debtors may realize by defaulting on external debt [Nunnenkamp (1989)].

⁶ $B1$ carries negative values in the case of resource outflows.

⁷For details of calculation and data sources on all variables, see Agarwal *et al.* (1991).

capital inflows (TREND) are considered as potential costs of sovereign measures.⁸ They may represent a safeguard for foreign investors, thereby encouraging FDI.

The regression results for the overall sample of host countries point to an extremely weak influence of sovereign risk variables on FDI. The potential benefits from sovereign measures did not discourage FDI in the fairly heterogeneous set of DCs considered, irrespective of the home country of investors and the sector to which German FDI was devoted. Poor results on TRADE and TREND add to the widespread scepticism about the effectiveness of sanctions that may be imposed against DCs refusing to service their external obligations.

Nonetheless, it cannot be concluded that sovereign risk was of no relevance in explaining FDI in DCs. The regression results for subgroups of host countries reveal that the attitudes of DCs towards FDI may disguise the economic fundamentals underlying the supply of FDI quite severely, as the degree of investment restrictions differs considerably among the sample countries (Table 2).¹⁰ The differences in the estimated parameters are most pronounced with respect to B1 and B2, i.e. the indicators of the potential benefits of sovereign measures.¹¹ B1 shows the expected (positive) sign as far as total FDI flows from all sources (DIT) and total German FDI flows (NEW) to host countries with restrictive attitudes towards FDI are concerned. The evidence is mixed for host countries with less restrictive attitudes. In sharp contrast to restrictive countries, a negative correlation between B1 and FDI flows is reported for host countries with favourable attitudes towards FDI. This indicates that foreign investors were mainly concerned about sovereign risk in the restrictive country group; whereas a liberal treatment of FDI was considered as a credible commitment by the host country

⁸The threat of trade sanctions is proxied by the host countries' dependence on foreign trade (TRADE: exports plus imports over GDP). The threat of being cut off from further FDI is assumed to be related to the degree of fluctuations in domestic absorption in the host countries; on the other hand, high values of TREND may indicate economic instability which rather adds to the reluctance of foreign investors.

⁹Due to space limitations, the results are not presented here in detail see Agarwal *et al.* (1991). In several instances, the coefficients carry an unexpected sign. On average, for example, foreign investors did not expect high current account deficits (BOP) to induce sovereign measures, but rather considered them as an indication of the host country's attractiveness for foreign capital.

¹⁰LSTOCK is introduced as a controlling (lagged endogenous) variable. Three alternative indicators are used to classify the sample countries into subgroups with restrictive, less restrictive and favourable attitudes towards FDI: (1) own judgement based on major obstacles to and incentives for FDI (GU); (2) a measurement of the degree of openness towards FDI by Frost and Sullivan (1988) (FS); (3) an assessment by the IFO-Institute [Osterkamp (1983)] (IFO).

¹¹By contrast, the empirical evidence on the impact of possible sanctions continues to be poor and ambiguous (TRADE and TREND). It is interesting to note that an unsustainable debt situation (UMS) discouraged FDI flows from all sources (DIT) to restrictive and less restrictive host countries, whereas the picture is less clear for German investors (NEW).

Table 2
Sovereign Risk and FDI Flows: Regression Results for Country Groups with
Different Attitudes Towards FDI^a, 1982-1987

Dependent Variable/ Criterion for Classification	Const.	B2	B1	BOP	UMS	TRADE	TREN	LSTOCK	CHISQ ^b	\bar{R}^2	Degrees of Freedom
RESTRICTIVE ATTITUDES TOWARDS FDI											
FDI from all Sources (DIT)											
FS (a)	-48.5 (-0.32)	-4135.7* (-2.14)		-122.48** (-2.97)	-75.62 (-0.85)			0.097** (6.89)	0.65 24.62 ⁺		37
IFO (b)	-49.1 (-0.28)		88.27 (0.74)		-130.02* (-1.91)	-1.27 (-0.47)		0.260 (4.65)	0.38 15.17		28
FS (c)	-486.4 (-0.96)		393.52* (1.91)	-133.21** (-3.01)			69.90 (0.89)	0.081** (6.12)	0.60 29.17 ⁺		31
FDI from Germany (NEW)											
FS (a)	35.1 (1.37)	-619.6* (-1.80)		-14.32* (-1.74)	24.96 (-1.07)			0.115** (13.90)	0.92 32.84 ⁺		27
FS (c)	-50.9 (-0.57)		82.39* (2.66)	-7.66 (-1.17)			20.75 (1.57)	0.114** (10.39)	0.91 32.28 ⁺		23
LESS RESTRICTIVE ATTITUDES TOWARDS FDI											
FDI from all Sources (DIT)											
GU (a)	143.4 (0.56)	250.7 (0.20)		-38.14 (-1.28)	-316.96* (-2.33)			0.086** (5.68)	0.44 18.48		35

Continued

Table 2 - (Continued)

GU (b)	1059.2* (2.27)	280.43 (-1.69)	-335.66* (-1.91)	-14.11 (-1.57)	0.053* (2.44)	0.45 19.37	33
FS (b)	264.7* (2.64)	-134.77* (-2.41)	-73.68 (-1.48)	-2.77* (-1.76)	0.083* (1.75)	0.47 24.19 ⁺	42
FDI from Germany (NEW) GU (a)	132.9** (4.70)	-398.5** (-3.81)	5.61* (1.87)	1.45 (0.07)	0.109** (10.41)	0.91 38.61 ⁺	33
FS (b)	-0.30.3** (-3.19)	17.82** (3.96)	-16.68** (-3.09)	0.71** (3.76)	0.242** (4.54)	0.64 31.09 ⁺	41
GU (c)	-8.1 (-0.18)	22.82** (5.66)	-0.25 (-0.09)		22.36** (2.76)	0.92 35.10 ⁺	33
FAVOURABLE ATTITUDES TOWARDS FDI							
FDI from all Sources (DIT) GU (a)	14.0 (0.29)	1781.4* (2.29)	-3.30 (-0.59)	-88.74 (-1.21)	0.048 (0.94)	0.60 54.75 ⁺	63
FS (a)	032.1 (-0.46)	3282.7** (4.29)	-7.99 (-0.89)	-1.67 (-0.03)	-0.061 (-1.18)	0.73 31.60 ⁺	37
GU (b)	120.6* (2.35)	-103.95** (-3.70)	-45.02 (-1.45)	-2.52** (-4.37)	0.143** (6.03)	0.63 36.24 ⁺	50
GU (c)	-43.1 (-0.89)	-80.02* (-2.61)	-2.07 (-0.40)		-12.05 (-1.34)	0.54 22.12	50
FDI from Germany (NEW) GU (a)	-8.4 (-1.64)	111.0 (1.25)	-1.87* (-2.54)	-11.55** (-3.73)	0.090* (1.79)	0.72 44.21 ⁺	55

Continued

Table 2 - (Continued)

Dependent Variable/ Criterion for Classification	Const.	B2	B1	BOP	UMS	TRADE	TREN	LSTOCK	\bar{R}^2		Degrees of Freedom
									CHISQ ^b	Freedom	
IFO (a)	-25.9 (-1.57)	73.2* (1.80)		-4.42* (-2.54)	-14.07 (-0.37)			0.123** (10.40)	0.94 36.12 ⁺	33	
GU (b)	3.8 (0.81)		2.00 (1.22)		-4.48 (-1.34)	0.16** (2.96)		0.015 (0.65)	0.19 12.15	41	
FS (c)	32.3** (4.99)		-3.81* (-2.03)	1.01 (1.47)			-5.30** (-3.08)	-0.057 (-1.34)	0.29 15.01	18	

Source: Own calculations.

^aThe following equations are estimated:

$$(a) \text{ FDI} = a_0 + a_1 \text{ B2} + a_2 \text{ BOP} + a_3 \text{ UMS} + a_4 \text{ LSTOCK.}$$

$$(b) \text{ FDI} = b_0 + b_1 \text{ B1} + b_2 \text{ UMS} + b_3 \text{ TRADE} + b_4 \text{ LSTOCK.}$$

$$(c) \text{ FDI} = c_0 + c_1 \text{ B1} + c_2 \text{ BOP} + c_3 \text{ TREN} + c_4 \text{ LSTOCK.}$$

The dependent variable FDI represents three period moving averages of FDI flows from all sources (DIT) and from Germany (NEW). B1, BOP and TRADE are also calculated as three period moving averages, while B2, UMS, and LSTOCK represent lagged annual observations. For the definition of variables and their economic rationale, see the text. It proved impossible to introduce all explaining variables into one equation: B1 and B2 are considered as alternative proxies for the benefits to be reaped from sovereign measures. Furthermore, multicollinearity problems are reduced significantly by the approach applied. Only those regressions are reported that provide statistically significant information. **significant at 1 percent level; * significant at 10 percent level; t -statistic in parentheses. - ^bIf the Chi-square statistic is significant at the 5 percent level (denoted by *), corrected standard errors of the estimated coefficients are used to calculate the t -statistic given in parentheses.

to refrain from sovereign measures in the future. A similar picture exists with regard to B2. As expected, the coefficients of B2 are significantly negative for relatively restrictive countries. But high FDI stocks over GDP induced even more FDI flows to host countries with favourable attitudes towards FDI. High values of B2 indicated the latter countries' attractiveness for foreign capital, rather than pointing to increasing sovereign risk.

V. SUMMARY AND CONCLUSIONS

Debt overhang and sovereign risk arguments were relevant in explaining FDI in DCs in the 1980s. Especially for German investors, however, the impact was not as strong as expected. They hardly responded to a debt overhang by limiting FDI, whereas this relationship was highly significant for overall FDI from all sources. As concerns sovereign risk, the evidence on possible cost factors was particularly weak, while the impact of potential benefits was largely blurred when assessed for a large sample of DCs with different attitudes towards FDI. Foreign investors were mainly concerned about sovereign risk in host countries with restrictive FDI policies. By contrast, a liberal treatment of FDI was considered as a credible commitment to refrain from sovereign measures in the future.

Hence, DCs are well advised to liberalize restrictions that discourage foreign investors to maintain, not to speak of increasing their engagement. Ownership regulations may provide a case in point. It appears most promising to adhere to the rule: "what is good policy for domestic investors is also good for foreign investors", by creating a stable and favourable general framework for investment. Ad-hoc interventions should be kept to the minimum. Moreover, it is not only the rules and regulations that matter, but also how they are applied in practice. The approval procedure should be fast and transparent as it is a crucial element in the investment decision of foreign companies.

In DCs where the credibility of the government has been substantially eroded it may take considerable time to restore the confidence of foreign (and domestic!) investors. But this should not be considered as an excuse to postpone a serious review of FDI regulations. Quite to the contrary, the fiercer worldwide competition for foreign capital requires immediate action by DCs with impaired attractiveness for FDI. The adverse effects of domestic policy failures and a restrictive regulatory framework on FDI inflows will probably increase in the 1990s.

In any event, domestic policy adjustment should aim to improve the country's attractiveness for both debt and FDI inflows. Typically, credit con-

strained DCs are also constrained in terms of FDI. The chances to restructure the external financing significantly by promoting FDI exclusively are rather bleak, notwithstanding that German investors hardly responded to debt problems of DCs. The pronounced reaction of investors from other capital-exporting countries indicates that a solution of debt problems is required in order to improve the DCs' access to FDI significantly.

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**Comments on
“Developing Countries’ Attractiveness for
Foreign Direct Investment – Debt overhang, Sovereign
Risk as Major Impediments?”**

RESUME

The author takes two hypotheses which have been used to explain the behaviour of LDC foreign debt and employs them in an explanation of foreign direct investment.

The sovereign risk hypothesis is that potential creditors, in deciding whether to lend to a country assess whether that country has an incentive to take sovereign measures to default on or repudiate the debt. Applying this hypothesis to FDI, investors consider whether the host country has an incentive to impose restrictions on repatriation of profits etc. If an investor considers that the benefits to the host country of expropriating assets or restricting profits exceed the costs to the host country (impact of any resulting sanctions), then FDI will be deterred.

The debt overhang hypothesis is that where a country has a large outstanding debt such that it is not expected to be fully repaid, any new creditor will experience an immediate capital loss, as new debt will be subject to the same discount as existing debt. Thus a debt overhang will tend to deter new lending and also to deter domestic investment, as profits are expected to be taxed at high marginal rates to finance debt repayments. The author suggests that the debt overhang considerations may deter investors from supplying new FDI, as their activities may be affected similarly to domestic investors.

EMPIRICAL PREDICTIONS

Based on these hypotheses, the value of FDI flowing to a country is predicted to be:

- negatively related to indicators of the existence of a debt overhang;
- positively related to indicators of the costs (to host country) of sovereign measures against FDI; and
- negatively related to indicators of the benefits (to host country) of sovereign measures against FDI.

EMPIRICAL FINDINGS

The author seeks to test these hypotheses by a series of pooled OLS equations, with value of FDI to country x in year y as the dependent variable and a set of indicators of the existence of debt overhang and the costs and benefits of sovereign measures as the explanatory variables. Receipts of FDI are distinguished as from Germany and from all sources.

Using FDI receipts from all sources as the dependent variable, the author finds the debt overhang proxy to have a significant coefficient with predicted sign: i.e. a worse debt overhang is associated with less FDI. This means that FDI is correlated with credit receipts, as they also drop in response to a debt overhang.

However, the relationship is different when FDI from Germany only is considered. The debt overhang proxy is no longer a useful explanatory variable, implying that German investors did not reduce their investments in countries having a high debt burden.

Using the sovereign risk proxies as explanatories, the author finds few significant coefficients having the right sign.

Thereafter, he introduces a new variable: the host country's openness to foreign investment, as indicated by three separate indices or government attitudes to FDI. This provides more interesting results: in the group of countries judged to be most restrictive towards FDI, the coefficients on the sovereign risk variables perform better than they do in the less restrictive groups.

POLICY CONCLUSION

The policy implications that we are offered are:

- FDI is responsive to restrictions imposed on it and therefore countries still having a restrictive policy stance or daunting approval procedure should liberalise quickly;
- FDI is best attracted by having a generally favourable investment climate and not having discriminatory treatment of foreign investors (although countries with a reputation for restriction of FDI may need additional incentives to compensate for the perceived riskiness of foreign investment); and
- as credit constrained countries also tend to have little access to FDI (other than German FDI!), it may not be realistic for LDCs to seek to use FDI flows as a substitute for reduced lending.

COMMENTS

1. Use of proxies: Both the debt overhang and sovereign risk arguments provide attractively neat hypotheses and they seem plausible as partial descriptions of the decision rules underlying foreign investor behaviour. However, it is not clear to me that the empirical work has provided a full test of them. There is a problem in the use of the proxy variables for sovereign risk and debt overhang. The relationships established in the regression analysis do not unambiguously capture sovereign risk cost and benefit factors.

The explanatory variable used as proxy for debt overhang (DII) is change in the host country's Institutional Investor magazine's country credit rating relative to the 1980 rating. One is thus dependent on the II's assessment of credit worthiness. This does not only reflect the discount on debt to particular countries. The author does himself suggest that use of discounts on debt traded in the secondary market would have been preferable, but there is not a large enough data set available.

The relationship established between DII and FDI thus indicates that generally poor credit worthiness is associated with a drying up of FDI. This is slightly different from a confirmation of the particular debt overhang hypothesis.

In the equations related to the sovereign risk hypothesis, there is a more direct indicator of the potential benefit from sovereign measures: existing resource flows from meeting obligations of FDI stock (B1). As proxy for the potential costs of sovereign measures against FDI, the variable TRADE (exports plus imports, over GDP) has been used. This is of course a general indicator of the openness of the economy and does not just capture the sovereign risk effect. Furthermore, in the sovereign risk argument, the credibility of potential sanctions is especially important, and we have no indicator of that – over recent months, we have seen just how much it is necessary to invest to make a threat credible in the international arena.

2. One of the purposes of the paper is supposed to be to correct a lacuna in the literature: lack of attention to the country of origin as one explanation of foreign investor behaviour. Thus the equations are run for German investment and other sources. The author comes up with an interesting result that average investors are responsive to debt overhang factors, but that German investors are not. However, in the analysis, the difference between German investor behaviour and that of other sources of FDI is not as fully explored as it could have been. I feel that we are not presented with serious hypotheses to explain the differences that are brought out in the empirical work.

3. Data: the author obtained his most satisfying results for sovereign risk once the sample of host countries had been segmented according to how generally favourable to FDI their policy stance is. It would have been interesting to see at least the host country classification resulting from at least the author's own index of openness. This could have been presented as a simple table, which would have shown us which countries from the sample the author is telling us have to worry about sovereign risk considerations.

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