Traditional And Non-Traditional Determinants Of Foreign Direct Investment In Developing Countries
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Abstract
This paper extends previous studies on the determinants of Foreign Direct Investment (FDI) by looking at both traditional and non-traditional factors that influence the amount of FDI flowing to developing countries. Emphasis is placed on the role of non-traditional qualitative factors. Data from 1998 and 2000 for fifty-five developing countries are employed to estimate an empirical model of FDI. Results indicate that FDI is significantly affected by several qualitative factors such as the level of economic freedom, level of corruption, and the level of international trade regulations adopted in the host country. These findings support the need for increased consideration of cultural and institutional factors in attempting to better estimate and understand the development process.

1. Introduction

In the last two decades, the growth in foreign direct investment (FDI) has been a key factor shaping the world economy. Over this period, FDI has grown faster than trade and domestic production, with the world stock of foreign direct investment reaching nearly $6 trillion in 2000. That level is ten times the level in 1980 (Economist, Feb. 24, 2001). Global foreign direct investment inflows measured $865 billion in 1999, compared with $209 billion in 1990 (World Bank, 2000). FDI grew by 18 percent in 2000, faster than other economic aggregates such as world production, capital formation and trade.

As a result, FDI has become one of the more important determinants of economic growth. Over the years, a number of studies have presented evidence that FDI has a beneficial impact on developing host countries (Kahai and Sara, 2003; Feldstein, 2000; Loungani and Razin, 2001; and Bosworth and Collins, 1999). These studies have shown that, inter alia, FDI in a developing country: facilitates the transfer of technology, strengthens the links with international markets, promotes competition in the domestic market, contributes to human capital development through employee training, increases export earnings, and contributes to corporate tax revenues. And these effects, in turn, promote development.

Since the mid-1990s, FDI has become the largest component of external financing for developing countries. It is estimated that FDI in developing countries increased to about $200 billion in 2000 from $183 billion in 1999 (World Bank, 2000). There is now a general consensus that FDI is a superior form of private capital inflow to developing countries relative to portfolio equity investments. This is because portfolio investment has been found to be relatively sensitive to financial market conditions around the globe. In contrast, FDI flows driven by structural factors in the host country exhibit greater stability. For instance, FDI was remarkably stable in East Asian countries during the global financial crises of 1997-98. On the other hand, other forms of private capital flows -- portfolio equity and debt flows -- were subject to large reversals during the same period (Dadush, Dasgupta, and Ratha, 2000; and Lipsey, 2001).

In spite of the large increase in FDI going to developing countries, it remains concentrated in only a small number of these developing countries. For example, the forty-eight least developed countries receive just 1.5 percent of FDI in 1999 (Micklethwait and Wooldridge, 2000). For developing countries whose future growth depends upon...
successful participation in the world economy, it is important that they understand the selection criteria that multinational corporations (MNCs) apply when investing abroad. The purpose of the research presented in this paper is to examine empirically the determinants of FDI going to developing countries.

These determinants are complex, and not always susceptible to accurate and objective measurement. Consequently, there are three categories of determinants of FDI. The first category includes traditional economic factors, such as, market size of the host country, growth potential, purchasing power, cost of production, geographic location, and natural resources. The second category includes factors that are related to the political, social, and cultural environment of the host countries. And the third category measures factors that are related to the magnitude of transaction costs in the host countries. This last set of factors stem from assumptions of “bounded rationality” and “opportunism” in FDI decisions.

In his seminal study of organizational design, Hebert Simon (1957) introduced the term “bounded rationality” to indicate that economic actors possess both limited information and limited abilities to process information. Under these limitations, individuals will be willing to enter into contracts only after spending a great deal of time on research, negotiations, and carefully writing the relevant documents. These activities, in turn, increase the transaction costs of conducting exchange. In the case of MNCs, the assumption of bounded rationality suggests that they will be willing to invest in a country that has a climate of relative certainty. The assumption of “opportunism” holds that there will always be some economic agents who are dishonest and untrustworthy. As a result, the MNCs will seek out countries in which national laws and regulations provide standards for business conduct and, thus, some level of protection against dishonest local agents.

Most of the research on FDI in developing countries has concentrated on the first category of factors (Tsai, 1994). These factors are quantitative in nature and, therefore, relatively easy to measure. But increasingly, researchers are coming to the conclusion that FDI is strongly influenced by determinants that are more qualitative in nature and, consequently, are not always susceptible to direct measurement. These factors contribute to what might be called a country’s “business environment” and they can generally be gauged through surveys of the investor firms. For the most part, factors falling into the second category and factors related to the transaction costs can be classified as qualitative factors. While these latter factors are more difficult to measure, their role in economic development seems undeniable. As a result, it is essential that any research on the determinants of FDI attempt to account for them.

2. Background

International production by MNCs continues to grow in importance for both developed and developing countries. Over the years, researchers have used the concept of a value-chain to describe how a firm organizes and performs discrete activities that add value to its production of goods and services (Dunning, 1993; Hamel and Prahalad, 1994; Porter, 1990). According to this analysis, with reductions in transportation costs and the spread of new technologies in today’s global economy, MNCs evaluate all activities in the value-chain as potential candidates for being performed by one or more of its affiliates located outside the corporation’s home country. At the center of the emerging integrated international production system are MNCs that have established worldwide affiliates. By the year 2000, more than 60,000 MNCs with over 600,000 affiliates were engaged in cross-border production of goods and services (United Nations, 2001). International production today is more important than exports when it comes to delivering goods and services to foreign markets. This internationalization is largely driven by the constant quest by firms to increase their competitiveness and market share. As a result, an increased awareness by developing countries of the nature of locational determinants is of critical importance if they wish to attract private investment. While the main traditional factors driving FDI location – large markets, the possession of natural resources and access to low-cost labor – certainly remain relevant, they appear to be diminishing in relative importance, particularly for the most dynamic industries and functions. Location decisions by MNCs are increasingly based on the ability of the host countries to complement traditional factors with institutions and cultures that create a “friendly” business climate.
FDI decisions by MNCs can be conceptualized as a two-phase process. In the first phase the firm undertakes broad strategic planning decisions to expand internationally and select general priority regions for this expansion. Decisions in the second phase involve the specific site selection within the priority region identified in the first phase. The underlying criteria employed in these two phases will not generally be the same. In the first phase, the firm chooses a broad geographic region based upon factors that might not be entirely economic in nature. For example, regional trade agreements or market proximity may be most important during the first phase. For example, a 1998 survey of Japanese MNCs showed that their top priority region for overseas investment was the Asia/Pacific region. In the same survey, the regions of top priority for Western European companies were locations in Western Europe. (Hatem, 1998). In the second phase, the final selection among countries of the chosen region is based on more detailed business plans. At this stage, the firm already has an idea of the region it wants to target. The next step is to draw up an initial list of potential sites. Some of these sites are quickly eliminated because of their failure to meet critical requirements such as access to a particular raw material, host country policies on which sectors of the economy are off limits to foreign firms, etc. This study suggests that the choice among the remaining sites is then based on analysis that takes into account the three categories of factors discussed above. I turn, now, to a more detailed discussion of those factors.

3. The Empirical Model

This section describes an empirical model of the factors that have influenced the level of inward FDI per capita for developing countries in the years 1998 and 2000. The initial sample included 158 developing countries. The final sample is restricted to 55 countries due to missing data for many of the explanatory variables. The dependent variable is inward FDI per capita in US dollars in each country in each year. A number of exogenous variables are used to explain the observed variation in FDI going to the developing countries. Table 1 provides variable names, definitions, and data sources. Discussion of these variables follows.

3.1. The Dependent Variable (FDI)

As mentioned above, the dependent variable is the value of inward FDI per capita in years 1998 and 2000 in US dollar in each country.

3.2. Independent Variables Traditional Variables

The following paragraph describes the independent variables, expected sign, and the rationale for including the variables.

The number of telephone lines, which measures fixed lines and mobile telephones per 1000 people, is used as a proxy for the quality of infrastructure in the country. Countries with good telecommunications infrastructure tend to have similar quality in other facilities such as rail, roads, and the Internet. Infrastructure covers many dimensions, ranging from physical assets such as roads, sea ports, railways, and telecommunications, to institutional development, such as accounting and legal services. In order to present an attractive setting for the operations of an MNC, it is important that the country’s infrastructure be sufficiently developed to support various activities to be carried out by the company. An indispensable condition for global competition among MNCs is the ability to link affiliates through adequate infrastructure facilities. A country may have low cost labor, but if it does not have the necessary supporting services or infrastructure MNCs will not locate in that country.

A higher GDP per capita of residents of a country indicates a higher effective demand for the kinds of goods and services produced by MNCs. Thus, it is expected that the inflow of FDI per capita will be positively related to the purchasing power of local consumers. The FDI literature suggests that a host country’s economic health, -- namely, its economic size and growth rate -- is important in determining a country’s FDI inflows (Tsai, 1994).

The annual real GDP growth rate is used as an indicator of future market potential. A positive relationship between GDP Growth and FDI is expected in this study. It is also hypothesized that foreign investors look beyond the current market size and take into account the future growth potential of the market.
Table 1: Variable Names, Definitions, And Data Sources

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment per capita inflow in US Dollar of each country for years 1998 and 2000</td>
<td>2</td>
</tr>
<tr>
<td>Telephone mainline</td>
<td>Fixed line and mobile telephones per 1000 people</td>
<td>2</td>
</tr>
<tr>
<td>GDP</td>
<td>GDP per Capita (PPP US $)</td>
<td>3</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>Annual growth in Gross Domestic Product (%)</td>
<td>2</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>Exchange rate expressed in national currency units per US $</td>
<td>1</td>
</tr>
<tr>
<td>Inflation</td>
<td>Annual GDP Deflator (%)</td>
<td>2</td>
</tr>
<tr>
<td>Labor cost</td>
<td>Annual Labor cost per worker in manufacturing in U.S dollars</td>
<td>6</td>
</tr>
<tr>
<td>Export</td>
<td>Exports of goods and services (% of GDP)</td>
<td>2</td>
</tr>
<tr>
<td>Economic Freedom</td>
<td>Overall index of Economic Freedom – Degree of absence of government, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself</td>
<td>4</td>
</tr>
<tr>
<td>Corruption</td>
<td>Corruption Perception Index- Degree to which corruption is perceived to exit among public officials and politicians</td>
<td>5</td>
</tr>
<tr>
<td>Trade Regulation</td>
<td>Multinominal variable that equals 1 if the average tariff rate of less than 4 percent and/or very low non-tariff barriers, 2 if the average tariff rate of greater than 4 percent but less than or equal to 9 percent and/or low non-tariff barriers, 3 if the average tariff rate of greater than 9 percent but less than or equal to 14 percent and/or moderate non-tariff barriers, 4 if the average tariff rate of greater than 14 percent but less than or equal to 19 percent and/or high non-tariff barriers, 5 if the average tariff rate of greater than 19 percent and/or very high non-tariff barriers that virtually close the market to imports.</td>
<td>4</td>
</tr>
</tbody>
</table>

3. UNDP.org.

Exports have played an important role in the economic growth of a number of countries that attracted large volumes of FDI in the 1980s and 1990s. Many MNCs invest in developing countries directly and then export their goods and services to other countries (Chow and Kellman, 1993). FDI is expected to be positively related to the volume of exports from the developing countries. The Export variable measures the value of exports of goods and services as a percentage of GDP.

Annual labor cost per worker in manufacturing in U.S dollars is used to evaluate the effect of labor cost on FDI per capita. A negative coefficient is expected to be associated with the variable Labor Cost. Empirical research has found relative labor costs to be a statistically significant determinant of FDI, particularly for foreign investment in labor-intensive industries and for export-oriented subsidiaries (Wheeler and Mody 1992). Much of the investment in the labor-intensive industries comes from a response to integration strategies driven by cost/price competition. Such FDI may be used to produce and sell in the local host country market or to export to the home country and elsewhere.

To capture these variations in developing countries, economic climate, inflation and exchange rate are included in this study. Inflation is measured by the annual GDP deflator, and exchange rates are expressed in national currency unit per US $. A country’s business climate includes tax policies, a sound economic and financial environment, and favorable exchange rates. Monetary and fiscal policies influence economic stability through their effects on the rate of inflation and the state of external and budgetary balances. These factors, in turn, influence all types of investment including FDI. In addition, the prices of host country assets, the value of repatriated profits, and
the competitiveness of exports are all affected by exchange rates. At any point in time, what may have been an attractive location for operations may become less attractive due to exchange rate volatility.

3.3. Independent Non-Traditional Variables

The second set of variables is not easily quantified. Nonetheless, these variables affect the profitability of the firms operations in the host country. Cross-country comparisons of these variables are made on the basis of surveys of business firms or experts in fields related to these variables. These variables are primarily related to the political environment, which is expected to interact with bounded rationality and opportunism to influence FDI decisions.

The first non-traditional variable is economic freedom. This variable is entered in the equation for FDI to evaluate the effect of the economic environment on the level of FDI. Specifically, Economic freedom is defined as the absence of government constraints on production, distribution, or consumption of goods and services beyond the extent necessary for the citizens to protect and maintain liberty itself. A study by O'Driscoll, Holmes, and Grady has recently attempted to show that economic freedom and property rights have a positive influence on the amount of FDI flowing into a country (O'Driscoll, Holmes, and Grady, 2002). The economic freedom variable used in our study is computed by the Heritage Foundation. This variable is the average of the ten individual factors. Those factors are corruption, non-tariff barriers to trade, the fiscal burden of the government, the rule of law, regulatory burdens, and restrictions on banks, labor market regulation and black market activities.

Trade regulation represents the extent to which the government of a host country interferes with international commerce can negatively impact the gains from specialization and trade. This variable is a measure of trade restrictions in a country while also taking into account non-tariff barriers, the level of corruption in the customs services, and the average tariff rate in the host country. Ceteris paribus, the higher the level of government restrictions on trade, the higher the transaction costs and, hence, the lower the FDI by the foreign MNCs.

A number of studies have argued that the level of corruption in a country has an effect on domestic and foreign investment in a country. This variable has an expected negative impact on the level of FDI. The presence of corruption makes dealing with government officials (for example, to obtain local licenses and permits) less transparent and more costly, particularly to foreign investors. Wei concludes that a rise in the corruption level in a country reduces inward FDI (Wei, 2000). Using data from fourteen source countries to forty-five host countries during 1990-91, Wei concluded that corruption is akin to increasing tax rates. For example, his data shows that an increase in the corruption level from that of Singapore to that of Mexico is equivalent to raising the tax rate on MNCs by 21-24 percentage points. Because corruption acts as a tax on enterprises, it raises costs and reduces incentives to invest. In many countries, political corruption necessitates bribing government officials. The presence of bribery, in turn, requires MNCs to understand and study the mode of bribe that is accepted and generally used in the host country. Laws and customs in a number of home countries of the MNCs forbid and discourage the bribing of the government officials in the host countries. The corruption variable entered in this equation is a measure that has been computed by Transparency International.

Given the above discussion, the model is estimated in linear form with ordinary least square:

\[
\text{FDI per Capita} = \alpha_0 \text{Telephone Mainlines} + \alpha_1 \text{Per Capita Income} + \alpha_2 \text{GDP Growth} + \alpha_3 \text{Exchange Rate} + \alpha_4 \text{Inflation} + \alpha_5 \text{Export} + \alpha_6 \text{Economic Freedom} + \alpha_7 \text{Corruption} + \alpha_8 \text{Trade Regulation}
\]

4. Empirical Results

This section presents the results of the empirical model described above. As shown in Table 2, all coefficient estimates exhibit the hypothesized signs. Specifically, the coefficient of Per Capita Income is positive and significant at the one percent level. This result supports the market size hypothesis as a determinant of FDI. The
sign of GDP Growth coefficient is in line with the growth hypothesis, but is not significant. Telephone Mainlines coefficient is correctly signed and significant at the one percent level, thus supporting the hypothesis that the quality of a country’s infrastructure is an important determinant of FDI. Even though the variable exchange rate has the appropriate sign, it is not significant. This result is in line with other studies regarding exchange rates as a determinant of FDI. The variable Inflation is significant at the 10 percent level. Labor cost is also significant, suggesting that availability of low cost labor is an important determinant in FDI going to developing countries. The coefficient of Export is found to be positive and significant. As discussed earlier, exports have played an important role in growth of developing countries that have attracted large volumes of FDI in the 1980s and 1990s.

Importantly, all three non-traditional variables in this model, economic freedom, corruption, and trade regulation, have the expected signs and are significant at the one percent level. As discussed earlier, these variables are directly related to the transaction costs of conducting business in a country. Everything else being equal, FDI will go primarily to those countries that have a climate of certainty and exhibit lower “hassle costs” of doing business.

Table 2: Regression Results: Per Capita FDI Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-87472</td>
<td>-7.28*</td>
</tr>
<tr>
<td>Telephone mainlines</td>
<td>134.02842</td>
<td>5.94*</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>1.79032</td>
<td>3.75*</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>270.35261</td>
<td>0.98</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>244.88458</td>
<td>1.01</td>
</tr>
<tr>
<td>Inflation</td>
<td>-424.03515</td>
<td>-1.78**</td>
</tr>
<tr>
<td>Labor cost</td>
<td>-1.46566</td>
<td>-3.67*</td>
</tr>
<tr>
<td>Export</td>
<td>18756</td>
<td>4.49*</td>
</tr>
<tr>
<td>Economic Freedom</td>
<td>-189.79342</td>
<td>-3.65*</td>
</tr>
<tr>
<td>Corruption</td>
<td>8703.88145</td>
<td>11.21*</td>
</tr>
<tr>
<td>Trade Regulation</td>
<td>-2827.04614</td>
<td>-2.64*</td>
</tr>
</tbody>
</table>

R² = 0.9821
F = 230.36
DF = 52
*Significant at the 0.01 level
**Significant at the 0.10 level

5. Conclusion

This paper investigates factors influencing the inflow of FDI into developing countries. Using FDI data covering years 1998 and 2000 for 55 developing countries, this research finds that non-traditional variables, which affect the transaction costs of conducting business in a developing country, are important determinants of observed FDI flows. Traditional variables typically used to explain FDI also play a key role. An important lesson to be learned from the experiences of countries that have attracted FDI is that a country desiring to attract greater levels of foreign capital benefits from undertaking structural adjustments and policy reforms designed to reduce transaction costs for MNCs.

6. Suggestions For Future Research

The importance of non-traditional variables in explaining the differences in FDI going to developing countries means that future research should concentrate on better quantifying of these variables. The measures of these variables are not completely objective, but the subjective perceptions and assessments made by country experts. But devising an empirical strategy for ascertaining how much of the variation in FDI going to developing countries is explained by non-traditional variables is not an easy undertaking. There are two distinct problems related to measurements of non-traditional variables. First, because of their subjective nature, these measures can contain errors. Second, non-traditional variables are endogenous. Countries develop many of these variables internally through con-
tact with other countries over a period of time. For example, it has been demonstrated that countries with higher degree of globalization have less corruption and more economic freedom. Since, FDI brings economic integration across political boundaries; it is possible that large FDI inflows into a developing country will improve the value of non-traditional variables in that country. So, any research on role of non-traditional variables on FDI should be careful not to capture reverse causality between size of FDI inflows and values of non-traditional variables. Thus, one area of future research on determinants of FDI should attempt to identify a good set of instruments for measuring non-traditional variables affecting FDI.

Acknowledgements

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Endnotes

1. In general, changes in exchange rate levels have been found to have a larger impact on FDI than differences in exchange rate levels. In a study by Ramsetetter, estimates for Malaysia and Thailand suggest that exchange rate levels have not generally had a statistically significant effect on FDI going to these countries (Ramestetter, 1995).

2. For example, American MNCs are faced with Foreign Corrupt Practice Act (FCPA) of 1977. Hines (1995) found that the presence of FCPA has undermined the competitiveness of the U.S. MNCs compared to MNCs from other countries. What this means is that the MNCs will seek countries in which national laws and regulations provide standards for conduct of business and are free of bribery.

References