

# Expanding foreign investment in the energy sector Challenges and risks for Bangladesh?



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Our recent research indicates that increased corruption brings increased foreign direct investment (FDI) in the extractive industries. Moreover, corruption has no effect on FDI in the energy provision industries. This brief focuses on the lessons Bangladesh can draw from these findings in meeting future energy needs. Bangladesh needs to expand its access to energy and depends on foreign investment. This brief explores some of the challenges and risks.

## INTRODUCTION

Bangladesh is in a power and energy crisis. Important manifestations of this crisis are a lack of access to power and costly and unpredictable load shedding (rationing of electricity supply). A majority (60%) of people lacks access to electricity and less than 10% have access to modern fuel for cooking. Frequent load shedding means businesses have to invest in costly back-up generation facilities.

With a yearly power consumption increase of 9.8 % in the period 2000-2007, and the existing limitations to capacity, the government estimates that the power supply needs to increase four times by 2021. Such a large increase in capacity requires investments both by the private and the public sector. Based on current trends of domestic investment in the sector, additional inflows

of foreign direct investment seem necessary. But is it likely that foreign investors find investments in the Bangladesh energy sector attractive when corruption is so widespread?

A recent project under the CMI-CPD institutional collaboration agreement has looked at the effect of corruption on investment in the energy sector. A distinction is made between the extraction of energy resources (extractive industry FDI) and the provision of energy (energy utility FDI). Nearly 90 per cent of the country's power is currently generated from gas while less than 5 per cent is generated from coal. By 2021, Bangladesh aims to get more than 50% of its power from coal. Below, we present an overview of FDI inflows to Bangladesh, and then turn to our results on the effect of corruption on FDI in the extractive and energy utility industries.

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**FDI INFLOWS TO BANGLADESH**

The distribution by sector of FDI inflows in Bangladesh during the period 1995-2009 is shown in Figure 1. The extractive industries are part of primary industries while energy utilities are part of the tertiary sector. The increase in FDI in the tertiary sector in recent years is noticeable, but this primarily reflects FDI in telecommunications rather than in energy utilities. It is also telling that investments in the primary industries have been stable during the period. More recent updates show that total FDI inflows to Bangladesh jumped to USD 1.1 billion in 2011. This is low by international standards. FDI inflows per capita (above 15 years) were USD 11 in 2009, which is a third of the median and five per cent of the mean in the sample of countries used for our analysis.

Figure 2 plots the relationship between total FDI inflows and the World Bank corruption measure, rescaled from 0 to 10, where higher values represent higher corruption. The figure provides no clear picture of the relationship between corruption and FDI. Particularly, during the first period (until 2005) it seems as FDI increased with increasing corruption, but this is not a consistent pattern through the graphed period. While data for both corruption and total and sectoral FDI is available for Bangladesh, the limited number of observations that is available does not make it useful for analysing the effect of corruption on investment.

To analyze this question, we therefore used panel data from a larger set of countries. This allows us to control for other factors that can affect FDI inflows. The data includes

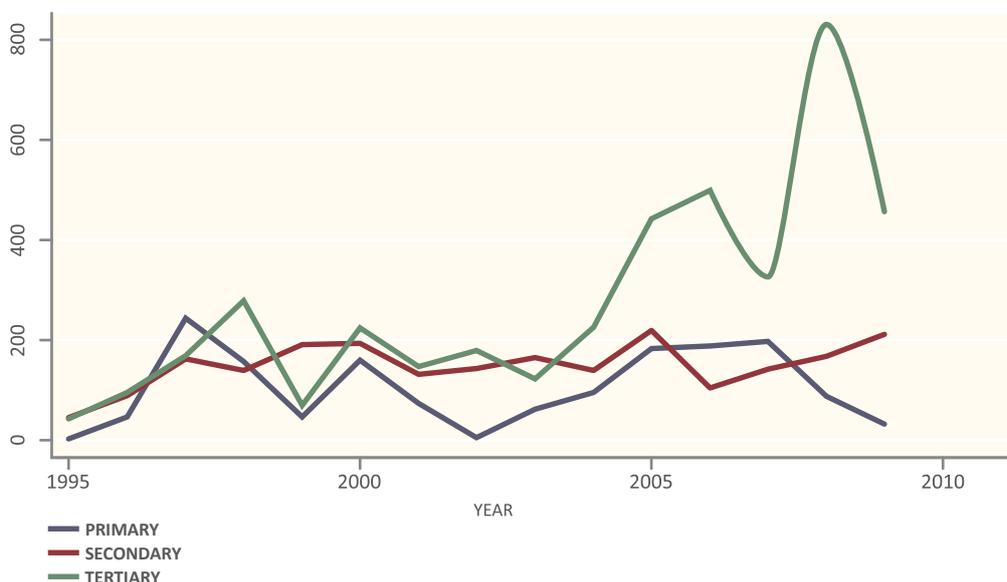
FDI inflows to 81 countries in the period 1996-2009. The data on FDI is compiled by Unctad, and consists of FDI in the two sub-sectors extractive industries and utilities. The extractive industries comprise mining, quarrying and petroleum while utilities contain electricity, gas and water.

**CORRUPTION ATTRACTS FDI IN THE EXTRACTIVE INDUSTRIES**

A number of studies have argued that corruption acts as a tax, making investment in corrupt countries less profitable. There are also studies pointing to the benefits to be had from illicitly colluding with public officials, to secure contracts or licences, access to information or other sources of economic rents. On balance, it is therefore possible that foreign investors prefer to invest in more corrupt countries. This is a particularly relevant possibility in the extractive industries, such as mining and petroleum, where the rents to be gained from securing access to resources are potentially huge.

The results from our study of FDI in the extractive industries show that there is a non-linear effect of corruption on FDI: Increased corruption within a country is associated with increased extractive industry FDI, but at a diminishing rate as the corruption increase is larger. For realistic changes in corruption, however, more corruption is associated with more extractive industry investment. Extractive industry investors tend to increase their presence in countries that become more corrupt. This result is a robust one, and holds when controlling for all differences between countries that are constant over time (fixed effects), and a number of differences between

**FIGURE 1. FDI BANGLADESH. USD MILLION 1995-2009. SECTORAL DISTRIBUTION.**



countries that vary over time (Kolstad and Wiig, 2013).

The result that increased host country corruption is associated with more extractive industry FDI is consistent with the findings of previous studies. A study by Guidolin and La Ferrara (2007) showed that diamond companies in Angola suffered a loss from the end of the civil war, suggesting that the end of the war provided less opportunity for companies to benefit from corrupt deals. Wiig and Kolstad (2010) similarly suggest that dysfunctional host country institutions that permit corruption may be beneficial to multinational oil companies, as they facilitate sharing of the resource rents with the political elite, while keeping the host country population out of the equation.

There is a wealth of anecdotal evidence that multinational companies in the extractive industries have used bribery to get access to resources, see for instance Shaxson (2007) for an exposé of the oil industry in Africa. This tends to invite the view that extractive industry investors prefer host countries to have substantial corruption, as it permits them to capture more of the resource rents. Our results are consistent with this rather cynical and sobering view, suggesting that extractive industry multinationals tend to increase their presence in countries that experience an increase in corruption. If this is correct, it has some important implications. If extractive industry multinationals prefer higher levels of corruption, this suggests that it is not in their interest to support effective domestic or international initiatives to reduce corruption in host countries. This is something of which

Bangaldeshi policy makers and stakeholders should take note, and which should invite some attention and caution when expanding the energy sector in the country.

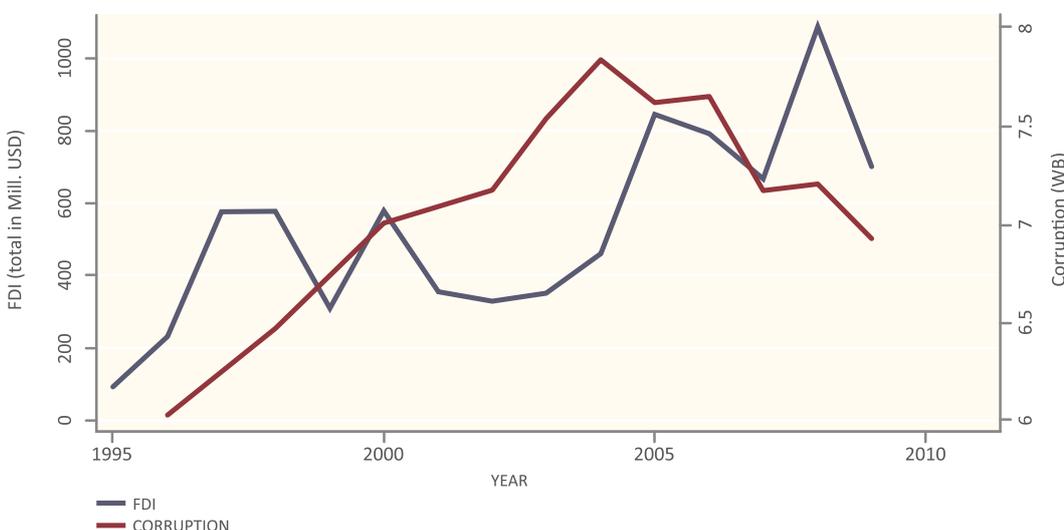
**CORRUPTION DOES NOT AFFECT FDI IN UTILITIES**

We have performed a similar analysis for utilities as for the extractive industries presented above. The main result is that changes in corruption levels do not have a significant impact on FDI. Investors in this sector seem neither attracted nor deterred by corruption. One possible explanation for this finding is that rents in extractive industries are larger than for utilities and therefore corruption represents a more important determinant of FDI in extractive industries than in utilities.

In addition to corruption, our studies also permit us to say something about the relation between other governance factors and the extractive industry and utility FDI. Investment in both sectors is positively related to regulatory quality in host countries, suggesting that extractive industry and utility investors tend to invest less in countries where regulation becomes more burdensome and favour economies that deregulate markets. For the utilities, macroeconomic stability and adequate infrastructure also seems to matter for foreign investment. Bangladesh scores lower on relevant measures of regulatory quality and infrastructure than the median country in the sample, while the inflation level in Bangladesh is only slightly higher than in our sample. This suggests that attention to these factors is important in attracting investment to

Extractive industry investors tend to increase their presence in countries that become more corrupt.

**FIGURE 2. FDI AND CORRUPTION. BANGLADESH 1995-2009**



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Bangladesh, but as this is not really the focus of our studies, further analyses of these issues are needed.

#### CONCLUSION

If future official energy objectives are to be met, Bangladesh will likely require substantial FDI in the energy sector. Bangladesh is in a phase where coal production has been identified as a new and potentially dominant energy source. It is remarkable that the country most vulnerable to climate change

adopts such a carbon-intensive strategy. In addition to the climate issues such a strategy raises, our results indicate that the interests of investors may not align with that of society when it comes to corruption. Expanding access to energy thus comes with some substantial and fundamental challenges and risks.

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