How does social development affect FDI and domestic investment?

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Summary

Creating a favourable investment climate is crucial for economic development. Investment increases growth which in turn reduces poverty, at least in the long run. The surge in foreign direct investment (FDI) in the 1990s has spurred a great number of studies of the determinants of FDI flows. Though the impact of FDI on host economies can be substantial, FDI flows total only about one sixth of domestic investment in developing countries, which suggests that any analysis of investment climates should include domestic investment as well as FDI.

In this study, we explore the impact of social development variables on FDI and private domestic investment, using panel data from 75 countries for the period 1989-2000. Our results show that reducing corruption leads to an increase in domestic investment. Though we do not find a significant impact of corruption on FDI, previous studies have established a similar relationship for FDI. There is thus evidence to suggest that combating corruption can have a beneficial effect on both domestic and foreign investment.

Our results indicate that improvements in political rights and civil liberties tend to increase FDI. In contrast, political freedom appears to have a negative effect on domestic investment. However, other studies suggest that there is a positive impact of democratization on corruption, which makes the total effect of political freedom on domestic investment ambiguous.

A few other social development variables are found to have an impact on one of the two types of investment. Religious tensions appear to be a deterrent of FDI, but have no impact on domestic investment. In addition, socio-economic conditions could affect domestic investment through savings.
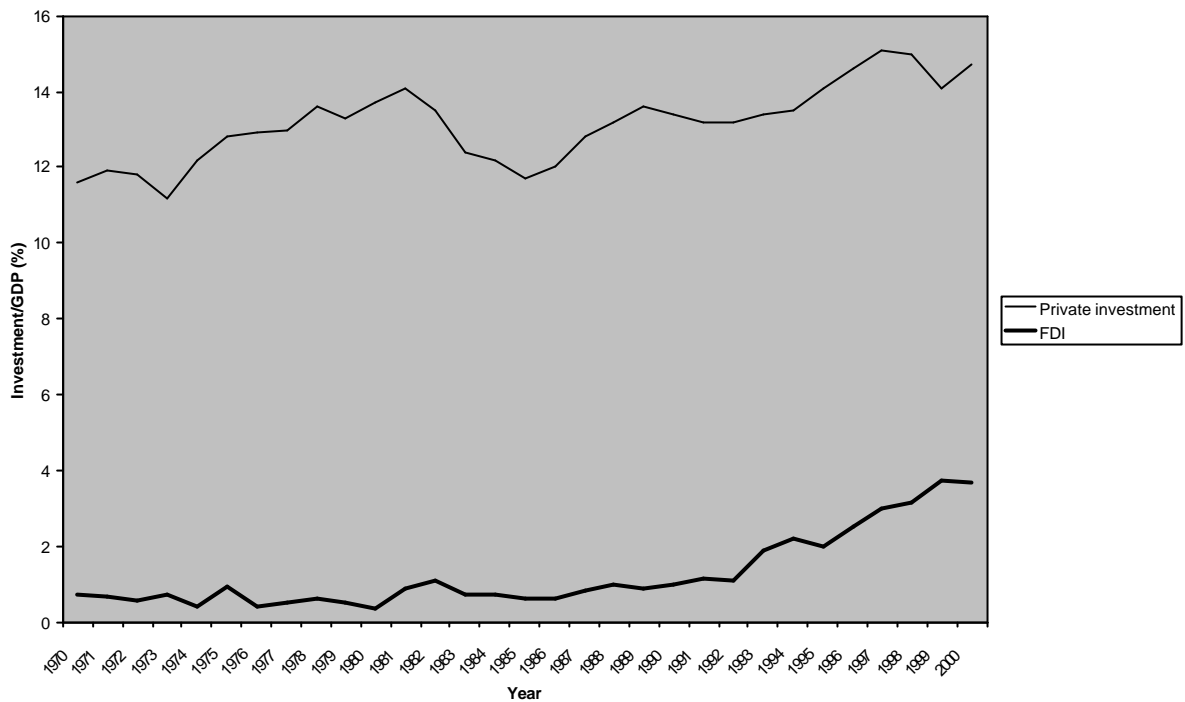
1. Domestic investment, foreign direct investment and social development

Creating a sound investment climate is vital for improving the economic performance of developing countries. It is a well established empirical regularity that economic growth is higher in countries that have higher investment rates (Levine and Renelt, 1992). Moreover, economic growth has been shown to reduce poverty, at least in the long run (Dollar and Kraay, 2002). Generating investment is thus an important factor in reducing poverty in developing countries, which underscores the need for identifying the key characteristics of a favourable investment climate. One aspect of this is the institutional environment, in fact the World Bank (2003a) suggests that: "Institutions are crucial to fostering a sound investment climate" (p. 136). For a more detailed understanding of the impact of institutions on investment, however, we need to ask which particular institutions are conducive to investment.

The surge in foreign direct investment (FDI) in the 1990s has motivated a host of recent studies of the determinants of foreign investment flows. The attention awarded FDI is a bit extreme, given the fact that FDI flows to developing countries total about $160 billion, whereas domestic investment (public and private) in developing countries is at $1 trillion (World Bank, 2003b, p. xiv). As revealed by figure 1, even after the recent surge in FDI flows, FDI constitutes only 3-4% of GDP in developing countries, whereas private investment in these countries comprises about 14-15% of GDP. The fact that domestic investment is a larger source of finance than FDI does not, however, imply that FDI flows are unimportant. To the extent that FDI entails a transfer of technological, managerial and organizational skills, or provides access to other resources unavailable to developing countries, FDI can have a marked impact on productivity and growth. Nevertheless, the sheer bulk of domestic investment suggests that in implementing policies to improve the investment climate, one should take both domestic and foreign investment into account.

In considering FDI flows and domestic investment jointly, a key question is whether the two are governed by the same determinants, or whether what attracts FDI has no effect on or decreases domestic investment, and vice versa. Foreign and domestic investors can be expected to be similarly motivated, both want the highest possible return for the least amount of risk. However, the two types of investors are different in many ways, they can for instance have different alternative investment opportunities, different perceptions of the risk of ventures in the host country, and face a different set of regulations in their home economies.

Figure 1: Trends in private investment and foreign direct investment, 1970-2000

Sources: Everhart and Sumlinski (2001), www.unctad.org.

The World Bank (2003c) seems to suggest that the determinants of FDI and domestic investment overlap substantially: "A healthy operating environment for the corporate sector – including a sound domestic institutional framework – is a necessary condition for … the attraction of FDI. It is also required to promote … investment for firms and farms" (p. 2). Ghura and Goodwin (2000) implicitly argue the opposite: "given the limited role played by foreign direct investment in [a number of developing countries], more of the resource needed to finance investment in these countries will need to be generated domestically. Accordingly, domestic policies will need to be directed at establishing an environment conducive to the development of the domestic private sector" (p.1820).

In this study, we perform an econometric analysis of the determinants of FDI and private domestic investment. To our knowledge, this is the first systematic study that provides comparable results on the two types of investment. Our focus is on institutional determinants, in a broad sense that captures both formal and informal institutions. In particular, the emphasis is on social development variables. Social development can be defined as "development that is equitable, socially inclusive and therefore sustainable. It promotes local, national and global institutions that are responsive, accountable and inclusive

and it empowers poor and vulnerable people to participate effectively in development processes". [1] Three dimensions are particularly important: [2]

- Empowerment: Giving poor people voice and choice
- Inclusion: Making institutions more inclusive of poor people's needs and aspirations and more effective in delivering services to them
- Security: Enhancing social stability and human security

In operationalizing these concepts, we use indices of socio-political conditions assessed at the country level. Previous empirical studies of investment have included indices of socio-political instability, institutional quality, and political freedom and democracy, as explanatory variables. The basic theoretical rationale of these studies is that socio-political instability, in the form of social unrest or government upheaval, increases perceived investment risks. Institutional quality, such as the quality and corruptibility of the bureaucracy, affects the costs and/or risks of doing business in the country in question. Political freedom and democracy might reflect increased stability, and property rights might be more secure in countries ruled by impersonal laws and institutions. We expand on these previous studies, by estimating the impact of variables of this kind on both FDI and private domestic investment.

As a preliminary indication of how social development variables and investment might be connected, consider figures 2 and 3. In figure 2, we have ranked some 120 developing and industrialized countries, according to their FDI inflows in the year 2000. The countries are then divided into ten equally large groups, from the 10% of countries with the lowest FDI inflows per capita, to the 10% with the highest FDI per capita. FDI inflows increase from left to right in the figure. The thin line captures the average score of each group of countries on the political risk index of the PRS group, where a higher number implies less risk. [3] The thick line is the average level of political freedom of each group of countries, measured as the average of the political rights and civil liberties indices of Freedom House, where a lower number signifies more freedom. For the most part, both lines slope upwards, which suggests that countries with less political risk and more political freedom, get more foreign direct investment.

In figure 3, a similar picture is drawn on the basis of private investment data for the year 1998. In this case, 40 developing countries are ranked according to their private investment per capita, and divided into ten equally large groups. The thin line captures the average score of each group of countries on the PRS political risk index. The thick line captures the average score of each group of countries on the Freedom House indices. There appears to be an upward trend in both cases, suggesting that private investment is higher in countries with less political risk and more political freedom. However, the

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[1] http://lnweb18.worldbank.org/essd/essd.nsf/SocialDevelopment/HOME
[2] http://lnweb18.worldbank.org/essd/essd.nsf/e0a6beef25793a39852567f200651c5c/53c960ac
52d3d81a85256934006e5a2c?OpenDocument
[3] PRS = Political Risk Services group

lines are far more jagged than in the case of FDI, which makes it harder to draw conclusions, however preliminary.

Figure 2: FDI per capita and aggregate socio-political indices, 2000
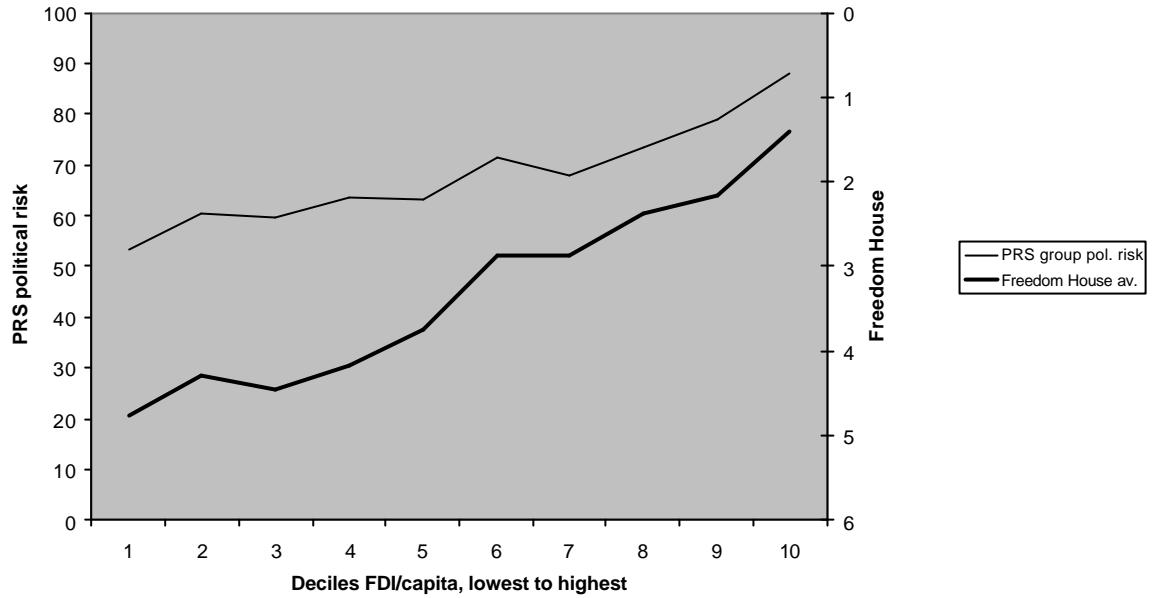
Figure 3: Private investment per capita, political risk and freedom, 1998
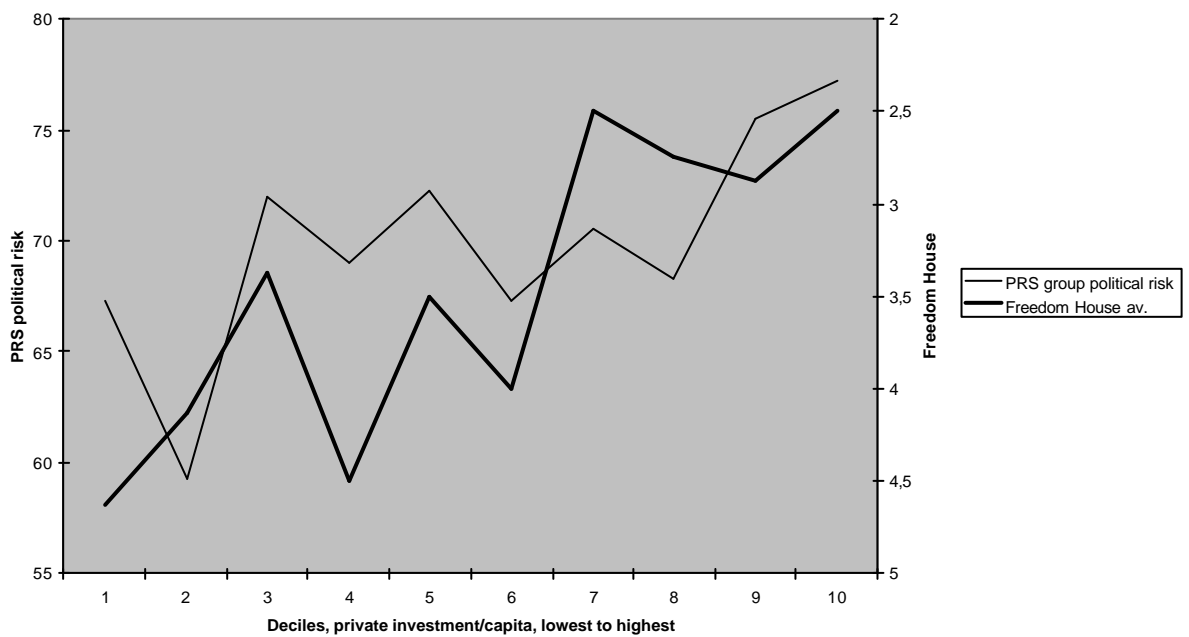
The objective of this study is to provide more substantial evidence on the impact of social development on the investment climate of developing countries. In what follows, we conduct an econometric analysis of the relationship between social development variables, and FDI and private investment. The study is structured as follows. Section 2 summarizes the results of previous studies of FDI, that have included socio-political indices as explanatory variables. In section 3, we estimate the impact of social development variables on FDI, using a data set consisting of 75 countries for the period 1989-2000. Section 4 provides a summary of previous studies of domestic investment, that incorporate socio-political variables. And in section 5, we estimate the effect of social development variables on private domestic investment, using the same country sample as in section 3. The results from sections 3 and 5 provide a basis on which to compare the determinants of FDI and private domestic investment. Section 6 concludes.

2. Previous studies of FDI and social development

The body of econometric research on the determinants of foreign direct investment is large and diverse. This section reviews available econometric studies of FDI that include social development indices as explanatory variables. The relevant studies are assigned to three different categories, according to the social development indices used.

The first category of studies explores the relation between FDI and socio-political instability and institutional quality. The reason for placing instability and institutional quality in the same category, is that several studies use composite indices that capture both these aspects of social development. Other studies employ more disaggregate indices of instability, such as the frequency of revolutions, assassinations, and internal conflict, and of institutional quality, such as the level of corruption and the rule of law.

The second category of studies relates FDI to indices of political freedom or democracy. Most of these studies use the Freedom House indices of political rights and civil liberties as explanatory variables. In addition, there are studies of the impact of democracy and democratic accountability.

A third category consists of studies of labour relations and FDI. Typical indices of labour standards and relations capture the degree of unionization, the nature of bargaining, gender inequality in employment, and child labour.

There is a great deal of variation in the dependent variable used in econometric studies of FDI. Most studies use FDI flows, but some use FDI stocks. Some studies use FDI in absolute terms, whereas others use FDI as a share of GDP, FDI per capita, or FDI as a share of global FDI. The below review of studies indicates that these differences, coupled with variations in country samples and time periods, influence the results. The studies reviewed below include both developed and developing countries in their sample, unless otherwise noted. Results that have been found to be significant at the 5% level in the below studies, are reported as significant here.

Socio-political instability, institutional quality and FDI

The econometric studies of socio-political instability, institutional quality and FDI, can be divided into two sets of studies. One set uses composite indices of instability and institutional quality, aggregated from a larger set of individual indices capturing narrower phenomena. The other set estimates the relation between individual indices and FDI. A commonly cited reason for using composite indices, is that there are measurement errors in the narrower indices (Svensson, 1998). Studies relating composite indices to FDI flows, tell us whether there is a general association between instability and institutional quality and FDI, but they do not identify the precise mechanism through which the two are connected. In a sense, studies using individual indices complement those using composite indices, by providing a more detailed view of the relationship between instability and institutional quality and FDI.

Below, we start by reviewing studies using composite indices, before turning to studies using individual indices.

Kaufmann et al (1999a,b) compile six indices of governance, capturing the rule of law, political instability and violence, regulatory burden, government effectiveness, graft and corruption, and voice and accountability. Globerman and Shapiro (2002) aggregate these six indices into a single governance index. Using data from 114/144 countries 1995-97, they find a significantly positive impact of governance on FDI flows. The sub-index of regulatory burden is also a significant predictor of FDI. These results hold both for the full sample of countries, and for the sub-sample of developing and transition economies. The interaction of the governance indicator and GDP has a significantly negative coefficient, suggesting that the returns from governance in terms of foreign investment are diminishing.

Harms and Ursprung (2002) test the impact of two composite indices on FDI inflows per capita, for a sample of 62 developing and transition economies 1989-97. An index of political risk, consisting of three ICRG indices (expropriation, repudiation, exchange controls), is found to be insignificant.[4] A similar result is found for an index of the institutional environment, which is an aggregate of three other ICRG indices (corruption, bureaucratic quality, and law and order). In a separate study by Harms (2002), however, the same index of political risk is found to be significantly positive, and with a higher coefficient for low-income than for middle-income countries, implying that poorer countries have more to gain from reducing political risk.

For a sample of 44 countries over the years 1983-90, Biswas (2002) finds an aggregate index based on five ICRG indices (expropriation, repudiation, corruption, bureaucratic quality, and law and order) to have a positive effect on US capital expenditure as a share of GDP.

Singh and Jun (1995) employ a data set from 31 countries, 1970-93, and find a significantly positive relationship between the BERI political risk index and FDI flows to GDP. On the BERI index, higher numbers imply less risk, and the index is a composite of six elements; fractionalization of the political spectrum, linguistic, ethnic and religious fractionalization, dependence on and/or importance to a hostile power, and demonstrations/street violence.

Habib and Zurawicki (2002) use data on FDI inflows for 89 countries, 1996-98. Though basically a study of corruption, the PRS group's aggregate index of political risk is included as an explanatory variable, and stability is found to significantly increase FDI flows. The index of political risk captures a range of elements reflecting both socio-political instability and institutional quality.

Most studies using composite indices of socio-political instability and institutional quality, thus report a significant association with foreign investment. Though the results are not unequivocally in favour of there being a connection, these studies at least indicate that there is cause for examining

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[4] ICRG = International Country Risk Guide

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more closely the precise link between instability and institutional quality, and FDI. We turn now to studies that through the use of disaggregate indices, provide more information on this link.

Kolstad and Tøndel (2002) test the impact of a range of social development variables on FDI inflows per capita, for a sample of 61 developing countries, 1989-2000. The results from this study indicate that religious tensions, ethnic tensions and internal conflict significantly reduce foreign investment. On the other hand, indices of external conflict, law and order, government stability, military involvement in politics, socio-economic conditions, corruption, and bureaucratic quality, all prove insignificant.

A study by Tuman and Emmert (1999) confirms that internal conflict can be important for FDI. This study examines Japanese FDI flows into twelve Latin American countries, for the period 1979-92. Their results show a negative effect of annual deaths caused by revolutionary movements, and of the Falklands war regime transition. Two additional political instability variables, *coups d'état* and attacks against rebel forces in neighbouring countries, prove insignificant.

However, Asiedu (2002) gets somewhat different results for a sample of 71 developing countries, 1988-97. According to her results, the number of assassinations and revolutions have no significant impact on FDI inflows as a share of GDP. Similarly, in a study of US plant and equipment spending in three Latin American countries, Stevens (2000) finds deaths in domestic violence and military disturbances insignificant, as are the legality of a government and the way in which it came to power.

Two more studies analyze different aspects of government. Jensen (2002) uses an index of state capture by local elites, constructed from a 1999 survey of firms conducted by the World Bank. Data from 18 transition economies 1993-1997 reveal that state capture has a negative impact on foreign investment, measured as a share of GDP. Biswas (2002) finds an index reflecting regime duration to be negatively associated with FDI.

On the subject of institutional quality, Oliva and Rivera-Batiz (2002) find a positive relationship between FDI/GDP and the rule of law index due to Kaufmann (1999a,b), using data from 119 countries over the period 1970-94.

Two final studies address the matter of corruption and FDI. Wei (2000) employs data from the 1990s for 45 countries, and finds corruption to have a negative impact on FDI. Wei proves that this result holds for three different corruption indices, taken from Business International, ICRG, and Transparency International. The impact of corruption are found to be economically sizeable, "an increase in the corruption level from that of Singapore to that of Mexico would have the same negative effect on inward FDI as raising the tax rate by fifty percentage points" (p. 1).

Habib and Zurawicki (2002) expand on the results of Wei (2000), by including the absolute difference in corruption between the home and host

countries. Their results indicate that while host country corruption decreases FDI, a greater absolute difference in corruption levels between home and host economies also decreases FDI flows.

The studies using individual indices of socio-political instability and institutional quality, thus do provide additional information about the precise links between these variables and FDI. Among the institutional quality variables tested, there is a strong case for the idea that corruption deters foreign investment. The evidence on other institutional variables is, however, less conclusive. Of the institutional variables, some studies do indicate that internal conflicts and tensions reduce FDI, but the evidence is not unanimous on this point.

Democracy, political freedom and FDI

The results on political freedom and FDI, seem to differ according to the specification of the dependent variable. Studies using FDI as a share of GDP, seem to find an insignificant relationship. Notably, Singh and Jun (1995) find no significant impact of the Freedom House political rights index on FDI/GDP. And in a study using data for 36 developing countries covering the period 1980-94, Noorbakhsh et al (2001) report no significant impact on FDI/GDP of either of the two Freedom House indices, nor of their average. In addition, Kucera (2002) uses FDI inflows as a share of world FDI inflows as a dependent variable, and finds political rights insignificant, while civil liberties either increase FDI or are insignificant.

In studies that use FDI per capita as a dependent variable, however, political freedom appears significant. Harms and Ursprung (2002) find that political rights and civil liberties as measured by the Freedom House indices increase FDI/capita. Similarly, Kolstad and Tøndel (2002) show the impact of political rights and civil liberties to be quite robust to changes in the socio-political variables included in the estimated equation.

A few studies use indices of democracy as an explanatory variable of FDI. Biswas (2002) sees a significantly positive impact of democracy on US capital expenditure as a share of GDP. The democracy variable used in this study is a dummy variable taken from the Centre for Institutional Reforms and the Informal Sector. Similarly, Kolstad and Tøndel (2002) find a positive association between democratic accountability and FDI per capita. The employed index of democratic accountability, compiled by the ICRG, reflects the degree to which elections are free and fair, and the responsiveness of an elected government to its electorate.

Labour standards and FDI

A final set of studies test the impact of labour standards or relations on FDI. Kucera (2002) conducts an extensive study using a sample of up to 127 countries, 1993-97, with FDI as a share of global FDI as his dependent variable. He finds variables capturing freedom of association and collective bargaining to be insignificant, as are indices reflecting the use of child labour. However, a higher degree of female representation in administrative and

managerial positions appears to attract FDI, whereas female representation in other occupations has no effect. Interestingly, the results also indicate that a higher literacy rate or degree of educational attainment in women relative to men increases the share of FDI received by a country.

In a study using data on US FDI stocks as of 1989 in 19 OECD member countries, Cooke (1997) finds stocks to be lower in countries with a higher degree of unionization, restrictive layoff regulations and extension of wage agreements to non-union members. On the other hand, decentralized wage bargaining and compulsory work councils appear to be associated with higher FDI stocks. Finally, Singh and Jun (1995) find a significantly negative relation between the number of workdays lost and FDI inflows as a share of GDP. The differences in the design of the studies incorporating labour standard variables, makes it hard to draw general conclusions on the basis of their various results.

Summary

Previous studies of FDI determinants indicate that there is a relationship between broad indices of socio-political instability and institutional quality, and FDI. Available evidence points in particular to corruption, and internal conflicts, as deterrents of FDI. Political freedom has a significant relation to FDI, depending on the dependent variable used. Some studies also indicate a positive effect of democratization on FDI inflows. The relationships detected in previous studies form the basis of our econometric analysis of FDI flows, the results of which are presented in the next section. In particular, we focus on the impact of corruption, political freedom and certain aspects of internal conflict. Though previous studies have shown an impact of labour standards on FDI, we do not pursue variables of this kind further, due to data availability.

3. An econometric analysis of social development and FDI

We conducted an econometric study of the impact of social development variables on FDI flows, based on panel data for up to 75 countries over the period 1989-2000.[5] The dependent variable is FDI per capita. Harms (2002) suggests that correcting FDI for population size is a more reasonable approach than dividing FDI by GDP, since GDP depends on the independent variables. Based on previous studies of FDI, we include four control variables and a time trend. The four control variables are: GDP per capita (logged), trade as a percentage of GDP, inflation (logged), and GDP growth. Attempts to include an infrastructure variable, proved it to be insignificant, and it is therefore omitted in subsequent analysis.

As indicators of various aspects of social development, we included 13 of the indices used in Kolstad and Tøndel (2002). Of these indices, 11 are from the ICRG, and capture a whole range of different socio-political conditions, whereas the last two are the Freedom House indices of political rights and civil liberties. Not all of these variables have a robust relationship to FDI, in the sense of being statistically significant for a large set of alternative specifications. In the following discussion of our results, we focus on two variables that do exhibit a relationship to FDI; the average of the Freedom House indices (which we will refer to as political freedom), and the ICRG index of religious tension.

In addition, to compare our results on FDI to those on domestic investment (section 5), we include the ICRG corruption index, and also the interaction term between the corruption index and the Freedom House average. The main variables used in the estimation of FDI determinants, are summarized in table 1. Note that on the ICRG indices, a higher number means more favourable conditions (i.e. less corruption, less religious tension), whereas on the Freedom House indices, a lower number implies more political freedom.

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[5] A list of the country sample is included in the appendix, as are correlation matrices and descriptive statistics for the main variables. Due to data availability, some of the below regressions report fewer countries.

Table 1: Variables used in FDI regressions

VARIABLE	SOURCE
Dependent variable	
Foreign direct investment per capita (logged)	UNCTAD
Independent variables: Control variables	
Gross domestic product per capita (logged)	World Bank [6]
Trade (Imports + exports) as % of GDP	World Bank
Inflation (logged)	World Bank
GDP growth	World Bank
Independent variables: Social development indicators	
Political rights and civil liberties (averaged)	Freedom House
Corruption	PRS group ICRG
Corruption*(political rights/civil liberties)	
Religious tensions	PRS group ICRG

We ran regressions with social development indicators added individually to the control variables, and in various combinations. The basic results are summarized in table 2. Column 1 is the baseline specification which includes only the control variables. These are all significant at the 1% level. In column 2, the political freedom index is added to the control variables, and proves significant at the 1% level. This result is robust to changes in the independent variables included. There is thus a strong correlation between political freedom and FDI.

The results in table 2 do not, however, establish a causal relationship from political freedom to FDI. Political freedom might attract FDI, but it is also possible that a society that gets more FDI, is at a higher level of development ant therefore in a better position to implement political reform. In order to investigate possible causal relationships, we include lagged values of the political freedom variable. We used four different lagged values of political freedom, ranging from the previous year's value to the value observed four years earlier, and entered them separately into the regression equations.[7] Adding the lagged variables to the base specification gives quite interesting results. All significant results confirm the negative relationship between changes in political freedom and changes in FDI flows indicated in table 2.

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[6] http://www.worldbank.org/research/growth/GDNdata.htm
[7] Lagged values are highly correlated with each other and including more than one, or combining them with the present value, can cause severe problems of multicollinearity

Table 2: Regression results random effects estimation. Dependent variable: FDI per capita (logged)

Independent variable	1	2	3	4	5
Log GDP per cap.	1.065*	0.975*	1.026*	0.960*	0.886*
	(0.111)	(0.112)	(0.122)	(0.119)	(0.119)
Trade (% of GDP)	0.014*	0.012*	0.013*	0.011*	0.011*
	(0.0030)	(0.0030)	(0.0032)	(0.0031)	(0.0031)
Year	0.117*	0.115*	0.126*	0.123*	0.111*
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
Log inflation	-0.103*	-0.138*	-0.107*	-0.138*	-0.140*
	(0.037)	(0.037)	(0.039)	(0.038)	(0.037)
GDP growth	0.029*	0.027*	0.031*	0.029*	0.031*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Political rights & civil liberties		-0.201*		-0.175	-0.217*
		(0.042)		(0.116)	(0.043)
Religious tensions					0.163*
					(0.060)
Corruption			-0.030	0.001	
			(0.060)	(0.147)	
Corruption*Rights&Liberties				0.011	
				(0.034)	
Constant	-6.53	-4.88*	-6.07*	-4.67*	-4.78*
	(0.80)	(0.86)	(0.89)	(0.99)	(0.90)
R^2					
Within	0.38	0.41	0.42	0.44	0.44
Between	0.65	0.65	0.72	0.64	0.66
Overall	0.59	0.60	0.61	0.60	0.62
# obs.	549	549	495	495	495
# groups	70	70	60	60	60

* indicates significance at the 1% level, ** significance at the 5% level

If we apply OLS estimation, we find that only the second-year lag is significant (5 %). However, when controlling for country specific characteristics, we get significant relationships for the 2, 3 and 4-year lags in both random and fixed effect estimation. Both the 2-year and 4-year lags are significant at the 1 % level in the two panel approaches, while the 3-year lag is significant at the 5 % in the random effect estimation and at the 10 % in the fixed effect estimation. There is thus a case for the idea that political freedom attracts FDI.

The corruption index, however, is not significant, as suggested by column 3, table 2. Including the interaction term between corruption and political freedom, as in column 4, renders the political freedom variable insignificant, as are corruption and the interaction term. Note, however, that the correlation between the political freedom and the interaction term is quite high (0.74). Moreover, auxiliary regressions yield an R^2 as high as 0.93, which indicates that multicollinearity may be a problem when political freedom, corruption and the interaction between these two variables are included simultaneously. Testing these three variables in different specifications reveals that political freedom is always significant, except for the situation where it is entered together with the interaction term. Similar exercises reveal that corruption is never significant. Taken together, these results indicate that political freedom is significant while corruption is not significant, and that there is not enough

information in the data to reveal whether there is a separate effect of the interaction between these two variables.

In order to test for possible causal effects of corruption, we included lagged values of corruption in the FDI regressions, ranging from the previous year to the value four years earlier. We entered the lagged values separately and without the present value of corruption, for reasons mentioned above. The results were compelling in that lagged values of corruption are insignificant in all plausible specifications in OLS regressions, in fixed effects estimation and in random effects estimation.

We also find that the index of religious tensions is significant (column 5). Inquiring into possible causal relationship, we note that OLS estimation with lagged variables proves earlier values of religious tensions to be significant indicators of contemporary FDI flows. However, after controlling for country specific characteristics, we find that only the 1-year lag is significant (5 %) in the random effects estimation and only the 4-year lag is significant in the fixed effect estimation. Though the evidence does not unequivocally establish a causal relationship where increased religious tensions within a country reduce inflows of FDI, we cannot rule out that such a relationship exists.

In sum, the above results show that political freedom is a significant attractor of FDI flows. Similarly, religious tensions appear to reduce foreign investment. These results in part confirm those of previous studies. In particular, the main results of Kolstad and Tøndel (2002) prove to be fairly robust to the inclusion of a wider set of control variables, and also to the inclusion of lagged variables. The political freedom and religious tension variables also prove economically significant, in the sense that a one-category improvement on either index, has an impact on FDI flows that is comparable to an increase in trade/GDP by 14-20 percentage points. However, we find no evidence of a relationship between corruption and FDI, which is contrary to the results of previous studies.

The significance of political freedom and religious tensions suggests that foreign investors are drawn to more politically stable countries. However, the impact of political freedom might also reflect a perception that countries governed by impersonal institutions, have more secure property rights. A further possibility is that since the greater part of FDI flows originates in democracies, investors are attracted to countries with a similar and familiar type of regime.

4. Previous studies of domestic investment and social development

There is a large literature on the determinants of domestic investment. As investment is a robust determinant of growth, important results are also found in the growth literature. In this section, we review the available econometric studies of investment that include social development indices as explanatory variables. The relevant studies can be split into three broad categories, according to the social development indices used. The first two categories match those used in the review of the FDI literature.

The first category consists of studies focusing on socio-political instability and institutional quality. Typical instability indices used are the frequency of revolutions, coups, assassinations, constitutional changes and so on. Institutional quality indices capture bureaucratic quality, corruption, the rule of law and other similar institutional features.

A second category of studies, explores the relationship between investment and political freedom or democracy. These studies typically use the Freedom House indices of political rights and civil liberties as explanatory variables, or indices of the level of democracy.

The third category consists chiefly of a single influential study of the impact of social capital on investment. The study in question, Knack and Keefer (1997), relates investment to measures of trust and norms of civic-minded behaviour.

Below, the three categories of studies are reviewed in turn. Note that we restrict ourselves to including recent econometric studies. The dependent variable used in the reviewed studies is total domestic investment, i.e. private plus public investment, except where explicitly noted. All the below studies use investment as a percentage of GDP as their dependent variable. The country samples include both developed and developing countries, except where noted. For reasons of consistency, we report as significant results that have been found to be significant at the 5% level in the studies reviewed.

Socio-political instability, institutional quality and investment

Most studies relating socio-political and institutional indices to investment, attempt to estimate a direct impact of an index or a set of indices on investment. We start by summarizing the results of these studies. There are, however, more elaborate studies that explore the interrelationship between socio-political and institutional variables, arguing that there is some chain of events in which one of these variables influences another, which in turn has an impact on investment. We return to these more complex studies shortly.

Brunetti and Weder (1998) conduct a study in which various indices of institutional uncertainty are added individually to a basic specification seeking to explain average investment rates for 60 countries, 1974-89. Leaving aside the indices of macroeconomic volatility, the remaining indices capture various

forms of socio-political instability or uncertainty. Three variables are found to be significant: The number of revolutions, the number of political executions and the number of war casualties on domestic territory. For all three, a one standard deviation increase in instability, decreases investment to GDP by 1.5-1.8 percentage points. The remaining indices found to be insignificant are: Coups, political demonstrations, probability of opposition takeover, assassinations, strikes, riots, armed attacks, deaths in political violence, violent social change, probability of terrorism, constitutional changes, changes in the institutional framework, unreliability of the judiciary, bureaucratic quality, corruption, and the rule of law.

Bohn and Deacon (2000) do a similar study with fewer political variables, using data from 125 countries for the period 1955-88. Their results confirm the negative impact of revolutions on investment. In addition, they find investment to be significantly higher in parliamentary democracies than in other regimes. Major constitutional changes are found to have a significant impact on investment, depending on the regime type. Constitutional changes that produce a less democratic regime, or that leave the regime unchanged, have a negative impact on investment. Constitutional changes that produce a more democratic regime, have a positive impact. Moreover, a positive impact of political purges on investment is found, which Bohn and Deacon relate to the higher incidence of purges in Latin American countries, than in African countries. Finally, two indices of political assassinations and guerrilla warfare, are found to be insignificant.

Servén (1997) considers the impact of a range of political instability variables on private investment, using panel data from 86 developing countries for the years 1970-90. A dummy variable for wars (civil and international) is found to be negative and significant. However, indices measuring assassinations, *coups d'état*, constitutional changes, cabinet changes, government crises, riots, and revolutions, all prove insignificant.

A number of studies explore the impact of a more limited set of variables on investment. Barro (1991) finds measures of revolutions and political assassinations to be significantly related to investment. The relationship between revolutions and investment also holds up relatively well in the robustness study of Levine and Renelt (1992). Knack and Keefer (1995) find a significant relation between property rights enforcement (measured as risk of expropriation and repudiation of contracts) and investment. Mauro (1995) sees a negative impact of corruption on investment. Campos et al (1999) find a negative association between corruption and investment, but corruption is less damaging the more predictable it is. Ayal and Karras (1996) indicate a significantly negative association between bureaucratic inefficiency and investment. However, as Ayal and Karras do not include any control variables in their investment regression, it is impossible to tell how robust their result is to changes in the specification.

Summarizing the studies that attempt to find a direct relationship between investment and indices of socio-political instability and institutional quality, some variables seem particularly important. Of the instability indices, the

frequency of revolutions is related to investment by most, but not all, studies where it is included. Similarly, wars seem to affect investment. Major constitutional changes might have an impact on investment, when controlling for regime type. One study finds a negative impact of political executions. Among the institutional indices, one study finds property rights to matter for investment. Corruption appears to reduce investment, but this result is not confirmed by all studies that include corruption as an explanatory variable.

The above studies take a simple approach to estimating the relationship between investment and instability and institutional variables. We turn now to studies that take a more complex perspective, by exploring how instability and institutional variables affect each other, and then in turn affect investment. Studies of this kind are important in identifying the precise mechanisms through which instability and institutional variables are related to investment.

Alesina and Perotti (1996) argue that "income inequality, by fuelling social discontent, increases socio-political instability. The latter… reduces investment" (p. 1203). Three mechanisms connecting political instability and investment are suggested: Firstly, short-lived governments have greater incentives to tax factors that can be accumulated. Secondly, social unrest can cause disruptions in productive activities. Thirdly, socio-political instability increases uncertainty. In particular, uncertainty in terms of property rights is seen as important.

Testing their hypotheses using cross-sectional data from 71 countries for the period 1960-85, Alesina and Perotti (1996) find them to be largely supported. An index of social unrest and political violence has a significantly negative impact on domestic investment. Furthermore, income equality, measured by the income share of the middle class, has a negative effect on political stability. The effects from inequality to instability, and from instability to investment are also economically significant. A one standard deviation increase in the income share of the middle class is associated with a decrease in the political instability index by half a standard variation, which in turn increases the share of investment in GDP by almost 3%.

Svensson (1998) studies a political economy model of domestic investment, in which a government invests in a legal system, which in turn affects private investment. He shows that in a context of unstable and polarized political systems, governments might not have an incentive to invest in reforming the legal system, resulting in weak property rights and low domestic investment rates. There are two basic reasons why a government does not invest in legal infrastructure in this case. Firstly, an incumbent government carries the costs of reform, but not the future benefits. Secondly, weak property rights leads to less taxable activity, which reduces the tax base for any future government that does not share the objectives of the incumbent.

Svensson (1998) tests the implications of the model, using cross-country data from 101 countries for the years 1960-1985. Two different proxies for the quality of legal institutions, or the protection of property rights, are used. One is the aggregate of five ICRG indices; rule of law, corruption in government,

bureaucratic quality, expropriation, and repudiation of contracts. The other is the aggregate of four BERI indices; bureaucratic delays, nationalization potential, contract enforceability and infrastructure quality.[8] Political instability is measured by estimated indices of government change, and major government change (i.e. changes that imply a significant turnover in leadership). Political polarization is measured by income inequality, and an index of social unrest and political violence.

The empirical tests basically confirm the predictions of the model. The property rights indices have statistically significant effects on domestic investment. The effects are also economically significant, "a one-standard deviation increase in the property rights index is associated with an increase in the (private domestic) investment rate by 4.02% of GDP" (Svensson 1998, p. 1329). Similarly, political instability and polarization have significantly negative effects on property rights. A final interesting result is derived by including the indices of instability and polarization in the investment equation. It turns out that their impact changes from significant to insignificant, as the index of property rights is added to the equation. This confirms the idea that property rights constitute the transmission mechanism between political instability and investment.

Democracy, political freedom and investment

Several studies relate investment to measures of democracy and political freedom. Among the studies mentioned above, Bohn and Deacon (2000) find investment to be significantly higher in parliamentary democracies than in other regimes. Servén (1997) finds that in most specifications, civil liberties as measured by Barro and Lee (1994), have no significant impact on private investment in developing countries.

Pastor and Hilt (1993) test the impact of the level of democracy on private investment, employing data from the seven largest Latin American economies for the years 1973-86. Using the measure of democracy in Gurr (1990), they find it to be positively and significantly related to investment in most specifications.

Ghura and Goodwin (2000) test the impact of political rights on private investment in developing countries. Using panel data from 31 countries for the period 1975-1992, they find that the Freedom House index of political rights did not have a significant impact on investment. However, splitting the data set according to regions, political rights appear to increase investment in Asia, while remaining insignificant in Sub-Saharan Africa and Latin America.

For a sample of 40 developing countries for the years 1970-96, Mlambo and Oshikoya (2001) find the Freedom House indices of political rights and civil liberties to be insignificant for private investment. Interestingly, however, their results show that the interaction term between political rights and civil liberties has a significant association with investment. These results thus

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[8] BERI = Business Environment Risk Intelligence

appear to imply that the overall level of political freedom in a country affects investment, with more freedom producing more private investment.

Evidence for another type of interactive effects is found in Özler and Rodrik (1992). Using data from 32 countries over the 1975-85 period, they find that while political rights and civil liberties are usually insignificant when entered individually, political rights interacted with the real LIBOR rate are consistently significant with a negative coefficient. [9] According to Özler and Rodrik, this implies that "the effect of an external shock is larger in countries with more restricted political systems", or, "conversely, that increased political liberties dampen the effect of negative shocks" (p. 157). Moreover, they estimate that a one standard deviation in the interaction term, decreases investment to GDP by 4 percentage points from its sample mean.

In sum, then, democracy appears to have a positive association with investment. As argued by Bohn and Deacon (2000), property rights might be the mechanism which connects the two, "ownership security tends to be weak in countries ruled by individuals and dominant elites, and strong in countries ruled by impersonal laws and institutions" (p.535). The question of whether there is a link between investment and political rights and civil liberties is a more complex one, neither of these variables seems important in and of itself, but collectively or interacted with other variables, a relationship with investment has been found.

Social capital and investment

Knack and Keefer (1997) explore the impact of social capital on investment and growth. As manifestations of social capital, they use trust and norms of civic-minded behaviour. Trust and civic norms are believed to affect investment through four basic mechanisms. Firstly, transaction costs are reduced since there is less need to rely on elaborate contracts, formal institutions, and expensive monitoring. Secondly, government policies may be perceived as more credible. Thirdly, civic norms may resolve collective action problems. And fourth, political participation and hence the quality of government may be affected.

Measures of trust and civic cooperation are elicited from the World Value Surveys, with trust reflecting the percentage in a country that responds that most people can be trusted, while civic norms capture the view respondents take of claiming benefits for which they are not eligible, avoiding fares on public transportation, cheating on taxes, keeping money found, and failing to report damage done to other people's property. In a cross-country regression of 29 countries, using average investment data for the period 1982-1990, Knack and Keefer find that civic norms significantly increase investment, whereas trust is insignificant at the 5% level. The impact of civic norms is economically significant, a one-standard deviation in the index increases investment to GDP by nearly 2 percentage points. As for the determinants of

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[9] LIBOR = London Interbank Offering Rate.

civic norms, they are enhanced by greater income equality and ethnic homogeneity.

Summary

Previous studies of the determinants of domestic investment suggest that variables reflecting socio-political instability, such as revolutions, wars, and constitutional changes, have a significantly negative effect on investment. In addition, institutional quality variables in the form of property rights and corruption appear to affect investment. Studies exploring more complex relationships suggest that there is a link from inequality to instability, from instability to the security of property rights, and from property rights to investment.

Various indices of democracy seem to be related to domestic investment, whereas political freedom does not seem important in itself, but more so when interacted with other variables. In the subsequent econometric analysis of private domestic investment, we reconsider some of the relationships deemed important by previous studies. In particular, we focus on the variables of political freedom and corruption, which from the available evidence appear to be important for both FDI and domestic investment. Though social capital appears to be linked to investment, the data available to us does not permit further analysis of this theme.

5. An econometric analysis of social development and private domestic investment

The data set used in section 3, also forms the basis for our estimation of the impact of social development variables on domestic investment. To keep results comparable, we use private domestic investment per capita as our dependent variable. This is a departure from previous studies of domestic investment, which have all used the ratio of investment to GDP as their dependent variable. Nevertheless, given our choice of dependent variable in section 3, a similar approach is appropriate here, in order to compare the impact of social development variables on FDI to their impact on domestic investment.

From the previous literature on domestic investment, we choose to include four control variables in our baseline specification: GDP per capita (logged), trade as a percentage of GDP, illiteracy, and infrastructure (telephone lines per 1000 people). The time trend proved insignificant in preliminary estimations, and was subsequently dropped. The same 13 social development indices as in section 3 were tested as potential determinants of private investment. Relevant results were derived for only three of these; the political freedom variable (that is, the average of the freedom House political rights and civil liberties indices), and the ICRG indices of socio-economic conditions and corruption. Table 3 reports the main variables used in the estimations of private investment determinants. Note once more that a higher score on the ICRG indices implies more favourable conditions, whereas a lower score on the Freedom House indices implies more political freedom.

Table 3: Variables used in private domestic investment regressions

VARIABLE	SOURCE
Dependent variable	
Private investment per capita (logged)	World Bank
Independent variables: Control variables	
Gross domestic product per capita (logged)	World Bank
Trade (Imports + exports) as % of GDP	World Bank
Illiteracy	World Bank
Infrastructure (phone lines/1000 inhabitants)	World Bank
Independent variables: Social development indicators	
Political rights and civil liberties (averaged)	Freedom House
Corruption	PRS group ICRG
Corruption*(political rights/civil liberties)	
Socio-economic conditions	PRS group ICRG

The basic results of our estimations are summarized in table 4, but we also tested a wide range of different econometric specifications, included lagged

variables. The methodology is the same as applied in the FDI analysis, so we used OLS estimation, random effects estimation and fixed effect regressions to investigate whether different models would impact the findings on determinants of domestic investment.

In our baseline specification in column 1, infrastructure proves significant at the 5% level, and the other three control variables at the 1% level. The sign of the infrastructure coefficient is the opposite of what one would expect, but this variable becomes insignificant as more explanatory variables are added. As shown by the initial regressions in columns 2 and 3, neither political freedom nor corruption are significant when added individually to the control variables. However, when we include both these variables and their interaction term, as in column 4, all three are significant at least at the 5% level. A final initial result is given in columns 5 and 6: The index of socio-economic conditions is significant at the 5% level when added individually to the control variables, but loses its significance when the political freedom and corruption variables are added to the specification.

Table 4: Regression results random effects estimation. Dependent variable: Private investment per capita (logged)

Independent variables	1	2	3	4	5	6
Log GDP per cap.	1.091*	1.091*	1.121*	1.120*	1.097*	1.096*
	(0.068)	(0.053)	(0.065)	(0.065)	(0.066)	(0.066)
Trade (% of GDP)	0.004*	0.004*	0.004*	0.004*	0.004*	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Illiteracy	-0.013*	-0.013*	-0.009*	-0.009*	-0.009*	-0.009*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Infrastructure	-0.002**	-0.002**	-0.001	-0.001	-0.001	-0.001
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Socio-econ. conditions					0.026**	0.025
					(0.013)	(0.012)
Political rights & civil lib.		-0.020		-0.112*		-0.107**
		(0.018)		(0.050)		(0.045)
Corruption			-0.003	-0.134**		-0.133**
			(0.025)	(0.059)		(0.059)
Corruption* Rights&Liberties				0.032*		0.030**
				(0.013)		(0.013)
Constant	2.06*	2.14*	1.77*	2.24*	1.79*	2.28*
	(0.52)	(0.52)	(0.50)	(0.53)	(0.49)	(0.53)
R^2						
Within	0.31	0.31	0.37	0.38	0.39	0.38
Between	0.88	0.88	0.89	0.89	0.89	0.89
Overall	0.84	0.84	0.85	0.85	0.85	0.85
# obs.	486	486	429	429	429	429
# groups	71	71	61	61	61	61

* indicates significance at the 1% level, ** significance at the 5% level

The initial result that political freedom and corruption are significant when added jointly with their interaction term would suggest a quite complex

interplay between political freedom and corruption in influencing private investment. The coefficient of political freedom is negative, the coefficient of the corruption index negative, and the coefficient of the interaction terms positive. This implies that the impact of improved political freedom on investment may depend on the relative sizes of two different terms. On the one hand, improved political freedom increases investment through its individual term, but decreases investment through the interaction term. And which term is greater, depends on the level of corruption. If the level of corruption is high (low score on the ICRG index), the individual term is greater, and increased political freedom increases private investment. If the level of corruption is low, the interaction term is greater, and political freedom decreases private investment.

However, we need to inquire deeper into this result. The first issue is that we would like to assess whether there is a causal relationship between changes in corruption and political freedom and changes in investment. Thus, we include lagged values of corruption, political freedom and the interaction term (between corruption and political freedom) in order to investigate whether changes at one point in time would influence private investment at a later stage. Starting with the base specification in column 1, we entered different lagged values of political freedom and corruption, both separately and together.[10] To investigate whether our results are sustained when pooling all observations and looking at the correlation between levels, we started out by applying OLS estimation. Then, in order to control for country specific fixed effects, we used the random effect estimation and the fixed effect estimation to investigate whether or not changes between and within countries over time would influence investment.

The OLS results are clear on the sign and significance of corruption, and on the lagged values of corruption. We get a negative coefficient in all of these regressions, and all the lagged values from 1-year lags to 4-year lags are negative and significant, ranging from the 1 % to the 10 % significance level. This result does not depend on the specification in that we get the same result if corruption is entered in the base specification, or together with political freedom, or together with political freedom and the interaction term. The economic interpretation of this result is that higher levels of corruption today may increase investment in the years to come, but it is necessary to control for country specific patterns before we draw any conclusions.

The random effects and fixed effect estimations do in fact indicate that the above results of a causal relationship between corruption and investment may arise from the fact that OLS does not control for country specific effects. Using the panel dimension indicates that there is less correlation between changes in corruption and investment within a country over time, but also between countries over time. All of the random and fixed effect results (except one) that were significant indicate that there is an opposite relationship

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[10] When combining the lagged values, we always used the values that correspond in time. For example, the 2-year lag of corruption was entered together with the 2-year lag of rights and the 2-year lag of the interaction term.

between corruption and investment in comparison to the OLS analysis. Taken together, our results thus suggest that increased corruption reduces private investment within and between countries.

Our results on political freedom, however, do not allow for as firm conclusions as suggested for corruption. Entering political freedom into the base specification yields positive and significant coefficients for several lagged values, except when we include the interaction term between political freedom and corruption. Specifications with all three variables (political freedom, corruption and the interaction between these two) change the sign into a negative one for the political freedom coefficient, and it is only the 4-year lag that is significant in addition to the contemporary value of political freedom. However, this 4-year lag also results in a negative coefficient.

The instability of this variable seems to stem from a similar problem of multicollinearity, as detected in the FDI regressions. The correlation between the interaction term and political freedom is 0.75, and auxiliary regressions yield an R^2 as high as 0.93. Moreover, we tested a wide range of different econometric specifications that included lagged values of political freedom, and all of them yield positive and significant coefficients.

Taken together, these results suggest that improvements in political rights and civil liberties reduce domestic investment. In addition, we are also convinced that the significant coefficients from the interaction term (column 6) are results of multicollinearity. Thus, there is not enough variation in the data to test whether there exists an interaction effect between political freedom and corruption on investment.

As for socio-economic conditions, they are significant at the 5% level. The result that this variable becomes insignificant when the interaction term of political freedom and corruption is added (see column 6) seems to arise from the aforementioned multicollinearity. The index of socio-economic conditions includes housing, unemployment, medical provision and more. It is likely that any effect of these conditions on investment, is due to increased savings in societies where socio-economic conditions are more favourable. Having data on gross domestic savings, we were able to test this hypothesis. And as it turns out, socio-economic conditions are a highly significant predictor of savings.

In sum, the results from our econometric analyses of FDI and domestic investment, suggest that social development variables affect the two types of investment quite differently. Increased corruption appears to reduce domestic investment, while we find little evidence of an effect on FDI. Expanding political freedom appears to increase FDI inflows, whereas the effect on domestic investment seems to be negative. Religious tensions likely deter FDI, but appear to have no impact on domestic investment. Finally, socio-economic conditions have no effect on FDI, but might affect domestic investment through increased savings.

6. Conclusions

Social development is important in and of itself. Improved rights and liberties, socio-political stability and human security, and accountable and responsive institutions, signal a society that is more sensitive to the situation of the poor and vulnerable. In addition, the question is whether social development has an economic payoff, in terms of increased investment, increased growth, and reduced poverty. In this study, we have explored the link between social development and foreign direct investment and domestic investment, using panel data from 75 developing countries for the period 1989-2000. To our knowledge, this is the first study to provide comparable results on the determinants of FDI and domestic investment.

Our results point to corruption as a major deterrent of domestic investment. Though we do not find a significant relationship between corruption and FDI, previous studies have demonstrated that a similar relationship might be found here. The policy implications of these results are therefore fairly straightforward; countries seeking to increase their total level of investment, should aim to reduce corruption.

The implications of the results on political freedom are less obvious. In our econometric analyses, we find that improvements in political rights and civil liberties tend to increase FDI, while reducing domestic investment. On the face of it, this implies that the net effect of political liberalization on total investment is unclear. However, the results of Treisman (2000) suggest that democratization reduces corruption, at least over time. The analytical argument for such a relationship is that officials are held accountable for their actions in a democracy, through elections, critical scrutiny from the press and other interest groups, and an independent judiciary. Though we find that the direct effect of political freedom on domestic investment is negative, it is therefore possible that there is an additional indirect effect whereby political freedom reduces corruption which in turn promotes domestic investment. Political freedom might thus have a more positive effect on total investment than our results would indicate.

Furthermore, our results suggest that religious tensions appear to be a robust deterrent of FDI. We also find some evidence that socio-economic conditions affect domestic investment through increased savings. Other results from previous studies of domestic investment are not confirmed by our analyses. In particular, indices of internal socio-political instability, and institutional indices such as bureaucratic quality and the rule of law, exhibit no significant effect on domestic investment.

The econometric analyses performed here, identify some general relationships between social development variables and FDI and domestic investment. To more precisely elicit the mechanisms through which political freedom and other variables affect investment, further theoretical and empirical studies are needed. One aspect of this is that the use of aggregate investment data, lumps together agents who might have very different motivations for investing. By

using firm level or industry level data on investment, one might be able to provide a more detailed account of investment determinants (cf. Kolstad and Villanger, 2003).

Another way to get a more detailed view of the mechanisms connecting investment and social development variables, is to use country case studies. In light of the results of this study, identifying case countries that can provide additional information on the interplay of democratization, corruption and foreign and domestic investment, would be of interest. Candidate case countries would be countries that have undergone democratization in the not too distant past.

Though previous studies find a close association between some social development variables and investment in developing countries, we attempt to test for causality by using lagged variables. However, this procedure does not fully establish whether there is a strict causal link from the former to the latter. Possible endogeneities produce additional analytical complications that future studies should address.

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Appendix

Country sample:
Algeria, Argentina, Bangladesh, Bolivia, Brazil, Bulgaria, Burundi, Cambodia, Cameroon, Cap Verde, Central African Republic, Chad, Chile, China, Colombia, Republic of Congo, Costa Rica, Cote d'Ivoire, Dominican Republic, Ecuador, Egypt, El Salvador, Gabon, Gambia, Ghana, Guatemala, Guinea, Guyana, Haiti, Honduras, India, Indonesia, Iran, Jordan, Kenya, Rep. Korea, Lesotho, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Morocco, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Papa New Guinea, Paraguay, Peru, Philippines, Poland, Romania, Rwanda, Senegal, Sierra Leone, South Africa, Sri Lanka, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Uruguay, Venezuela, Vietnam, Zambia, Zimbabwe.

Table 5: Correlation matrix

	Lfdi	lgdp	Trade	Year	Linflat	GDPgr	Infrastr	Private invest	Rights & Lib.
Lfdi	1.000								
lgdp	0.702	1.000							
Trade	0.307	0.073	1.000						
year	0.290	0.187	0.091	1.000					
Linflat	-0.092	-0.014	-0.227	-0.157	1.000				
GDPgr	0.202	0.117	0.066	0.112	-0.321	1.000			
Infrastr	0.449	0.725	0.075	0.250	0.104	-0.005	1.000		
private invest	0.321	0.360	0.375	0.020	-0.148	0.275	0.195	1.000	
Rights & Lib.	-0.423	-0.500	-0.056	-0.061	-0.179	0.019	-0.438	-0.123	1.000

An L indicates that the variable is logged.

Table 6: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Year	589	5.646859	3.083461	1	11
GDP growth	588	3.490685	4.989847	-50.2	18.83
Trade	587	64.80077	34.95145	13.24	282.40
Corruption	523	3.082218	.9898572	0	5
Relig. tens.	523	4.500956	1.285604	1	6
Socio-econ.	523	5.581262	1.564266	0	11
Dummy oil	589	.2003396	.4005947	0	1
Illiteracy	579	28.0421	21.51635	.3	88.4
lfdi	589	2.385194	1.961534	-4.72	6.49
lgdp	589	6.971753	1.025491	4.80	9.34
grdomsav	587	16.04249	12.6123	-59.69	48.48
Infrastructure	497	57.9163	73.82998	.4	444
linflat	552	2.553223	1.408683	-2.15	8.92
Rights and lib.	589	3.827674	1.601317	1	7
CorrRigh	523	11.18164	5.732753	0	35
InvestN	589	9.475812	1.388295	4.75	12.78

InvestN is log(gross domestic savings per capita).
lgdp is log (FDI per capita)

Summary

Creating a favourable investment climate is crucial for economic development. In this study, we explore the impact of social development variables on FDI and private domestic investment, using panel data from 75 countries for the period 1989-2000. Our results show that reducing corruption leads to an increase in domestic investment. Though we do not find a significant impact of corruption on FDI, previous studies have established a similar relationship for FDI. Thus there is evidence to suggest that combating corruption can have a beneficial effect on both domestic and foreign investment.

Our results indicate that improvements in political rights and civil liberties tend to increase FDI. In contrast, political freedom appears to have a negative effect on domestic investment. However, other studies suggest that democratization has a positive impact on corruption, which makes the total effect of political freedom on domestic investment ambiguous.

A few other social development variables are found to have an impact on one of the two types of investment. Religious tensions appear to deter FDI, but have no impact on domestic investment. In addition, socio-economic conditions could affect domestic investment through savings.

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