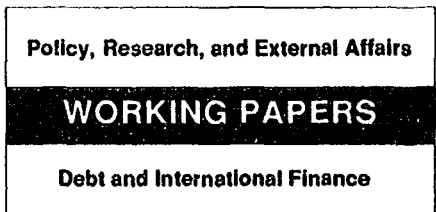


WPS 718



International Economics Department
The World Bank
July 1991
WPS 718

Impact of Investment Policies on German Direct Investment in Developing Countries

An Empirical Investigation

Andrea Gubitz

As experience in Germany shows, the source country's policies might influence foreign direct investment (FDI) flows as much as the host country's policies do.

The Policy, Research, and External Affairs Complex distributes PRE Working Papers to disseminate the findings of work in progress and to encourage the exchange of ideas among Bank staff and all others interested in development issues. These papers carry the names of the authors, reflect only their views, and should be used and cited accordingly. The findings, interpretations, and conclusions are the authors' own. They should not be attributed to the World Bank, its Board of Directors, its management, or any of its member countries.

This paper — a product of the Debt and International Finance Division, International Economics Department, in cooperation with the Kiel Institute for World Economics — is part of a larger effort in PRE to study the determinants of German foreign direct investment in developing countries. It was presented at the seventh conference of the European Association for Research in Industrial Economics held in Lisbon in September 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-045, extension 31047 (40 pages).

Many past empirical studies of foreign direct investment (FDI) flows have been unsatisfactory because of poor data. Gubitz, using better data on German FDI, found that:

- Developing countries might attract more FDI flows by easing investment restrictions or implementing incentives — but the effect of incentives could be modest and does not justify costly subsidies.

- A source country's policy instrument (public guarantees) is an important determinant of German FDI outflows to developing countries — a factor that has been overlooked in the past.

- Industrial countries can substantially encourage their companies to invest in developing countries by offering public guarantees. And actual costs in Germany have been low, as defaults have been rare.

The PRE Working Paper Series disseminates the findings of work under way in the Bank's Policy, Research, and External Affairs Complex. An objective of the series is to get these findings out quickly, even if presentations are less than fully polished. The findings, interpretations, and conclusions in these papers do not necessarily represent official Bank policy.

Impact of Investment Policies on German Direct Investment
in Developing Countries: An Empirical Investigation

by
Andrea Gubitz*

Table of Contents

I.	Introduction	1
II.	The Effect of Host Countries' Policy Measures on FDI Inflows from Germany	4
	II.1 Obstacles to FDI -- Some Major Issues	5
	II.2 Measuring the Degree of Openness	9
	II.3 Influence of the Degree of Openness on German FDI Outflows to Developing Countries	13
III.	The Effect of the German Policy Instruments on FDI Outflows to Developing Countries	20
	III.1 The Federal Guarantee Scheme	21
	III.2 The Effect of Guarantees on FDI Outflows	24
IV.	Summary and Conclusions	26
	Annexes	28
	References	39

**IMPACT OF INVESTMENT POLICIES ON GERMAN DIRECT INVESTMENT
IN DEVELOPING COUNTRIES: AN EMPIRICAL INVESTIGATION**

Andrea Gubitz*

I. Introduction

Over the last few years foreign direct investment (FDI) has become the most important single private source of financing flows to developing countries. In 1988 it accounted for almost 58 percent of total private and 18 1/2 percent of total resource flows to developing countries. This is partly due to the fact that international bank lending practically came to a halt and partly due to an upswing of FDI in developing countries since 1986, in many cases supported by debt/equity swap programs. FDI in the industrialized world, however, has grown much faster leaving the developing countries with a declining share of the cake. It is thus of obvious interest for researchers and for policy makers alike, what the determinants of FDI in developing countries are, especially the effects of policy measures, in order to find out, how the potential interest of foreign investors can be stabilized and enhanced.

For the developing countries, however, the main benefit of FDI is not so much the substitution for private lending, but the improvement of technological and managerial standards, the increase in labor productivity and a better access to export markets. Another advantage is that capital costs are closely geared to the profitability of the capital stock, i.e. no contractual interest payments are involved. However there is a price to pay: earnings on direct investment

*This paper was written while the author was a consultant at the World Bank. It was presented at the seventh conference of the European Association for Research in Industrial Economics held in Lisbon in September of 1990. It is part of a project on the determinants of German foreign direct investment in developing countries in cooperation with the Kiel Institute for World Economics. For stimulating discussions, I am grateful to Asli Demirguc-Kunt, J.P. Agarwal and Peter Nunnenkamp. Many thanks also to the Deutsche Bundesbank and the German ministry of Economic Affairs for making available data without which this research could not have been undertaken.

capital are estimated to be higher than returns on loans (see IMF (1985)). Nevertheless, on the whole FDI is considered advantageous for the host countries and to be crucial in the process of development.

Apart from a favorable economic performance, which generally attracts investment, host countries' regulations and policies with respect to foreign investment have been pinpointed to be a major determinant of the amount of FDI a country actually receives. In contrast to host countries' policies the issue of the source countries' policies to increase FDI in developing countries is less well covered. This might be due to the fact that the positive effects are less obvious. Improving the investment climate in the host countries is in many cases a matter of liberalizing a rather restricted market, thus removing distorting incentives by allowing more competition. Extending the measures of the source countries to enhance FDI in developing countries is, however, mostly a matter of introducing non-market incentives in form of subsidies. This is justified only, if additional FDI is induced. The main purpose of the paper is therefore to partly fill this gap by investigating both the effects of host and source countries' measures to stimulate FDI inflows to developing countries for the case of the Federal Republic of Germany.

Germany is one of the major suppliers of FDI funds to the world; according to the balance of payments statistics of the IMF it ranks fourth after the United States, Japan and United Kingdom with a share of roughly ten percent of total world FDI outflows. Also it turned into a net creditor relatively recently. In 1976 foreign FDI stocks in Germany exceeded German FDI stock abroad (DM 48 billion) by DM 31 billion. By the end of 1988, however, German FDI stocks abroad amounted to DM 184 billion exceeding foreign stocks in Germany by DM 75 billion. The interest of German companies to invest abroad is heavily concentrated in the

industrialized world and the trend is rising. While in 1976 20 percent of the total stock was invested in developing countries, almost half of it in Brazil alone, this share dropped to 12 percent by the end of 1988. Though this pattern resembles the one of other industrialized countries, it is relatively pronounced in the German case.

The reason for this behavior can be explained by looking at FDI in relation to other international activities of German investors. Although FDI, i.e. the acquisition of production facilities abroad, either new ones or - more frequently - existing ones, is gaining importance within the long run structure of the balance of payments and with respect to domestic investment, foreign trade is still by far the most important activity in international business. Annual merchandise exports are roughly three times as high as FDI stocks. For most of the companies exports are the first step into international business, followed by licensing and direct investment. Often licensing is seen as a suboptimal solution for production in a foreign country because of perceived high monitoring costs; thus companies frequently prefer to become a direct investor immediately after they have established a market share through trade. In the German case licensing is negligible. The close link between exports and FDI explains the regional pattern of German FDI, especially so the increasing concentration within the EC and the United States.

With respect to developing countries, however, this linkage is not as strict. Brazil, for example, hosts 5 1/2 percent of total German FDI stocks but exports to Brazil are only 1/2 percent of total German exports. Brazil's investment and trade policy together with its market size had strongly supported FDI as a substitute for imports in the past. On the other hand India hosts only about 1/4 percent of total German FDI despite its market size, but imports about

0.6 percent of total German exports. This is a results of its traditionally restrictive stance with respect to foreign investors. The two examples illustrate that host countries' policies can disguise the underlying economic factors explaining FDI. On the other hand there are countries where German FDI stock is unusually high and probably almost completely covered by public guarantees of the German federal government (for example Egypt). Thus the availability of supportive measures in the source countries potentially increases FDI in a developing country by driving a wedge between the generally perceived country risk and the risk of the foreign direct investors of the particular source country.

Both issues will be addressed in this paper. The major investment regulations in the host countries and their effects on German FDI inflows will be discussed in the next section followed by an analysis of a major source country's policy measure, namely public guarantees (section III). The results are summarized in a concluding section.

II. The Effect of Host Countries' Policy Measures on FDI Inflows from Germany

Whatever the economic determinants of FDI in the developing countries are, their empirical investigation will be partially disguised by the rules and regulations governing the inflow of direct capital into the developing countries. The purpose of this section is twofold: first to give an overview of the most important aspects of investment legislation and policy in the host countries and second to develop and test indicators for the degree of openness of the host countries. The first issue has been covered thoroughly in various studies; examples are Becsky, Lee and Ordu (1989), Rosenn (1989) and IMF (1985). Thus only those factors of particular interest for the further investigation will be

raised here. Apart from special studies the IMF and the U.N. Committee on Transnational Corporations (UNCTC) supply regular information on this topic. A synopsis of selected aspects of host countries' investment policies for major recipients of German FDI is given in the appendix.

As the major aim of this study is a quantitative assessment of the determinants of FDI, the qualitative information has to somehow be quantified in order to fit into the regression analysis. For this purpose it is translated into an indicator which describes the degree of openness of a country.² It can be argued that this procedure is rather arbitrary. Moreover, as the available indicators rely on "expert knowledge", they are likely to have some common bias. These problems can be partly overcome by developing an own assessment and compare it to other indicators.

II.1 Obstacles to FDI - Some Major Issues

The regulations and policies of the developing countries to influence the inflow of foreign capital can be quite complex and are often rather inconsistent. When relating the actual size of German FDI stock in a single country to the country's regulatory framework one has to keep in mind that in most cases the FDI stock is the result of decisions of very few companies (sometimes only one), for which a particular component of the regulatory framework might have - at that particular point in time - outweighed all the others. On an aggregate level however there are a few components of the rules and regulations that are generally considered to be crucial.

²It should be mentioned that measurements of the investment climate are more readily available. They include, however, economic performance and stability aspects. The focus here is narrower, i.e. restricted to institutional rules and habits.

A major if not the most serious obstacle to FDI is the restriction on ownership. German companies have a strong preference for 100 percent ownership. The reasoning for this is similar to the one for the preference for direct investment over licensing (see Buckley and Casson (1985)). It eases the decision process inside the company and allows for better control over intangible assets such as technology, product quality and credibility. It has to be mentioned, however, that joint ventures have their particular advantages too. Country specific aspects of production and distribution can be more easily handled with a local partner sharing the risk burden. Especially small and medium-size companies appreciate these advantages of joint ventures.

According to a study of the HWWA-Institute companies own on average 84 percent of their affiliates abroad; in Latin America the percentage share is even higher (87.3 percent), whereas in Asia, where ownership restrictions used to be particularly high in the past, it is significantly lower (56.3%, see Scharrer and Krägenau (1988)). Companies are generally more restricted with respect to their control of ownership in developing than in industrialized countries.

Some countries have codified limits varying from sector to sector with complete foreign ownership being the exception, often approved particularly to export-orientated companies (for example in Malaysia). Other countries decide on a discretionary basis (like Thailand), and many countries' regulation requires a gradual increase in national participation (for example Peru). An important qualification to the above described regional pattern of shares has however to be made: most developing countries, especially so in Asia, liberalized their investment policies substantially. In particular possibilities for fully foreign owned investment projects were extended. The most important holder of German FDI, Brazil, however, is following a more restrictive stance, at least in comparison

to other countries.

Another important factor influencing the investment climate of a developing country concerns restrictions on the repatriation of profits and capital. This issue also involves the access to foreign exchange (for details see IMF). Even if the repatriation of profits and capital is granted under the investment code of the country or by a bilateral investment treaty, this is not of much use, if access to foreign exchange is restricted. This is especially true for companies which mainly operate in the domestic market. Most countries with severe debt problems restrict repatriation of profits and capital. In Argentina for example an emergency legislation used to prohibit the repatriation of capital, and capital acquired under the debt/equity conversion program cannot be repatriated for ten years. Other countries, for example Kenya, restrict the repatriation of capital gains.

Although no country completely prohibits the repatriation of profits, many countries have certain restrictions, which distort optimal financing conditions. Many countries restrict the repatriation of profits to a certain percentage of the registered capital. Earnings repatriated above that amount are highly taxed. Brazil for example restricts the repatriation of profits to 12 percent of the registered capital (in foreign currency) calculated over a three year average. Although this regulation might appear harmless at first sight, it turns out to be a major flaw, because registered capital is usually not allowed to be adjusted for inflation; as a lot of FDI stock is registered a long time ago often only a small proportion of the actual profit can be remitted. This gives an additional strong incentive to invest in form of a loan rather than in form of equity capital, because remittance of interest earnings on foreign loans is geared to market rates (for details see Rosenn (1989)).

According to a survey on German firms' investment behavior in developing countries done by the Ifo-Institute in Munich dating back to 1980 "the most important individual factor for German investors is the difficulties in dealing with the state authorities (bureaucracy) in developing countries. Only just under one-fifth of the ratings classified this as a minor factor (Pollak and Riedel (1984, p. 29))." Obtaining a complete picture of this issue for all the countries included in the investigation is, of course, beyond the scope of this paper. There are countries which are known to have a particular tedious approval procedure, for example Nigeria and Kenya. On the other hand there are a few countries which have a codified, straightforward approval process; in Korea for example many investment projects are approved automatically. For the purpose of this investigation the scoring of the approval process is in most cases taken from outside sources.

Apart from the three issues discussed above there are many others which are crucial for the investment climate in a developing country. Countries which are restrictive with respect to the above mentioned factors often have numerous exceptions from their rules for specific purposes. Among those are export processing zones, tax exemptions, and high degree of industry protection. Other countries, like Chile and recently Korea, rather rely more on deregulation for foreign and domestic investors alike. With respect to the various exemptions from taxes, tariffs and duties particular preferential treatment is often available for joint ventures (Algeria, Egypt, Mexico). There are on the other hand some popular disincentives like quotas mandating employment of host country's nationals (Malaysia) and performance requirements like local content requirements (Venezuela). The pattern of incentives and disincentives often varies substantially between different sectors.

II.2 Measuring the Degree of Openness

Measurements on the restrictiveness of investment regulations of developing countries take the above mentioned issues into account. However, the perception of this restrictiveness varies from source country to source country. This is due to traditional and/or cultural links as well as to political factors. Germany never had colonies on a large scale and thus little particular cultural links to the developing world. It has on the other hand a strong competitive position in the classical sectors of manufacturing (for example chemistry) and thus might find it easier to operate in some developing countries than would other industrialized countries. Furthermore, Germany has a large number of bilateral investments treaties (63) and double taxation agreements (33) (see BMZ). In order to measure the degree of openness for German FDI these factors should be taken into account.

For the purpose of this study the degree of openness (OP) has to be quantified in order to be introduced in the regression analysis. This is of course a rather subjective task. One way to approach it is to summarize the information given in the synopsis in the appendix and classify countries into very restrictive (= 1), restrictive (= 2), semi-open (= 3), and open (= 4) on the basis of the researcher's own judgement. Although no weighting index was quantified, the criteria of Part I of Annex II counted (in general) more than those of Part II, especially for "lender and ownership" restrictions. The approval process, although a very important criterion, is difficult to measure and was thus taken into account only in obvious cases. As it is often a composite of many rather harmless measures that form a severe restriction, no methodical procedure was applied in classifying countries according to the

information given in Annex II. Another way of dealing with this problem is to rely on the compilation and evaluation of information which other institutions collected. Two sources are available:

(1) A measurement conducted by Frost & Sullivan, Inc. for the United States Agency of International Development in 1988 based on their own research and expert knowledge (see Frost & Sullivan (1988)).

(2) A measurement conducted by the Ifo-Institute in Munich in 1980 based on several sources of expert knowledge from German institutions dealing with foreign affairs (see Osterkamp (1983)).

The advantage of relying on own judgement is that the researcher is aware of the limits of the resulting classification, which is in this case purely based on published information. Furthermore, certain bilateral aspects, such as investment treaties and double taxation agreements, are explicitly taken into account.

Aspects of political and economic stability, however, are explicitly not taken into account. The disadvantage of this option is that the measurement is less comprehensive, as the list of sources is limited and incomplete. This flaw can be avoided by relying on the measurement of other institutions, which collect information from various country experts. There are, however two shortcomings to this approach as well. First, the quality of the index has to be taken for granted, and second, the indices available do not strictly measure the degree of openness, but the investment climate, i.e. they take into account factors that are not strictly regulatory.

Table II.2: Country Classification: Degree of Openness

Developing Country	Researcher's Judgement	Average score 1-9, FS *)	Score: Ifo-Inst. **)
<u>OPEC</u>			
Algeria	restrictive	3.0	NA
Indonesia	semi-open	2.9	36.68
Iran	very restrictive	NA	NA
Libya	very restrictive	2.1	NA
Nigeria	restrictive	2.3	33.5
Venezuela	restrictive	2.4	34.67
Un.Ar. Emirates	open	NA	39.0
<u>Africa</u>			
Cote d'Ivoire	open	3.6	41.5
Egypt	semi-open	3.4	33.67
Kenya	restrictive	2.8	37.67
Morocco	semi-open	3.4	42.0
Tunisia	open	4.0	44.0
<u>America</u>			
Argentina	restrictive	2.8	38.0
Brazil	semi-open	2.4	42.5
Chile	open	3.7	NA
Colombia	open	3.8	37.0
Guatemala	restrictive	2.8	NA
Mexico	semi-open	3.0	37.33
Peru	very restrictive	2.3	36.0
<u>Asia</u>			
Hong Kong	open	4.7	50.0
India	restrictive	2.6	36.0
Israel	open	4.0	NA
Korea	open	3.6	31.5
Malaysia	semi-open	3.4	37.67
Pakistan	open	3.4	36.0
Philippines	semi-open	4.2	37.5
Singapore	open	4.7	48.5
Sri Lanka	open	3.9	NA
Syria	very restrictive	2.3	NA
Thailand	open	3.9	38.0
Turkey	open	3.6	NA

*) Frost & Sullivan (1988); - **) see Osterkamp (1983).
NA: not available.

The index constructed by Frost & Sullivan, Inc. (FS) is based on 14 different criteria. For each country (the total number of countries covered is 95) a score ranging from one (worst case) to five (best case) is given for each criterion. For the purpose of this study the five "non-institutional" criteria have been excluded. This index is thus the unweighted average of nine criteria: controls on ownership, approval process, dispute settlement, employment of nationals, exchange controls, repatriation restrictions, investment incentives, and tax rates. Another advantage of the FS-index is that it is fairly recent. It is, however, uncontrollable, in how far the scoring of one criterium is influenced by the scoring of others including those which are excluded for the purpose of this study.

The index constructed by the Ifo-Institute (IFO) is based on 17 criteria for 36 countries, which cover mainly regulations, but also the aspects of political stability. Information was collected by sending questionnaires to country experts in different institutions located in Germany (for example the GTZ³) and abroad (for example embassies). For each criterion experts were asked to give a score ranging from one for "very restrictive" over two for "somewhat restrictive" to three for "little restrictive". The index itself is an unweighted sum of the scores, i.e. the maximum value attainable is 51. The Ifo-Index implicitly takes into account German aspects of the investment environment in a developing country. Its main flaw is that it is somewhat outdated. For this index in particular it is uncontrollable in how far answers to the different criteria were influenced by each other and by outside factors such as the general

³Gesellschaft für Technische Zusammenarbeit. The GTZ is a company owned by the government that advises on and conducts projects in developing countries. Their services are usually free of charge for the developing country.

economic performance of a country.

Table II.2 lists the classification of selected countries with respect to the three different indicators discussed above.⁴ There are a few deviations in the classification of a country depending on which indicator is used. Two of them are worth mentioning. The degree of openness for Brazil is judged to be low by FS and high by IFO. This is mostly due to a national bias of the two indicators. The sectorial structure of German FDI makes it easier to fit into Brazil's investment regulations. Thus German experts judge Brazil to be more open than American experts. Another reason for the deviation is that the FS-index is far more recent, thus taking into account Brazil's rather restrictive Informatics Law. Last but not least, Brazil did not change much with respect to its openness, but other major recipients did, leaving Brazil with a relatively worse image in recent years. Another major deviation occurs with respect to Korea. The much higher scoring with respect to the FS-index is due to the fact that Korea became more open in recent years, especially so in 1988.

II.3 Influence of the Degree of Openness on German FDI Outflows to Developing Countries

The discussion on measuring the degree of openness revealed that an index observed over time would be ideal to explain FDI inflows. On the other hand the perception of the investment policy of a country probably changes only slowly. Thus it is quite justified to use a constant indicator to pick up the influence of host countries' policies on their FDI inflows from Germany. In order to find out whether the degree of openness is a significant determinant of FDI and whether the above described indicators behave differently we need a regression

⁴The countries are major holders of German FDI stocks.

equation specified well enough to lead to unbiased estimators of its coefficients. The specification chosen here draws on results of a thorough study of German FDI in developing countries by Agarwal, Gubitz and Nunnenkamp (1990). There it is found that German FDI is strongly market oriented not only in terms of market size as measured by the GNP of the respective host country, but also in terms of market penetration of German exports product in the host country's market, while the influence of other factors like real growth rates, labor costs, etc. were not unambiguously supported.⁵

In order to test the significance of the influence of host countries investment policies on German FDI as many flow data to single countries as possible should be taken into account in order to reduce the possibility of selection bias. The dependent variable should ideally be split up into real values and a deflator in order to investigate volume and price effects separately. FDI data, however, is always compiled in nominal terms, in this case in currency of the source country, i.e. in D-mark. Therefore one could deflate the nominal values by a suitable domestic deflator, for example the German price index for investment goods. This leads to an unbiased series for real FDI values under two assumptions: first, purchasing power parity (PPP) is fulfilled for the exchange rate of the host country's currency vis-à-vis the D-mark, and second the price index chosen is a good proxy for the true unit value of FDI transactions. Both assumptions are, however, highly questionable. The real exchange rates fluctuated widely in the sample period and deflating a financial flow variable that is generated by a set of rather heterogenous transactions would

⁵In the above mentioned study it was found that present and past penetration of German export products has a positive impact on German FDI, but present and past FDI has no significant impact on German exports to developing countries. Thus neither a substitution effect as implied by the theory of optimal timing of a FDI nor a growth effect could be detected.

be quite a complex task. Therefore the analysis is based on data in nominal terms. Furthermore, as new investments and liquidations are likely to be influenced quite differently by the investment policy of a country gross flow data would be desirable. However, all these data requirements cannot be met in practice. (Properly deflated data would have been preferable, of course.)

The most broadly based regional as well as sectoral data set is the stock statistic, which covers time series for about 70 countries for the period 1976 to 1987 (source: Deutsche Bundesbank). The countries covered are either major holders or holders of several small amounts of German FDI. If a country is not listed or its numbers are not shown, it can, however, not be concluded that its German FDI stock is close to zero; it is rather a holder of one or two investments that are not shown due to confidentiality.

The valuation problem raised above gets even worse when "net outflows" are calculated from an increase in stocks of primary and secondary FDI, because capital gains and losses due to valuation changes and exchange rate variations are included. Valuation changes due to exchange rate movements are a particularly severe problem in German data. The stock values are usually historical book values converted into German mark at the end of each year. Thus converting the stocks into the currency of the host country at end-of-period exchange rates, taking first differences and converting those back to German mark at average-of-period exchange rates should lead to a better approximation to the flow data of the balance of payments. Indeed the correlation between the increase in stocks and flows is higher when the increase in stocks is measured in the way described above. There are, however, a few major recipient countries for which the above described adjustment is false, namely those which suffer from high inflation rates. In those countries book values are usually adjusted for inflation. Thus

the first differences of the stock values in local currency as well as in German mark at average-of-period exchange rates exaggerate the historical transaction values.

In the following regression analysis first differences of the original stock data were used as a proxy for net outflows. As the high inflation countries of Latin America have a particularly high weight in German FDI, the respective end-of-period exchange rates were included in the regression equation in order to capture valuation effects.⁶ The data set covers 41 countries and eleven years (1977 to 1987). The only index for the degree of openness available covering all the 41 countries is the FS-index. The resulting regression equation is:⁷

$$\begin{aligned}
 \text{(II.1) DLXDMST} = & - 128.9 - 0.08 * \text{LXDMST}(-1) - 0.22 * \text{DLEXDM} - 0.01 * \text{LEXDM}(-1) \\
 & \quad (3.1) \quad (2.6) \quad \quad (4.2) \quad \quad (1.3) \\
 & + 0.08 * \text{LGDM} + 0.04 * \text{LEXAN} + 1.92 * \text{FS}, \quad \text{Rsquared} = 0.11, \text{NOB: } 451 \\
 & \quad (3.2) \quad \quad (1.9) \quad \quad (0.8) \quad \quad \text{Chisquared} = 77.9 \text{ (critical} \\
 & \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{value: } 33.9)
 \end{aligned}$$

Although changes in FDI stock are measured at an aggregate level the numbers often reflect the behavior of only a few investors. Thus heteroscedasticity is a potential problem, not only with respect to the different countries,

⁶Cross rates derived from market rates vis-à-vis the US-Dollar as published by the IMF were used. When valuation effects due to exchange rate changes are properly taken into account, the regression results obtained from other adjusted for the "end-of-period effect" deviate very little from those using first differences of the original stock data.

⁷LX:= log(X), DLX:= log(X) - log(X(-1)), XDMST: German FDI stock in German mark, EXDM: local currency per German mark, GDM: GNP of the host country in German mark, EXAN: German exports to the host country relative to the host country's GNP, FS: FS-index; adjusted t-values in brackets; Chisquared: White-test on homoscedasticity.- Data sources: see Annex I

but also over time. Therefore the null of homoscedasticity of the error term had to be tested. The null was rejected for equation (1). Therefore corrected standard errors of the estimated coefficients were used to calculate the t-values given in brackets.⁸ The OLS estimators of the coefficients are still consistent, but not most efficient any more.

The overall explanatory power of the equation is rather weak; at least the lagged stock variable is significantly less than zero. The coefficient of the rate of change of the exchange rate indicates strong valuation effects and the market orientation of German FDI is confirmed. The coefficient of the degree of openness turned out to be insignificant. There are various possible reasons for this outcome: First, the degree of openness might in fact be irrelevant for investment decisions (if FDI is import-substituting, for example); second the measurement of the FDI outflow by changes in stocks maybe inappropriate; third, the omission of other explanatory variables may lead to biased estimates, and fourth, the FS-index might be unsuitable to measure the degree of openness.

Thus one way to further investigate this issue is to improve the data base. There is, however, a price to pay: the number of countries for which better data is available, decreases to 18 leaving us with a potentially higher selection bias.⁹

Let us start on the last issue raised above. Estimating equation (1) in a subsample for the stock data set and varying the indicator for the degree of openness does not lead to any further insight. The results actually become

⁸For testing for homoscedasticity and correcting of the standard errors see White (1980).

⁹These countries are Argentina, Brazil, Colombia, Côte d'Ivoire, Egypt, Hong Kong, India, Indonesia, Korea (South), Malaysia, Mexico, Morocco, Nigeria, Peru, Singapore, Thailand, Tunisia, and the United Arab Emirates.

implausible when using the index based on FS and on the researcher's own judgement.

As argued above what is really influenced by the degree of openness are new investments in the developing countries.¹⁰ This transaction data is less distorted by valuation changes of the book values, it does not, however, contain secondary FDI. The regression results based on transaction values for the period of 1977 to 1988 are summarized in table II.3 below. The lag-endogenous variable is added to capture some dynamic behavior.¹¹

¹⁰On a bilateral basis this data is published only for outflows to the United States. However, for a selection of developing countries this data was kindly made available by the Deutsche Bundesbank.

¹¹As the sample contains only 12 years for each country a more sophisticated dynamic approach is inapplicable. Note that equation (1) has the form of an ECM approach (although rudimentary) while the equations of table IV.3 are of autoregressive form. As the dependent variable contains zero observations a small constant was added before taking logs.

Table II.3: Regressions of Gross FDI Outflows (FDM) to Developing Countries

	LFDM(-1)	DLEXDM	LEXDM(-1)	LGDM	Degree of Openness	RSQ	CHISQ*)
FS:**	0.74 (18.2)	0.14 (0.7)	-0.03 (1.9)	0.02 (2.2)	10.89 (1.5)	0.94	36.5
OP:**	0.73 (17.9)	0.15 (0.8)	-0.03 (2.0)	0.02 (2.4)	11.70 (1.5)	0.94	28.6
IFO:**	0.74 (18.6)	0.05 (0.3)	-0.02 (1.5)	0.04 (2.6)	0.03 (0.0)	0.94	24.9

NOB = 216;

*) critical value: 26.3 (5 percent level).

***) For the definition of FS, OP, and IFO see pages 9 and 12.

All three indicators for the degree of openness have again a coefficient of correct but insignificant sign. FS and OP are significant only at a 15 percent level. The Ifo-index is completely insignificant. This is probably due to the fact that the expert knowledge on which the index is based is outdated for the sample under investigation. Market penetration turned out to be insignificant in all three cases and the results are stable with respect to sample variations (not shown).

The empirical findings both for FDI stocks and gross outflows do not support the hypothesis that the degree of openness plays a crucial role in attracting German FDI to a developing country. This outcome does, of course, not suggest that a restrictive FDI policy is harmless. First the measurement undertaken here is very broad and averages out single components of FDI policy that might be crucial. Second removing investment obstacles from the investment regulations introduces more competition and has thus other positive effects than the direct incremental one on German FDI investigated here. Some doubts, however,

have to be raised about the gains from special FDI incentives. These imply in most cases subsidies which can be quite costly, but nevertheless the expected amount of FDI will not be attracted. If host countries enter into an "incentive competition" among themselves they will eventually all offer incentives one way or the other, and FDI will increase only as far as a growth effect is created. Thus these rather expensive instruments might lose their effectiveness for single countries.

Instead of asking the developing countries to put up with foregone tax revenues in order to subsidize private companies from abroad (which will at least in the short run lead to an increasing need of other foreign funds), it might be more effective to support the foreign direct investor in the source country. This issue, however, attracted little attention in the past, which might be due to the fact that there is nothing to deregulate in most industrial countries as there are no restrictions to invest abroad. Promoting investment in developing countries is rather a matter of subsidizing projects. The actual amount of funds channelled to support FDI in developing countries is rather low; it is therefore often concluded that their effects are very small. As will be shown below this conclusion has to be modified.

III. The Effect of the German Policy Instruments on FDI outflows to Developing Countries

The design of the German policy instruments to support FDI in developing countries can be best understood in keeping in mind the key features of the determinants: German FDI is market-oriented and often closely linked to export activity; a lack of financial resources is in many cases not a constraint; obstacles are restrictiveness of the host countries' investment regulations including tedious approval procedures and an assumed risk aversion.

The policy instruments are generally available for all projects in all developing countries as long as they fulfill certain standards, i.e. they must have a development impact and be environmentally acceptable. Furthermore they should improve relations between Germany and the host country. Some programs are specially designed to activate investment from small and medium size enterprises, as their complementary effect is considered to be particularly large. On the other hand, the motive of investment is not a criterion for approval. The set of promotional instruments contains a guarantee scheme, financial support (partly in form of subsidized loans extended by the federal government and partly in form of market-oriented equity and loan commitments of a publicly owned finance institution) and a whole battery of consultancy services; for a review of the various instruments see Gubitze (1990).

The following analysis describes and assesses only one policy instrument, namely the federal guarantee scheme, which is in volume terms by far the most important promotion measure. Also a federal guarantee is an important prerequisite to obtain public support from other sources, although it is neither a necessary nor a sufficient condition.

III.1 The Federal Guarantee Scheme

As mentioned in the last section the federal government tries to at least partly overcome the restrictive attitude of the developing countries by establishing bilateral investment treaties, which serve as a legal backing for the private investors. For a private investor to obtain a federal guarantee there has to be some legal backing of the project in the developing country, which is

assumed to be automatically fulfilled if a bilateral investment treaty exists.¹² There are, however, countries which consider bilateral investment treaties as inconsistent with their sovereignty, especially in Latin America; nevertheless there are publicly guaranteed projects in these countries.

A federal guarantee covers non-commercial risks only. These are expropriation or nationalization without compensation, default of a project as a course of failure of the host countries to commit itself to contractual duties related to the project, destruction through war, revolution and other conflicts, official moratoria and certain convertibility risks. The term of a guarantee is 15 years, which can be extended every 5 years successively. 95 percent of the project value is covered and the remaining 5 percent are not allowed to be covered elsewhere. Earnings can be covered up to 50 percent of the project value. The fees are very low and cover part of the administrative costs only. Also the fees are not differentiated with respect to different sectors, countries, types of risks or capital versus earnings. Applications are approved by a board of representatives from the responsible ministries, who meet every three months. In case of a default the compensation for the German investor is financed out of the federal budget and the claim on the host country is transmitted to the German government. Cases of default are, however, very rare. In 1988 they amounted to 1 percent of the total value of guaranteed projects. The host governments often pay at least part of the amount due after negotiating with the German authorities. If they ultimately default, projects in their countries are excluded for further guarantees.

The federal guarantee scheme started 1960. Until the end of 1988 about 2500

¹²Applications for guarantees can only be approved, if the project has been approved by the authorities of the host government.

applications with a total value of DM 9.3 billion for projects in 91 countries were approved (see Treuarbeit (1989)). Only few applications are finally rejected. The amount of new approved projects, which peaked in 1988 at DM 0.6 billion, is strongly influenced by a few big projects. According to the Ministry of Economic Affairs roughly 20 percent of German FDI in developing countries is covered by a guarantee.¹³

The regional pattern of guarantees shows a much heavier weight of African and Asian countries than does the general regional pattern of German FDI. This is related to three factors. First most bilateral investment treaties are established with countries of these areas. Second guarantees mostly cover equity capital; some countries, however, rather attract FDI related loans due to their repatriation practices, for example Brazil. Third the regional pattern is affected by the age structure of German FDI; in Asia, where projects on average are much younger than for example in Latin America, the average size of a guaranteed project is markedly higher than of those in other regions.

¹³see von Würzen (1989); it is not quite clear how this number was calculated. Most likely it relates guarantee approvals to accumulated net FDI outflows.

Table III.1: Regional Pattern of Federal Guarantees
(percentage shares)

Region	number of approved projects *)	value of projects *)	total stocks **)
Africa	30.2	29.6	9.9
Latin America	33.7	32.0	47.3
Asia	22.8	27.9	12.7
Europe ***)	13.3	10.5	30.1
Total	100.0	100.0	100.0
Memo items:			
Total (number/ DM billions)	2557	9.3	29.2

*) as end of 1988.- **) as end of 1987.- ***) incl. Spain.

Note: Country classification might deviate.

Sources: Treuarbeit (1989), Deutsche Bundesbank

The German guarantee scheme has proven not to be quantitatively restrictive in the past, as no application has been turned down because of budget limitations. As it is at least potentially subsidized by the government, although the actual subsidy might be low, it is only justified, if it causes additional FDI in developing countries. In the following analysis it will be tested whether the amount of federal guarantees had a significantly positive effect on German FDI outflows to developing countries.

III.2 The Effect of Guarantees on FDI Outflows

In a recent study on the determinants of German FDI in developing countries it was found that German FDI inflows to developing countries did not react to a decrease in the rating of a country's creditworthiness, whereas FDI inflows to developing countries in general were significantly negatively affected (see

Agarwal, Gubitz and Nunnenkamp (1990)). As the general perception of the German investment community is that the latter is particularly risk averse this result was somewhat unexpected. The explanation for this finding is, however, rather obvious as a high share of new investments to developing countries is covered by a guarantee.

In order to investigate this argument in some more detail a regression equation relating gross FDI outflows to developing countries (FDM) with exchange rates (EXDM), nominal GNP (GDM), country credit rating (II) and new approved guarantees relative to GNP (GARNEW) was estimated (general notation as before; data sources see Annex I). As the amount of new approved guarantees increases with country risk, it is corrected for this effect by weighting it with the country's credit rating, i.e. the higher the credit worthiness the higher the weight of the actual amount of new approved guarantees.¹⁴ For the country credit rating the annual average of the index of the Institutional Investor was used, i.e. a higher country risk is associated with a lower credit rating. Data on approved guarantees was available for 17 countries and the panel covers the years 1980 to 1988.¹⁵

¹⁴On the other hand, one could argue that an increasing country risk (i.e. a decreasing II) is related a higher risk premium of expected rates of return of the investment. Thus the potential subsidy on the fee charged (which is the same across countries) is higher and a greater additional effect is therefore associated with guarantees in countries with a higher risk rating. In the empirical equation this means that the elasticity of new approved guarantees would inversely depend on II. The empirical results, however, change little when this effect is taken into account.

¹⁵These countries are Argentina, Brazil, Chile, Colombia, Côte d'Ivoire, Egypt, India, Indonesia, Korea (South), Malaysia, Mexico, Morocco, Nigeria, Peru, Singapore, Thailand, and Tunisia. The II-index is not available before 1980.

$$\begin{aligned}
 \text{(III.1) } \text{LFDM} &= 0.61 \cdot \text{LFDM}(-1) + 0.02 \cdot \text{LEXDM} + 0.07 \cdot \text{LGDM} - 0.16 \cdot \text{LII} + 3.65 \cdot \text{OP} \\
 &\quad (7.2) \qquad\qquad (0.4) \qquad\qquad (1.6) \qquad\qquad (0.6) \qquad\qquad (0.2) \\
 &+ 0.06 \cdot \text{LGARNEW}, \qquad\qquad\qquad \text{RSQ} = 0.88, \text{ NOB} = 153 \\
 &\quad (1.8) \qquad\qquad\qquad \text{CHISQ} = 47.8 \text{ (critical value: 33.9)}
 \end{aligned}$$

The regression result confirms earlier findings that an increase in the country risk measured by its credit rating does not lower gross FDI inflows in the German case. An increase in approved guarantees (relative to GNP and corrected for the risk effect), on the other hand, significantly (at a 10 percent level) increases new German FDI in developing countries. The degree of openness of the host countries turned out to be insignificant. An analogous relationship was also tested for liquidations. It turned out that a relatively high amount of publicly guaranteed FDI stock did not significantly reduce the amount of liquidations. The overall performance of the equation explaining liquidations (not shown) was, however, so poor that conclusions could not really be drawn from it.

IV. Summary and Conclusions

The empirical investigation of FDI flows to developing countries has proven to be rather unsatisfactory in the past. To a major extent this can be explained by data problems. Data is not easily available and only compiled in nominal terms; thus valuation and volume effects cannot be properly separated. The problems get even worse when the investigation has to draw on stock data, i.e. book values. The above analysis however showed that FDI policies matter. While it has so far been assumed that the rules and regulations of the host countries with respect to FDI would disguise the economic fundamentals driving the amount and distribution of FDI, the results presented above identified a source country's policy instrument, namely the public guarantees, as an important

determinant of FDI outflows to developing countries. This latter aspect has been overlooked in the past. Developing countries might gain more foreign direct capital inflows by easing investment restrictions or implementing incentives, but the effect is possibly modest and does not justify costly subsidies. On the other hand the industrial countries can substantially encourage their companies to invest in developing countries by offering public guarantees. The case of Germany has shown that the actual costs involved are very low, as defaults are rare. Thus once it is decided that public support should be used to direct more FDI to developing countries, source countries' policies might be more effective than host countries' policies especially if the latter involve high foregone tax revenues.

Data Sources

FDI-Data:

There are two main data sources for FDI in developing countries: (1) the IMF Balance of Payments Statistics, which contains transaction data as reported by the host countries, and (2) the OECD-DAC statistics which reports FDI of the OECD-DAC member states in the developing countries, i.e. it is based on source countries' information. The numbers for total inflows of FDI in developing countries cited here refer to the IMF Balance of Payments Statistic. German FDI stock data by country and sector is published annually as a supplement ("Die Kapitalverflechtung der Unternehmen mit dem Ausland nach Ländern und Wirtschaftszweigen") to the "Beiheft zu den Monatsberichten der Deutschen Bundesbank, Reihe 3, Zahlungsbilanzstatistik". FDI gross outflows are compiled within the German balance of payments statistics. Data on FDI flows with respect to single countries is generally not published, but was kindly made available to the author for a given selection of countries.

Explaining Variables:

Exchange rates (EXDM) are calculated as cross-rates from the market rates in local currency vis-à-vis the US-Dollar as published in the IMF International Financial Statistics. In the stock adjustment equation the exchange rates refer to the end of the year, in the flow equation they refer to annual averages. Host countries' GNP is in nominal terms (source: The World Bank - World Tables) and converted to D-mark (GDM). Market penetration (EXAN) is German nominal exports to the host country (source: IMF Direction of Trade Statistics) relative to the

host country's GNP. Country credit rating (II) is measured by the annual average of the semi-annual Institutional Investor's index (source: Institutional Investor). German new approved public guarantees were adjusted for risk effects by multiplying with II and dividing by the host country's GNP. The total amount of public guarantees (source: Treuarbeit, unpublished) for projects in single countries is generally confidential data, but was kindly made available to the author for a given selection of countries. The variables measuring the degree of openness with respect to investment rules and regulations are explained in the text.

FDI-Regulations, Part I

Host country	Entry and ownership restrictions	Access to foreign exchange	Repatriation of:	
			profits	capital
<u>OPEC</u>				
Algeria	all investments require approval, joint ventures are preferred and get special incentives	restricted	up to 15 percent of capital originally invested	granted
Indonesia	all investments require approval and need to be joint ventures, exceptions, liberalizations in 1988, 1989	free	granted	
Iran	?	restricted	approval needed	
Libya	some areas closed, usually share less than 49 percent	restricted	after approval, usually granted	
Nigeria	40 enterprises closed, 100 percent ownership only in new FDI, joint ventures in oil sector	owner-restricted	approval needed	
Venezuela	gas, iron and petroleum sectors closed, usually share less than 49%, branches of foreign companies are not considered foreign investment	four-tier exchange market, one is free	granted, but special rules under debt/equity conversion scheme	
United Arab Emirates	not more than 49 % share allowed, except in branches	free	granted	
<u>Africa</u>				
Cote d'Ivoire	"positive" list, special status for "priority" enterprises	restricted	granted	

Part I continued

Egypt	inland investments need approval, in free zones no restrictions	restricted	can be restricted	after 5 years, exceptions
Kenya	approval required, Africanization requirements	restricted	restricted to current year	only original value and reinv. earnings in or. currency
Morocco	approval required, except equity investment in new companies and subscription to capital increase in existing companies	restricted	after approval, exceptions, e.g. in the tourist industry	
Tunisia	no general limits	restricted	granted, subject to authorization including capital gains (fairly new legislation)	
<u>America</u> Argentina	no general exclusion, but different degrees of approval required, special regulation in the petroleum sector, important easing of restrictions in 1989, no approval for reinvestment of profits	dual market, one free	since 1983 via \$-denom. gov. bonds, profits above 12% of reg. capital are subject to a special tax, earnings from FDI under debt-equity scheme*)	restricted under emergency regulations, after 10 years for FDI under debt/equity conversion program recent easing of exchange restrictions

*) cannot be remitted for 4 years.

Part I continued

Brazil	100% ownership possible, joint venture preferred, restrictive Informatics Law	restricted	12% p.a. over 3-year average of registered capital, above that supplemental tax	granted, but long delays occur
Chile	?	restricted	no general limit, specified in investm. contract	after 3 years, unless otherwise specified
Colombia	100% ownership possible, to get special benefits less	approved exchange license required	not more than 25% of reg. capital	under specific conditions
Guatemala	approval required, special legislation in the petroleum sector	restricted	prior approval required	
Mexico	ownership usually restricted to 49%, exceptions, no authorization for investment in in-bond industries, 1989: 100% ownerships allowed in many sectors	two markets, one free	granted, on the free market, long delays occur	
Peru	at least 15% national participation, exceptions, special Mining Law, gradual increase of nat. participation, exceptions	multi-tier market, one free	limited to 20%, exceptions	?

Part I continued

Asia				
India	Reserve Bank permission required, in general only minority shares, "dilution" formulas, exceptions in core and export-oriented sectors	restricted		after approval incl. capital gains, in suitable installments
Israel	free, for preferential treatment approval required	restricted		granted
Korea, Rep.	"negative list", in manufacturing 98% open	restricted		granted
Malaysia	after approval, in export-oriented sector 100% share possible, also in other sectors, if local partner cannot be found	free		granted
Pakistan	after approval, liberal policy	restricted		granted
Philippines	in general minority share, except in priority sectors, (new Investment Code in 1987)	restricted	permitted, if not financed on domestic market	depends on the source of financing special rules for debt/equity conversion
Sri Lanka	after permission in specifically approved sectors	restricted	free for profits (excl. capital gains) of same year	granted for approved projects
Syria	?	restricted	granted	not allowed, exceptions

Part I continued

Thailand	after approval, no general ownership restrictions	restricted	granted for approved projects	
Turkey	after approval, required capital must be imported, exceptions under special laws or when funds from blocked accounts are used	restricted	granted	after approval

FDI-Regulations: Part II

Host country	Bil. inv. treaty	Taxation*)/ double tax.-agreement.	Special incentives	Performance requirements	Approval process
<u>OPEC</u>					
Algeria	no	3/no	for joint ventures	replacement of foreign staff by locals	?
Indonesia	yes	4/yes	tax incentives	import substitution, employment restrictions	one-stop, fairly bureaucratic
Iran	yes	NA/yes	?	?	?
Libya	no	1/no	under Petroleum Law		?
Nigeria	no	3/no	tax reliefs debt conversion program, privatization	?	long and complicated, but improved in 1988
Venezuela	no	1/no	debt/equity conversion promoted - special tax advantages	local content requirements	?
United Arab Emirates	no	NA/no	-	-	-
<u>Africa</u>					
Cote d'Ivoire	yes	3/yes	in priority sectors and priority regions: exemptions from customs duties and tariffs tax exemptions for specified periods	-	-

Part II continued

Egypt	yes	3/yes	tax reliefs and exemptions, free zones, special treatment for joint ventures	-	bureaucratic
Kenya	yes	3/yes	tax reliefs industry protection	Kenyanization program	very bureaucratic, but attempt to improve
Morocco	yes	3/yes	several sectoral Investment Codes with tax, duty and other incentives	-	?
Tunesia	yes	3/yes	tax exemptions depending on sector, recent new legislation	-	supportive
<u>America</u> Argentina	no	4/yes	Oct. 89: Equal treatment of foreign and domestic investments	special rules for profit and capital repatriation for FDI made under debt/equity conversion program	unsteady
Brazil	no	4/yes	high degree of industry protection	non-secured capital not considered FDI, restrictions on borrowing abroad	?

Part II continued

Chile	no	3/no	equal treatment of foreign and domestic investments		?
Colombia	no	4/no	for benefitting from the Cartagena Agreement a company has to become 51% domestically owned after thirty years		?
Guatemala	no	3/no	-	-	?
Mexico	no	3/no	tax incentives only for companies with minority foreign share, special incentives for in-bond production	Nat. Comm. on Foreign Investment can impose restrictions on a discretionary basis, Mexicanization efforts	very bureaucratic, attempt to improve
Peru	no	4/no	for benefitting from Cartagena Agreement a company has to become mixed or national after a maximum of 15 years tax incentives may be granted to mining concessionaries		?
<u>Asia</u>					
India	yes	1/yes	no special incentives or disincentives		?
Israel	yes	4/yes	limited withholding tax of 25 percent	-	?
Korea, Rep.	yes	4/yes	available, tax privileges reduced in 1987	-	fast approval, sometimes automatic

Part II continued

Malaysia	yes	3/yes	special treatment for companies having pioneer status	"ethnic" regulations	?
Pakistan	yes	2/yes	-	-	liberal policy
Philippines	no	4/yes	special treatment for enterprises having pioneer status	?	?
Sri Lanka	yes	2/yes	-	-	?
Syria	yes	1/no	tax exemptions in tourism, agriculture and agro-industries, also other incentives	?	?
Thailand	yes	4/yes	incentives as well as performance requirements are geared to the project		?
Turkey	yes	2/yes	no special regulation for foreign investors, tax reliefs customs exemptions can be granted	regulation limitation on the employment of foreigners	?

*) Scores ranging from 1 (worst) to 5 (best); source: Frost & Sullivan, 1988. - NA:= not available.

Sources: IMF, UNCTC, U.S. Department of Commerce, Frost & Sullivan, Inc. (1988), Bescky, Lee and Ordu (1989), Pfeffermann (1988), Scharrer and Krägenau (1988)

References

Agarwal, Jamuna P., Andrea Gubitz, and Peter Nunnenkamp, 1990, The Determinants of German Foreign Direct Investment in Developing Countries, Kiel, Washington, D.C., forthcoming

Bescky, Gyorgy, Young-Hoi Lee, and Aloysius Ordu, 1989, Foreign Direct Investment in Selected Developing Countries in the Last Two Decades, The World Bank, mimeographed

Buckley, Peter J., and Mark Casson, 1985, The Optimal Timing of a Foreign Direct Investment, in Peter J. Buckley and Mark Casson, eds., The Economic Theory of the Multinational Enterprise (St. Martin's Press, New York) 98-112

Bundesministerium für wirtschaftliche Zusammenarbeit (BMZ), Deutsche Unternehmen und Entwicklungsländer - Ein Handbuch für Lieferungen, Leistungen, Investitionen, Bonn, 3rd edition

Frost & Sullivan, Inc., 1988, Measurement of the Investment Climate for International Business, Special Report Prepared for the United States Agency For International Development (AID), Washington, D.C., mimeographed

Gubitz, Andrea, 1990, Review of the Policies of Industrial Countries Affecting the Outflow of Private Direct Investment to Developing Countries: The Case of the Federal Republic of Germany, The World Bank - MIGA, Internal Paper, mimeographed

International Monetary Fund, Exchange Rate Arrangements and Exchange Restrictions, various issues

International Monetary Fund, 1985, Foreign Private Investment in Developing Countries, Occasional Paper No. 33

Osterkamp, Rigmar, 1983, Zur Ausländerinvestitionspolitik der Entwicklungsländer, in Hans-Gert Braun et al., eds., Direktinvestitionen in Entwicklungsländern - Bedeutung, Probleme und Risiken, Ifo-Studien zur Entwicklungsforschung, No. 11, München, 157-194

United Nations Centre on Transnational Corporations, National Legislation and Regulations Relating to Transnational Corporations, various issues

Pollak, Christian, and Jürgen Riedel, 1984, German Firm's Strategy towards Industrial Co-operation with Developing Countries, Ifo-Forschungsberichte, No. 65

Rosenn, Keith, 1989, Regulations of Foreign Investment in Brazil, The World Bank, mimeographed

Scharrer, Hans-Eckart and Henry Krägenau, 1988, Die Finanzierung deutscher Direktinvestitionen im Ausland, Forschungsauftrag für das Bundesministerium für Wirtschaft, Hamburg, mimeographed

White, Halbert, 1980, A Heteroskedasticity Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity, *Econometrica*, Vol. 48, 317-838

Würzen, D. von, 1989, "Entwicklungsperspektiven deutscher Auslandsinvestitionen", speech, Bonn

PRE Working Paper Series

<u>Title</u>	<u>Author</u>	<u>Date</u>	<u>Contact for paper</u>
WPS702 Should Price Reform Proceed Gradually or in a "Big Bang?"	Sweder van Wijnbergen	June 1991	M. Stroude 38831
WPS703 The Political Economy of Fiscal Policy and Inflation in Developing Countries: An Empirical Analysis	Sebastian Edwards Guido Tabellini	June 1991	A. Bhalla 37699
WPS704 Costs and Finance of Higher Education in Pakistan	Rosemary Bellew Joseph DeStefano	June 1991	C. Cristobal 33640
WPS705 What Causes Differences in Achievement in Zimbabwe's Secondary Schools?	Abby Rubin Riddell Levi Martin Nyagura	June 1991	C. Cristobal 33640
WPS706 Successful Nutrition Programs in Africa: What Makes Them Work?	Eileen Kennedy	June 1991	O. Nadora 31091
WPS707 Population, Health, and Nutrition: Fiscal 1990 Sector Review	Population, Health, and Nutrition Division, Population and Human Resources Department	June 1991	O. Nadora 31091
WPS708 Nongovernmental Organizations and Health Delivery in Sub-Saharan Africa	Jocelyn DeJong	June 1991	O. Nadora 31091
WPS709 An Empirical Macroeconomic Model for Policy Design: The Case of Chile	Luis Serven Andres Solimano	June 1991	S. Jonnakuty 39074
WPS710 Urban Property Tax Reform: Guidelines and Recommendations	William Dillinger	June 1991	V. David 33734
WPS711 Financial Reform in Socialist Economies in Transition	Millard Long Silvia B. Sagari	June 1991	M. Raggambi 37657
WPS712 Foreign Direct Investment in Developing Countries: Patterns, Policies, and Prospects	Thomas L. Brewer	June 1991	S. King-Watson 31047
WPS713 The Determination of Wages in Socialist Economies: Some Microfoundations	Simon Commander Karsten Staehr	June 1991	O. Del Cid 39050
WPS714 Women in Forestry in India	Ravinder Kaur	July 1991	A. Sloan 35108
WPS715 Promoting Girl's and Women's Education: Lessons from the Past	Rosemary Bellew Elizabeth M. King	July 1991	C. Cristobal 33640
WPS716 Financing Training: Issues and Options	Christopher Dougherty Jee-Peng Tan	July 1991	C. Cristobal 33640

PRE Working Paper Series

<u>Title</u>	<u>Author</u>	<u>Date</u>	<u>Contact for paper</u>
WPS717 Does Financial Liberalization Really Improve Private Investment in Developing Countries?	Jacques Morisset	July 1991	S. King-Watson 31047
WPS718 Impact of Investment Policies on German Direct Investment in Developing Countries: An Empirical Investigation	Andrea Gubitz	July 1991	S. King-Watson 31047