# Transforming disadvantages into advantages: developing-country MNEs in the least developed countries

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**Abstract**
We analyze the advantages and disadvantages of developing-country multinational enterprises (MNEs) in comparison with developed-country MNEs. Developing-country MNEs tend to be less competitive than their developed-country counterparts, partly because they suffer the disadvantage of operating in home countries with underdeveloped institutions. We argue that this disadvantage can become an advantage when both types of MNE operate in countries with "difficult" governance conditions, because developing-country MNEs are used to operating in such conditions. The empirical analysis shows that, although developing-country MNEs rarely appear among the largest MNEs in the world, they are more prevalent among the largest foreign firms in the least developed countries (LDCs), especially in LDCs with poorer regulatory quality and lower control of corruption.
*Journal of International Business Studies* (2008) **39,** 957–979.
doi:10.1057/palgrave.jibs.8400390

## INTRODUCTION

Sarik Tara, chairman of Enka Holding, Turkey's biggest construction company, has learnt to search for contracts in difficult places. "I am stamped 'Made in Turkey', not 'Made in Germany'," says Mr. Tara. "I have to try harder. No one is going to ask me to build anything in the Champs Elysees. I have to go to difficult countries where it is easier for me to win contracts."

The collapse of communism opened a new chapter for Enka. Its first job was the restoration of the Petrovsky Passage, a shopping arcade in Moscow, in 1988. Through Mosenka, the company's Russian arm, Enka has become the biggest private real-estate owner in Moscow, and one of the city's leading developers. It has also completed more than 60 projects within the Russian Federation. (Munir, 2002: 2)

The story of Enka illustrates the disadvantages and advantages of developing-country multinational enterprises (MNEs) in comparison with developed-country MNEs. Compared with developed-country MNEs, developing-country MNEs tend to be of smaller size (Wells, 1983), and to possess technology that is less cutting-edge (Lall, 1983; Wells, 1983) and resources that are less sophisticated (Bartlett & Ghoshal, 2000; Dawar & Frost, 1999). Additionally, country-of-origin effects may create a disadvantageous image among potential clients (Bilkey & Nes, 1982). These factors

compound the difficulties these companies suffer as a result of operating in a home country characterized by a difficult institutional environment and inefficient or missing market mechanisms (Ghemawat & Khanna, 1998; Khanna & Palepu, 1997, 2000).

Nevertheless, developing-country MNEs can be successful abroad, despite these disadvantages. Their ability to manage in difficult institutional conditions, a capability they were required to foster in their home countries to survive and be successful there, may be useful in other developing countries that also have difficult conditions and therefore present similar problems. They would be at less of a disadvantage, and in some cases may even have an edge over their developed-country counterparts. This is the central argument of our paper. In other words, although both sets of foreign firms will face difficulties in their internationalization (Cuervo-Cazurra, Maloney, & Manrakhan, 2007) that put them at a disadvantage in relationship to local competitors (Zaheer, 1995), when developing-country MNEs are operating in third countries with difficult institutional conditions, they may face fewer difficulties than developed-country MNEs thanks to their ability to manage under difficult conditions. As a result, developing-country MNEs become more prevalent among the largest foreign firms there. We discuss these ideas in the context of the least developed countries (LDCs): countries with very low income, weak human capital, and high economic vulnerability (UNCTAD, 2004: xiv).

The arguments presented in the current paper contribute to three streams of literature: one focusing on institutions and MNE behavior, a second on competitive advantage and disadvantage, and a third on developing-country MNEs. First, we discuss how *home* country institutions and *similarity* between home and host country institutional environments influence the competitive behavior of MNEs abroad. This complements the majority of studies in the international management literature that have focused on studying the influence of *host* country institutions on the entry of foreign MNEs (e.g., Bevan, Estrin, & Meyer, 2004; Henisz, 2000). Second, we argue that suffering from the disadvantage of having a home country with poor institutions can become a competitive advantage abroad. This complements the argument that advantages at one point in time can become disadvantages at a later point in time (Leonard-Barton, 1992). Third, this paper is the first to analyze competition between developing- and

developed-country MNEs in multiple host countries – the LDCs. This complements existing analyses of the behavior of developed-country MNEs in developed (Tallman, 1991) and developing countries (Rangan & Drummond, 2004), as well as competition between developed and developing countries in the home markets of the latter (Dawar & Frost, 1999).

A better understanding of where developing-country MNEs can be relatively more successful is important for managers. It can help managers of developing-country MNEs better select countries into which to expand their firms. It also helps dispel the assumption held by many of these managers that their firms will always be at a disadvantage relative to developed-country MNEs. Developing-country MNEs can have an advantage, at least in some countries.

The rest of our paper is organized as follows. In the following section we review existing literature on developing-country MNEs' advantages and disadvantages relative to developed-country MNEs. We then provide a short description of LDCs, discussing their importance as an empirical setting and appropriate laboratory to test our arguments. After this we build on the resource-based theory to elaborate the arguments presented to explain how more difficult governance conditions in LDCs would lead to the prevalence of developing-country MNEs among the largest affiliates of foreign firms there. A discussion of the research design follows. Next, we present the results of the empirical analysis and discuss their implications. We conclude by outlining the contributions of the present study to existing knowledge.

## DISADVANTAGES AND ADVANTAGES OF DEVELOPING-COUNTRY MNEs IN COMPARISON WITH DEVELOPED-COUNTRY MNEs

Although there was some interest in and research on developing-country MNEs in the late 1970s and early 1980s (e.g., Kumar & McLeod, 1981; Lall, 1983; Lecraw, 1977; Wells, 1983), there has been a lull in research in this area (Lecraw, 1993: 589) despite the large gaps in our knowledge (Wells, 1998). Attention to this topic is starting to resurface, in part as a result of the increased interest in emerging markets (e.g., Amsden, 2001; Hoskisson, Eden, Lau, & Wright, 2000; Wright, Filatotchev, Hoskisson, & Peng, 2005), and in part because developing-country firms are quickly catching up and internationalizing (e.g., Aulakh, Kotabe, &

Teegen, 2000; Cuervo-Cazurra, 2007, 2008a; del Sol & Kogan, 2007; Lecraw, 1993; Young, Huang, & McDermott, 1996; see the special issues edited by Aulakh, 2007, and by Luo & Tung, 2007). As a result, these countries and firms are becoming an important research topic in international business (Buckley, 2002).

Within the study of developing-country MNEs (for reviews, see Yeung, 1994, 1999), we focus on the narrower topic of advantages and disadvantages of these companies compared with developed-country MNEs when both operate in a third country. Our study therefore complements the limited research on competition among foreign firms from different countries in a single host market (Rangan & Drummond, 2004; Tallman, 1991). Tallman (1991) analyzes strategic groups of foreign firms in the automobile industry in the USA; his account of their activities and performance is informed by the resource-based view. Rangan and Drummond (2004) analyze foreign firms in Brazil, and argue that those coming from countries with strong ties to Brazil dominate others, unless the foreign firm is the leader in the competitor's country of origin. We build on these studies by analyzing competition across multiple countries, comparing firms from developed countries with firms from developing countries, and explaining why developing-country MNEs can become prevalent in other countries despite their relative disadvantages.

## Disadvantages of Developing-Country MNEs in Comparison with Developed-Country MNEs

Although both have their respective advantages, it is generally accepted that developing-country MNEs are at a disadvantage relative to developed-country MNEs. Both developed- and developing-country MNEs have ownership advantages from firm-specific resources that help them internationalize (Dunning, 1977; Dunning, Van Hoesel, & Narula, 1998; Hymer, 1976; Rugman & Verbeke, 1992; Tallman, 1992; see Cuervo-Cazurra & Un, 2004a, for a review of advantages of MNEs). However, developed-country MNEs tend to have stronger ownership advantages in areas such as branding and advertising (Lall, 1983) and technology (Bartlett & Ghoshal, 2000; Dawar & Frost, 1999; Wells, 1983). Moreover, host governments favor the establishment of developed-country MNEs, which is believed to bring more advanced technology to the country (Stopford & Strange, 1992), while individual consumers often prefer products that

are provided by foreign firms from developed countries (Bilkey & Nes, 1982). Finally, MNEs from developing countries often find themselves in the position of late movers, competing against well-seasoned and well-heeled developed-country MNEs as well as local firms with superior knowledge of their home turf (Bartlett & Ghoshal, 2000).

These perceived relative disadvantages are evident in the prevalence of developing-country MNEs among the largest firms in the world. Although developing-country MNEs have increased in numbers in recent years, they still constitute only a minute fraction of the largest firms. Table 1 summarizes the evolution of developing- and developed-country MNEs in the 1990s and early 2000s.[1] First, we analyze the prevalence of developing-country firms among the *Fortune Global 500*, which are the largest public firms in the world ranked by revenue. Although their numbers have increased, developing-country firms account for only between 5 and 8.4% of the largest public firms. Moreover, they tend to be present at the lower end of the ranking. For example, in 2003, the first developing-country firm appeared in position 46. Among the top 200 there are 13 developing-country firms, while among the bottom 200 there are 21. Second, we study the prevalence of developing-country MNEs among transnational firms, as reported by the United Nations Conference on Trade and Development (UNCTAD). UNCTAD compiles a list of transnationals, which it defines as firms with assets outside their home country. Developing-country firms have increased in number, moving from representing less than one eighth of all transnationals in 1991 to representing over one quarter in 2003. This increase took place at the same time that the overall number of transnationals in the world almost doubled, increasing from 35,000 in 1991 to 61,582 in 2003. However, despite these increases, developing-country firms are not prevalent among the largest transnationals. In the early 1990s, no developing-country firms appeared among the largest 100 transnationals. By 2002, there were only four firms.

## Advantages of Developing-Country MNEs in Comparison with Developed-Country MNEs

We argue that, as well as experiencing disadvantages, developing-country MNEs also experience some advantages. These enable them to compete at home against larger developed-country MNEs (Dawar & Frost, 1999). In their home countries, developing-country firms know their clients better

**Table 1** Evolution of developing-country MNEs, 1990–2003

| Year | Percentage of developing-country firms: | | |
| --- | --- | --- | --- |
| | Among the largest 500 public firms in the world[a] | Among all transnational firms in the world[b] | Among the largest 100 transnational firms in the world[c] |
| 1990 | 5.0 | NA | 0 |
| 1991 | 5.4 | 11.7 | NA |
| 1992 | 5.1 | 8.5 | 0 |
| 1993 | 5.0 | 8.7 | 0 |
| 1994 | 4.4 | 10.9 | 0 |
| 1995 | 5.0 | 11.7 | 2 |
| 1996 | 6.2 | 18.3 | 2 |
| 1997 | 5.8 | 19.2 | 2 |
| 1998 | 5.2 | 17.1 | 1 |
| 1999 | 6.8 | 24.6 | 3 |
| 2000 | 7.0 | 22.6 | 5 |
| 2001 | 7.4 | 22.2 | 4 |
| 2002 | 7.0 | 23.2 | 4 |
| 2003 | 8.4 | 26.8 | 4 |

NA: not available.
[a]*Source*: Computed using data from *Fortune Global 500* (Fortune, 1995–2004) and *Fortune Global Industrial 500* (Fortune, 1991–1994a) and *Fortune Global Service 500* (Fortune, 1991–1994b). The largest public firms are ranked by revenue. The *Global 500* includes industrial and service firms for 1994–2003. Between 1990 and 1993, there are two rankings, one for industrial firms and another for service firms. The data presented for these years are the number and percentage of developing-country firms among the largest 1000 industrial and service firms.
[b]*Source*: Computed using data from UNCTAD (1992–2005), number of parent corporations by region and economy. The number of developing-country MNEs was computed by deducting the developed-country MNEs from the total number of transnational firms. The number of transnational firms is based on national sources that vary in their definition and year of collection, resulting in an underestimation of the numbers (UNCTAD, 1992: 13). For more information regarding the limitations of the database, please see the original source.
[c]*Source*: Computed using data from UNCTAD (1992–2005), the top 100 transnational corporations ranked by foreign assets. Data on the top transnational firms are provided with a 2-year lag. There are no data for 1991 because the 1993 report provides the top 100 firms using 1990 data, while the 1994 report provides the top 100 firms using 1992 data.

and have production facilities and distribution networks that are better adapted to the conditions of the country (Lall, 1983). They also know how to operate in the challenging institutional environment – comprising an imperfect contracting environment, less-developed market mechanisms, an inefficient judiciary, unpredictable and burdensome regulations, heavy bureaucracy, political instability or discontinuity in government policies – that characterizes developing countries (Ghemawat & Khanna, 1998; Khanna & Palepu, 1997). On some occasions, they are even supported by their governments (Aggarwal & Agmon, 1990). Additionally, developed-country MNEs face difficulties in

their internationalization in developing countries (Cuervo-Cazurra & Un, 2004b). The absence of a well-established infrastructure, well-developed market mechanisms, and a well-developed contracting and intellectual property rights regime creates difficulties for developed-country MNEs, which are not used to such conditions (Prahalad & Lieberthal, 1998).

Moreover, developing-country MNEs also have advantages that enable them to compete in other developing countries against developed-country MNEs and become leading investors there: this is the focus of the present paper. Both types of MNE face difficulties in their internationalization (Cuervo-Cazurra et al., 2007; Eden and Miller, 2004). However, developing-country MNEs may face fewer difficulties than their developed-country counterparts when expanding into other developing countries because of their familiarity with the more difficult institutional conditions of developing countries, and their expertise in managing in such environments. As a result, they become leading investors in those countries.

There is some anecdotal evidence that developing-country MNEs may have an edge in other developing countries thanks to their ability to manage there, although this has not been formally tested. The 2005 World Bank's *Global Development Finance Report* indicates that companies from China, India, Malaysia, Russia, and South Africa are becoming important investors in many developing countries (World Bank, 2005: 99). The report suggests that these firms have comparative advantages, in the form of greater experience with the economic and political conditions of the host country, lower overhead costs, managers who are indigenous to the region, geographical proximity, and cultural similarities. These render coordination of foreign operations less expensive. The World Bank's report cites the example of Uganda's mobile-phone market, as reported by Goldstein (2004). Celtel, a subsidiary of Britain's Vodafone, once enjoyed a comfortable monopoly. South Africa's MTN entered the market and built a subscriber base 22 times larger thanks to its expertise in dealing with the economic and political risks.

**THE LEAST DEVELOPED COUNTRIES**
We analyze in detail and test the argument that developing-country MNEs may have an edge over developed-country MNEs in other developing countries by analyzing the prevalence of developing-country MNEs among the largest foreign firms

in the Least Developed Countries (LDCs). These countries have very challenging environments, as they are at the bottom of the development scale among developing countries. Thus they provide a natural setting to test our arguments. By choosing an extreme research setting, we can provide a reliable test of our arguments where the ability to manage in a difficult environment takes prevalence over other advantages, such as technology or marketing. In other words, if we argue that governance quality, or lack thereof, is a determining factor in the success of developing-country firms, we would want to test this in countries with very poor governance, where the ability to manage the institutional environment would be crucial to success. In other parts of the world this particular capability would still be useful, but it could be overshadowed by other capabilities.

The United Nations defines an LDC as a country that fulfills three criteria (UNCTAD, 2004: xiv). First, it is low-income, as measured by gross national income per capita. Second, it suffers human resources weaknesses, as measured by a composite index of per capita intake of calories, child mortality rate, secondary school enrollment, and adult literacy. Third, it has high economic vulnerability, measured by a composite index of instability in agricultural production, instability in exports of goods and services, the share of manufacturing and services in GDP, merchandise export concentration, and population.

According to the United Nations' classification, 50 countries in the world qualify as LDCs (UNCTAD, 2001b, 2004). They represent a total population of 703 million inhabitants (11.2% of the world's population) and a total GDP of only US$224 billion (0.6% of world total). Table 2 provides a list of LDCs and basic information about each. Comparing the averages of selected indicators, we note that LDCs have an average GNI per capita of less than $500, a life expectancy of a little over 50 years, and an adult literacy rate of less than 60%. This contrasts not only with developed countries, which have an average GNI per capita of over $26,000, life expectancy close to 80 years and a fully literate population, but also with other developing countries, which have an average GNI per capita of over $4000, life expectancy of almost 70 years, and an adult literacy rate of almost 90%.

These countries are an interesting research setting, not only because of our limited knowledge about them, but also because a better understanding can help move these countries out of poverty.

FDI can play an important role in the economic growth and development of LDCs (UNCTAD, 2002: 1). At the same time, these countries can be important sources of revenue for MNEs (Prahalad, 2004). For example, mobile telephony has grown faster in Africa than in any other region of the world in the period 1996–2003, with an average growth rate of 78% a year. Although the initial base was very small, it has overtaken fixed lines, which have traditionally been provided by inefficient state-owned monopolies. This expansion of telephony has been led by MNEs, many of them African ones (White, 2003).

## CONVERTING A DISADVANTAGE INTO AN ADVANTAGE: DEVELOPING-COUNTRY MNEs IN THE LEAST DEVELOPED COUNTRIES

The institutional environment of a given country refers to the set of rules and regulations that govern economic activity in that country (North, 1990). Managers develop the ability to manage in a particular institutional environment over time in a learning-by-doing manner (Eriksson, Johanson, Majkgard, & Sharma, 1997; Johanson & Vahlne, 1977). They generate assumptions and attitudes that influence the way in which the firm governs its relationships with its external environment.

In the case of developing-country MNEs, these firms emerge in countries that are characterized by poorer governance compared with developed countries. As the firm internationalizes, its managers will be able to maneuver more easily in other countries that also have poor governance conditions, because they understand the norms for conducting business there: for example, they know the norms regarding corruption (Cuervo-Cazurra, 2006). In contrast, managers of developed-country MNEs, who are used to operating in countries with better governance and institutions, face the challenge of altering their deep-seated assumptions about the institutional environment (Prahalad & Hammond, 2002). They will also be hampered by inefficient markets that make their technological and other firm-specific resources less valuable, because these resources require the presence of relatively well-developed markets and a stable contracting environment.

Hence we expect developing-country MNEs to be more prevalent in LDCs with worse institutional conditions, because managers of developing-country MNEs can more easily understand and adapt to these poor conditions than can their developed-country counterparts. That said, however, we do not argue that MNEs from developed countries

**Table 2**  Selective descriptive statistics for the least developed countries

| Country | GDP[a] (US$m) | Population[b] (1,000s) | GNI per capita[c] (US$) | Life expectancy[d] (years) | Adult literacy[e] (% adults) |
|---|---|---|---|---|---|
| Afghanistan | 11,704.5 | 28,766.0 | 406 | 43.2 | 36.0 |
| Angola | 13,189.2 | 13,522.0 | 740 | 46.7 | 42.0 |
| Bangladesh | 51,897.3 | 138,066.0 | 400 | 62.1 | 41.1 |
| Benin | 3498.8 | 6720.0 | 440 | 52.7 | 39.8 |
| Bhutan | 645.0 | 874.0 | 660 | 63.2 | 47.0 |
| Burkina Faso | 4181.9 | 12,109.0 | 300 | 42.9 | 12.8 |
| Burundi | 669.2 | 7206.0 | 100 | 41.7 | 50.4 |
| Cambodia | 4299.2 | 13,404.0 | 310 | 54.0 | 69.4 |
| Cape Verde | 831.1 | 470.0 | 1490 | 69.1 | 75.7 |
| Central African Republic | 1198.2 | 3881.0 | 260 | 42.1 | 48.6 |
| Chad | 2647.6 | 8582.0 | 250 | 48.4 | 45.8 |
| Comoros | 322.7 | 600.0 | 450 | 61.4 | 56.2 |
| Congo, Dem. Republic | 5600.2 | 53,153.0 | 100 | 45.3 | 62.7 |
| Djibouti | 625.0 | 705.0 | 910 | 43.5 | 65.5 |
| East Timor | 314.5 | 810.0 | 430 | 57.4 | 43.0 |
| Equatorial Guinea | 2894.0 | 494.0 | 930 | 51.7 | 84.2 |
| Eritrea | 734.2 | 4389.0 | 190 | 51.1 | 56.7 |
| Ethiopia | 6637.8 | 68,613.0 | 90 | 42.1 | 41.5 |
| Gambia | 386.3 | 1421.0 | 310 | 53.4 | 37.8 |
| Guinea | 3625.7 | 7909.0 | 430 | 46.2 | 41.0 |
| Guinea-Bissau | 235.7 | 1489.0 | 140 | 45.4 | 39.6 |
| Haiti | 2744.8 | 8440.0 | 380 | 52.0 | 51.9 |
| Kiribati | 58.4 | 96.0 | 880 | 62.8 | NA |
| Laos | 2035.5 | 5660.0 | 320 | 54.5 | 66.4 |
| Lesotho | 1135.3 | 1793.0 | 590 | 37.9 | 81.4 |
| Liberia | 442.2 | 3374.0 | 130 | 47.1 | 54.0 |
| Madagascar | 5458.8 | 16,894.0 | 290 | 55.5 | 67.3 |
| Malawi | 1731.2 | 10,962.0 | 170 | 37.5 | 61.8 |
| Maldives | 695.8 | 293.0 | 2300 | 69.2 | 97.2 |
| Mali | 4326.0 | 11,652.0 | 290 | 40.9 | 19.0 |
| Mauritania | 1127.6 | 2693.1 | 430 | 51.0 | 41.2 |
| Mozambique | 4320.4 | 18,791.0 | 210 | 41.1 | 46.5 |
| Myanmar | 12,905.7 | 49,362.0 | 261 | 57.2 | 85.3 |
| Nepal | 5834.9 | 24,660.0 | 240 | 59.9 | 44.0 |
| Niger | 2729.7 | 11,762.0 | 200 | 46.2 | 17.1 |
| Rwanda | 1637.3 | 8251.0 | 220 | 39.8 | 69.2 |
| Samoa | 322.6 | 178.0 | 1600 | 69.4 | 98.7 |
| Sao Tome & Principe | 53.7 | 157.0 | 320 | 65.8 | 83.1 |
| Senegal | 6496.4 | 10,048.0 | 550 | 52.3 | 39.3 |
| Sierra Leone | 793.3 | 5337.0 | 150 | 37.4 | 36.0 |
| Solomon Islands | 256.7 | 457.0 | 600 | 69.3 | 76.6 |
| Somalia | 1772.4 | 9626.0 | 184 | 47.4 | 24.0 |
| Sudan | 17,793.2 | 33,546.0 | 460 | 58.4 | 59.9 |
| Togo | 1758.9 | 4861.0 | 310 | 49.6 | 59.6 |
| Tuvalu | 13.9 | 10.5 | 1323 | NA | NA |
| Uganda | 6197.7 | 25,280.0 | 240 | 43.1 | 68.9 |
| United Rep. of Tanzania | 9871.8 | 35,889.0 | 290 | 43.1 | 77.1 |
| Vanuatu | 283.3 | 210.0 | 1,180 | 68.5 | 34.0 |
| Yemen | 10,830.6 | 19,173.0 | 520 | 57.4 | 49.0 |
| Zambia | 4298.9 | 10,403.0 | 380 | 36.9 | 79.9 |

**Table 2** *Continued*

| Country | GDP[a] (US$m) | Population[b] (1,000s) | GNI per capita[c] (US$) | Life expectancy[d] (years) | Adult literacy[e] (% adults) |
|---|---|---|---|---|---|
| *Averages* | | | | | |
| Least developed countries | 4481.3 | 14,060.8 | 487.0 | 51.3 | 54.6 |
| Other developing countries | 69,261.3 | 36,925.8 | 4072.4 | 69.0 | 88.7 |
| Developed countries | 1,110,756.9 | 28,164.4 | 26,200.8 | 78.1 | 99.0 |

*Source*: Created using data from the UNCTAD and World Development Indicators databases.
NA: not available.
[a]Gross domestic product in millions of current US$, 2003 or latest available year. Data for Myanmar are in PPP terms.
[b]Population in thousands of individuals, 2003 or latest available year.
[c]Gross national income per capita in US$ following the Atlas method (average exchange rate of the last 3 years), 2003 or latest available year. Data for Myanmar are available only in PPP terms.
[d]Life expectancy (years expected to live from birth) in years, 2002 or latest available year.
[e]Adult literacy as percentage of adult population (15 years or older), 2002 or latest available year.

cannot successfully operate in these countries. In fact, as we indicate later in our discussion, many developed-country MNEs are present in LDCs, and in many LDCs they constitute the majority of the largest affiliates. Rather, what we claim is that the poorer the quality of governance in a country, the higher the number of developing-country MNEs among the largest subsidiaries in that country.

Governance refers to the institutions and traditions by which authority is established in a country and which affect the rules and regulations according to which economic activity is undertaken. Following research conducted at the World Bank (Kaufmann, Kraay, & Mastruzzi, 2003; Kaufmann, Kraay, & Zoido-Lobaton, 1999) we discuss six dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. These six dimensions correspond to three different aspects of governance. The first two, voice and accountability, and political stability and absence of violence, reflect the process by which governments are selected, monitored and replaced. The second two, government effectiveness and regulatory quality, represent the capacity of the government to effectively formulate and implement sound policies. The final two, rule of law and control of corruption, reflect the respect of the state and its citizens for the institutions that govern the social and economic interactions among them.

Not all of these dimensions have the same importance for MNEs. For example, as we discuss below, the existence of government accountability to citizens is less likely to affect the behavior of foreign MNEs. In contrast, the absence of rule of law, or a poorly developed, stifling regulatory environment in which regulations do not apply equally to all, may discourage all foreign firms from investing in the country. Despite the greater importance of certain dimensions, in the current study all six are analyzed, in order to provide a comprehensive analysis of governance. The empirical test will reveal the dimensions that are relevant in explaining the prevalence of developing-country MNEs in LDCs.

**Voice and Accountability**
Voice and accountability represent the ability of citizens to participate in the selection of their governments, in terms of the political process, civil liberties, and political rights (Kaufmann et al., 2003). Although voice and accountability are important features of the governance environment of the country, they tend to matter less to foreign investors than other governance dimensions. MNEs will still invest in a country where the citizens cannot affect the political process if there are good business opportunities. The recent inflows of FDI into China illustrate this. By 2003, China, which has an authoritarian regime, had become the second largest recipient of FDI inflows in the world, with $53 billion.

Nevertheless, developing-country MNEs may have a slight edge in LDCs with poor voice and accountability because they should be more adept at dealing with this. Managers of developing-country MNEs may have learned how to interact with dictators or authoritarian regimes because of their experience in dealing with current or past totalitarian regimes in their country of origin. Additionally, some developed-country MNEs face pressures from non-governmental organizations and home country governments that limit their operations in totalitarian regimes. For example,

US firms were pressed to limit their operations in South Africa in the 1980s when the country was under the apartheid regime. Thus we hypothesize that:

> **Hypothesis 1**: The lower the voice and accountability in an LDC, the higher the prevalence of developing-country MNEs among the largest subsidiaries of foreign firms in that country.

## Political Stability and the Absence of Violence

The dimension of political stability and the absence of violence refers to the idea that the quality of governance in a country can be jeopardized by the probability of sudden changes in government, which can disrupt existing policies and limit the ability of citizens to select and replace government peacefully (Kaufmann et al., 2003). Foreign firms are concerned about political stability in the host country because sudden changes of politicians may lead to changes in policies with regard to foreign investors, and even reneging upon existing contracts (Henisz & Williamson, 1999). For example, the financial crisis in Argentina in late 2001, which resulted in the collapse of the economy and the change of government three times in two weeks, also resulted in new legislation against foreign investors, especially those in utilities and energy (*Economist*, 2005a).

All foreign investors can potentially suffer from political instability, but developing-country MNEs may be better at dealing with it because they are used to political instability and violence in their home countries. For example, Turkish firms have experienced several episodes of high political instability in the past. As a result, they have internationalized into countries in the Middle East and in the former Soviet Union with high success, partly because of their ability to manage in such difficult conditions, as the opening example illustrated. Additionally, in the case of political crises, foreign firms, particularly those from developed countries, become the target of attacks, as happened in Argentina in late 2001 and early 2002. Developed-country MNEs are branded as instruments of imperialistic rule, and are subjected to political risks (Fitzpatrick, 1983; Kobrin, 1979) that may reduce their willingness and ability to become large players in politically volatile countries. Therefore we contend that:

> **Hypothesis 2**: The lower the political stability in an LDC, the higher the prevalence of developing-

country MNEs among the largest subsidiaries of foreign firms in that country.

## Government Effectiveness

Government effectiveness refers to the quality of the "inputs" required by the government to implement good policies and deliver public goods. It represents the quality of the bureaucracy and of public service provisions, the competence of civil servants, the independence of civil servants from political pressures, and the credibility of the government's commitment to policies (Kaufmann et al., 2003). Government effectiveness is important for foreign investors in the sense that they do not have to invest to cover for the deficiencies in the provision of public goods by the government.

Although governmental inefficiency harms all foreign firms, developing-country MNEs may be able to deal with it better because they are used to doing so at home. Developing-country MNEs come from countries that have lower government effectiveness, and are therefore more used to dealing with a slow, politically dependent bureaucracy and lack of high-quality public goods (Ghemawat & Khanna, 1998). As a result, they are also more experienced in investing in the provision of public goods because their home governments do not supply these (Fisman & Khanna, 2004). Thus developing-country MNEs may face less difficulty in LDCs than developed-country MNEs because the former take into account the inefficiency of the government in their decision to enter and invest in the country. In contrast, developed-country MNEs may not have planned for the ineffectiveness of the government, and may thus become laden with unexpected costs that limit their operations in the country. Therefore we hypothesize that:

> **Hypothesis 3**: The lower the government effectiveness in an LDC, the higher the prevalence of developing-country MNEs among the largest subsidiaries of foreign firms in that country.

## Regulatory Quality

Regulatory quality refers to the existence of market-unfriendly policies such as price controls or poor bank supervision, as well as perceptions of excessive regulation in areas such as business development, entry and obtaining licenses, or foreign trade; it also refers to whether regulations are applied uniformly or in a discretionary fashion (Kaufmann et al., 2003). Few companies like regulations, because these limit their freedom of operation.

However, managers may be more concerned about the quality of the regulations than their level. A highly regulated industry constrains the firm but increases the certainty of operations. In contrast, a poorly designed regulatory framework introduces distortion into investments and increases the uncertainty of operation (Laffont & Tirole, 1995). In response, firms limit their investments, particularly large fixed ones such as production plants.

Developing-country MNEs may be better positioned to deal with poor regulation in LDCs, and more willing to undertake large investments than developed-country MNEs. Developing-country MNEs emerge in countries where there is more political intervention in the economy in general. Managers of developing-country firms are likely to develop skills to cope with bureaucratic constraints at home (Ghemawat & Khanna, 1998) that can give their firms an edge when they expand into other developing countries (Lall, 1983: 63). These managers understand not only how to establish relationships with government officials, but also the way in which these relationships are altered with changes in the government or in the "mood" of government officials (Wells, 1983). Thus these companies operate in expectation of such changes, understand the timing of these changes, and develop flexible strategies to deal with them when they occur. In contrast, developed-country MNEs come from countries with better-defined rules of the game in industry, and where government has a reduced presence in the economy. These firms may become more reluctant to undertake large investments in a country where there are excessive regulations, or where regulations can vary unpredictably. Hence we argue that:

> **Hypothesis 4**: The lower the regulatory quality in an LDC, the higher the prevalence of developing-country MNEs among the largest subsidiaries of foreign firms in that country.

### Rule of Law
The rule of law refers to the success of a society in creating an environment in which fair and predictable rules form the basis for economic and social interactions, and, importantly, the extent to which property rights are enforced (Kaufmann et al., 2003). MNEs are less likely to invest in countries where there is poor rule of law, because they fear having their investments expropriated by the government (Fitzpatrick, 1983; Kobrin, 1979). They also fear the opportunistic behavior of business partners such as joint-venture partners, suppliers or clients, without the ability to use the judicial system to solve the contractual problems (Henisz, 2000). For example, the lack of good protection of private property rights in Russia, highlighted by the prosecution of the former owner of the oil firm Yukos in 2004, reduced foreign investment (*Economist*, 2005b).

Developing-country MNEs may still be more adept at managing in such conditions than developed-country MNEs. Developing-country MNEs operate in home countries with poorer rule of law. Their managers may be more flexible with regard to the application of the law, and more used to managing outside the realm of contractual relationships (de Soto, 2000). They will also be more careful in choosing the right partners, because contractual disputes are unlikely to be resolved efficiently in courts. In contrast, developed-country MNEs are used to operating with stable institutions that clearly establish property rights and limit the ability of the government to alter its policies at will (World Bank, 2002). They are more likely to trust that they can recoup their losses through the judicial system if their partner reneges on the contract. Their inability to do so in LDCs will limit their willingness to have large investments there. Thus we contend that:

> **Hypothesis 5**: The lower the rule of law in an LDC, the higher the prevalence of developing-country MNEs among the largest subsidiaries of foreign firms in that country.

### Control of Corruption
Corruption refers to the exercise of public power for private gain. The existence of corruption indicates a lack of respect for the rules that govern economic interactions in the society. It refers to the need to make additional, irregular payments to get things done, or to state capture by elites (Kaufmann et al., 2003). Corruption increases the difficulty of operating in the country (Shleifer & Vishny, 1993). It decreases foreign direct investment (FDI) and alters its composition (Wei, 2000; Smarzynska & Wei, 2000) and mode of entry (Rodriguez, Uhlenbruck, & Eden, 2005).

Developing-country MNEs are more used to dealing with corruption, and face fewer constraints in the use of bribes than developed-country MNEs. Managers in developing countries are more used to facing corruption at home, especially low-level corruption in the form of small payments made in

order to expedite procedures. Public employees' low salaries, as well as high levels of regulation and red tape, are common in developing countries, and provide fertile ground for such practices. As a result, developing-country MNEs are more used to paying in order to secure permits and win contracts, which can help them achieve an edge in LDCs with high corruption (Cuervo-Cazurra, 2006). In contrast, developed-country MNEs are less used to dealing with corruption at home. They are even constrained in bribing officials abroad because there are laws in their home country that explicitly forbid them from giving bribes to gain business abroad (Cuervo-Cazurra, 2008b). Moreover, non-governmental organizations closely monitor the behavior of developed-country MNEs, further constraining their ability to pay bribes in LDCs. As a result, these firms may not be able to secure key contracts or permits needed to operate in the country. We thus propose that:

> **Hypothesis 6**: The lower the control of corruption in an LDC, the higher the prevalence of developing-country MNEs among the largest subsidiaries of foreign firms in that country.

## RESEARCH DESIGN

We test our hypotheses on a database of the largest affiliates of foreign firms in LDCs. We know little about LDCs, particularly because of the difficulty of finding information about them. This is a challenge common to analyses of developing countries (e.g., Aykut & Ratha, 2004; Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Wells, 1983). Thus we rely on data collected by UNCTAD on LDCs. UNCTAD has published two reports on FDI in LDCs (UNCTAD, 2001a, 2002), with data for 1999 and 2001, for 49 countries. These are the only sources of data at the company level in LDCs that we could find, and are the most comprehensive listings on these countries. We use these lists, as well as additional data on each country from the World Bank, in our analysis of the factors that influence the prevalence of developing-country MNEs in LDCs.

### Variables and Measures

Table 3 summarizes the variables, measures, and data sources. The dependent variable is the prevalence of developing-country MNEs among the largest foreign firms in LDCs. We measure it as the share of developing-country MNE affiliates among all the largest affiliates of foreign MNEs in the

country. To construct the measure, we used the list of the largest affiliates of foreign firms in each country that appear in the UNCTAD reports (2001a, 2002) and coded the affiliates into two groups based on their country of origin (developed or developing country) according to the UNCTAD (2004) classification of countries. We then divided the number of affiliates of developing-country MNEs by the total number of foreign affiliates and multiplied the resulting number by 100. We use a count rather than a sales proportion because the database does not provide sales information for many of the firms. Such a measure is in line with studies of the turnover among the largest firms over time (e.g., Stonebraker, 1979). Additionally, we computed variations of the dependent variable to conduct robustness tests. In the first test, we excluded affiliates of firms in natural resource industries: agriculture, forestry, fishing, cattle, oil, and mining. We identified the industry of operation using the information on the industry provided in UNCTAD's list. In the second test, we excluded affiliates of former colonial powers. We identified the former colonial power using the CIA's (2005) indicator of independence, corroborating it with information from *Encyclopedia Britannica* (2005).

The independent variables of interest are the six governance dimensions discussed above: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. For these, we use the indicators of the World Bank, described in detail in Kaufmann et al. (2003). Kaufmann et al. (1999) first identified the indicators for 1998 and created six composite aggregate indicators. Later, Kaufmann et al. (2003) revised the previous work and extended it to cover 199 countries for four time periods: 1996, 1998, 2000, and 2002. The use of these composite indicators reduces the limitations of using single measures. To facilitate interpretation, we modified their original spread of −2.5 to 2.5 to a spread of 0 to 5 by adding 2.5 to each score. This does not alter the statistical significance of the coefficients.

The differences in quality of governance across the three groups of countries – LDCs, other developing countries, and developed countries – are significant. Looking at the most recent indicators of governance, the averages for LDCs are 1.85 for voice and accountability, 1.89 for political stability and absence of violence, 1.73 for government effectiveness, 1.70 for regulatory quality, 1.76

**Table 3** Variables, measures, and sources of data

| Variable | Measure | Source |
|---|---|---|
| *Dependent variables* | | |
| Prevalence of developing-country MNEs | Number of largest affiliates of MNEs from developing countries divided by total number of largest affiliates of foreign firms and multiplied by 100 | Computed using data from FDI in LDCs in UNCTAD (2001a, 2002) |
| Prevalence of developing-country MNEs excluding firms in natural resource industries | Number of largest affiliates of MNEs from developing countries, excluding those in natural resource industries (agriculture, fishing, forestry, cattle, oil, mining), divided by total number of largest affiliates of foreign firms, excluding those in natural resource industries, and multiplied by 100 | Computed using data from FDI in LDCs in UNCTAD (2001a, 2002) |
| Prevalence of developing-country MNEs excluding firms from former colonial power | Number of largest affiliates of MNEs from developing countries divided by total number of largest affiliates of foreign firms, excluding firms from former colonial power, and multiplied by 100 | Computed using data from FDI in LDCs in UNCTAD (2001a, 2002) and information on the colonial power from CIA (2005) and *Encyclopedia Britannica* (2005) |
| *Independent variables of interest* | | |
| Voice and accountability | Indicator of accountability of government, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| Political stability and absence of violence | Indicator of political stability and absence of violence in the country, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| Government effectiveness | Indicator of effectiveness of government, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| Regulatory quality | Indicator of quality of regulation, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| Rule of law | Indicator of rule of law, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| Control of corruption | Indicator of control of corruption, from 0 to 5 | Data from aggregate governance indicators database, Kaufmann et al. (2003) |
| *Control variables* | | |
| GNI per capita | Gross national income divided by number of inhabitants, in US$ | Data from World Development Indicators database, World Bank (2004) |
| Roads paved | Kilometers of roads paved as percentage of total kilometers of roads | Data from World Development Indicators database, World Bank (2004) |
| Phones per capita | Number of fixed-line and mobile telephones per 1,000 inhabitants | Data from World Development Indicators database, World Bank (2004) |
| Geographic proximity | Dummy indicator of existence of a firm from a country with common border with the LDC among the largest affiliates of foreign firms in the country, 0 or 1 | Computed using data from FDI in LDCs in UNCTAD (2001a, 2002) and list of neighboring countries from CIA (2005) |
| Colonial link | Dummy indicator of the existence of a firm from the former colonial power of the LDC among largest affiliates of foreign firms in the country, 0 or 1 | Computed using data from FDI in LDCs in UNCTAD (2001a, 2002) and information on the colonial power from CIA (2005) and *Encyclopedia Britannica* (2005) |

for rule of law, and 1.81 for control of corruption. This is in contrast to other developing countries, which have the following scores: 2.43 for voice and accountability, 2.48 for political stability and absence of violence, 2.43 for government effective-

ness, 2.47 for regulatory quality, 2.43 for rule of law, and 2.39 for control of corruption. Developed countries have much higher scores in all dimensions: 3.85 for voice and accountability, 3.56 for political stability and absence of violence, 4.12 for

government effectiveness, 3.98 for regulatory quality, 4.06 for rule of law, and 4.14 for control of corruption.

## Additional Influences: Economic, Geographic and Cultural factors

In addition to governance, other characteristics of the host country can play a role in the increased prevalence of developing-country MNEs in LDCs. A country's environment can be analyzed in four dimensions (Ghemawat, 2001): cultural, administrative, geographic, and economic (CAGE). These can be viewed as roughly corresponding to four disciplines that focus on a country's environment: sociology, political economy, geography, and economics. Although Ghemawat (2001) proposed this CAGE framework to analyze distance between countries, we believe that it is a useful tool to analyze the country environment in general. In the hypothesis development we focused on governance, which can be viewed as the administrative dimension. We now describe how we controlled for economic, geographical, and cultural dimensions.

*Economic environment: wealth and infrastructure.* Developing-country MNEs may be better adapted to operate in countries with poorer customers. They are better positioned to serve the needs of poor people in LDCs because they emerge in countries where citizens have lower average levels of wealth, and where the distribution of wealth is more skewed than in developed countries (World Bank, 2002). The knowledge and resources developed to serve customers who have low income are equally valuable in LDCs. In contrast, developed-country MNEs may struggle to understand consumers' preferences in LDCs, and have to undertake additional investments to adapt their products and ways of dealing with poor clients, such as reducing the size of the product, using less expensive ingredients, or providing financing to enable the purchase (Prahalad & Hammond, 2002; Yunus, 1999). We measure wealth using GNI per capita.

Developing-country MNEs are also likely to be better adapted to the poor infrastructure of LDCs. Developing-country MNEs are used to operating in countries with less developed infrastructure, adapting their technology and managerial skills to these conditions (Lall, 1983). In contrast, developed-country MNEs are used to being supported by well-established infrastructures and developing ownership advantages built on that external infrastructure. These firms face a challenge when

moving into LDCs because much of the infrastructure with which they are used to working in their home country, such as nationwide distribution channels, transportation networks, and high-capacity communication networks, is absent in these markets (Prahalad & Lieberthal, 1998; Prahalad & Hammond, 2002). We measure infrastructure in two ways: communication infrastructure, measured as the number of fixed line and mobile phones per thousand people; and transportation infrastructure, measured as the percentage of kilometers of roads that are paved, divided by the total number of kilometers of roads in the country.

*Geographic environment: proximity.* Developing-country MNEs may have an edge in LDCs thanks to the geographic proximity between home and host country. Geographic distance, or proximity, alters the attractiveness of host countries and affects the ease of trading and operating across countries (Ghemawat, 2001; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). The addition of foreign operations and their physical distance requires the firm to deal with additional transportation, communication, and coordination (Hitt, Hoskisson, & Kim, 1997; Vernon, 1977). Developing countries are often closer to each other; there are few common borders between developed and developing countries. Proximity of other developing countries to LDCs can give developing-country MNEs a natural advantage. For example, India and China account for more than half of the FDI in Nepal – India in hotels and manufacturing and China in manufacturing (World Bank, 2005: 99). Geographic proximity was measured using a binary indicator of the existence of a common border between the home country of a firm listed among the largest foreign affiliates, and the host LDC.

*Cultural environment: colonialism.* The cultural environment may influence the operations of developing-country MNEs in LDCs, but, unlike other dimensions, there is no clear advantage over developed-country MNEs in this regard. One cannot establish a clear distinction in terms of culture between developed- and developing-country MNEs that influences their operations in LDCs. Culture alone may not yield significant differences in the dominance of one or another type of foreign investor (Rangan & Drummond, 2004), as it masks too many underlying assumptions (Shenkar, 2001). Cultural similarities among countries can be traced back to the transfer

of the culture through population movements. These have been particularly important in the case of colonization, where the colonial power imposes upon its colonies its language and religion, as well as norms of behavior such as the legal system (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). Thus a common colonial past results in a commonality in cultural attitudes across countries that are far apart and have not had direct ties of their own. For example, there are high cultural similarities between Australia, Canada, Ireland, New Zealand, South Africa, and the United States (Hofstede, 1980); all were former colonies of Great Britain. However, such similarity in culture is not assured; there are few cultural similarities between these countries and other former colonies of Great Britain such as India, Myanmar, or Kenya, nor between the latter three. Nevertheless, firms from the former colonial power may still benefit from the direct ties and transfer of values established at the time of the colonial relationship (Rangan & Drummond, 2004): we thus control for their presence. We measure colonial links using an indicator of the existence of MNEs from the former colonial power among the largest affiliates of foreign firms in the LDC.

## Method of Analysis

We used a Tobit model to test the hypotheses, because the dependent variable is constrained to an interval of 0 to 100. Since the error term is truncated, the use of regression would yield biased results (Maddala, 1983; Tobin, 1958). Since we have data for two time periods, we were able to control for other unobserved characteristics that may influence the dependent variable by using a cross-sectional panel. The results report the feasibility of using a random effect cross-sectional panel Tobit by comparing it with the pooled panel Tobit. We use the following specification:

Prevalence of developing-country MNE affiliates among the largest affiliates of foreign firms in the LDC

$= \beta_0 + \beta_1$ Voice and accountability
$+ \beta_1$ Political stability and absence of violence
$+ \beta_2$ Government effectiveness
$+ \beta_3$ Regulatory quality $+ \beta_4$ Rule of law
$+ \beta_5$ Control of corruption $+ \beta_6$ Wealth
$+ \beta_7$ Transportation infrastructure
$+ \beta_8$ Communication infrastructure
$+ \beta_9$ Geographic proximity
$+ \beta_{10}$ Colonial link $+ \varepsilon$

The hypotheses are supported if the coefficients of $\beta_1$ to $\beta_6$ are negative and statistically significant.

## RESULTS

Table 4 provides the summary statistics and correlation matrix. Many of the variables show high correlation. This is to be expected, because all of these countries share low levels of economic and human development. We checked for the possibility of collinearity among independent variables by running a variance inflation matrix analysis. The result is a maximum value of 3.92 and an average value of 2.73, which are lower than the accepted value of 30 that indicates problems of collinearity (StataCorp, 2001).

### Prevalence of Developing-Country MNEs among the Largest Foreign Firms in LDCs

We test the influence of the governance characteristics of LDCs on the prevalence of developing-country MNEs among the largest foreign investors by means of a Tobit analysis. Developing-country MNEs represent 10% of the 30 largest MNEs in LDCs, which contrasts with 4% among the largest 100 transnationals in the world (UNCTAD, 2002). Hence developing-country MNEs are relatively more prevalent among the largest subsidiaries in LDCs than one would otherwise expect. The governance characteristics of LDCs may explain why this is the case.

Table 5 presents the results of the analyses examining the prevalence of developing-country MNEs among the largest foreign firms in LDCs. We discuss the results of Model 1b, which is the full model. The results support the idea that developing-country MNEs tend to be more prevalent in LDCs with poorer governance. The coefficients of regulatory quality and control of corruption are negative and statistically significant, the coefficient of rule of law is positive and statistically significant, and the coefficients of the other variables are not statistically significant. These results support Hypotheses 4 and 6, are contrary to Hypothesis 5, and do not provide support for Hypotheses 1–3. In other words, the prevalence of developing-country MNEs among the largest foreign affiliates is, as expected, negatively related to regulatory quality and the control of corruption, but, contrary to expectations, positively related to the rule of law. As we noted before, some of these variables were not expected to affect the prevalence of developing-country MNEs.

**Table 4** Summary statistics and correlation matrix

| Variable | Mean | Std. dev | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Prevalence of developing-country MNEs | 11.444 | 20.639 | 1 | | | | | | | | | | | | |
| 2. Prevalence of developing-country MNEs excluding firms in natural resource industries | 12.372 | 22.569 | 0.973*** | 1 | | | | | | | | | | | |
| 3. Prevalence of developing-country MNEs excluding firms from former colonial power | 16.466 | 27.363 | 0.849*** | 0.824*** | 1 | | | | | | | | | | |
| 4. Voice and accountability | 1.938 | 0.858 | −0.219* | −0.216* | −0.131 | 1 | | | | | | | | | |
| 5. Political stability and absence of violence | 1.954 | 0.992 | −0.085 | −0.058 | −0.072 | 0.538*** | 1 | | | | | | | | |
| 6. Government effectiveness | 1.856 | 0.677 | 0.003 | −0.034 | 0.077 | 0.371*** | 0.591*** | 1 | | | | | | | |
| 7. Regulatory quality | 1.837 | 0.826 | −0.225* | −0.231* | −0.091 | 0.474*** | 0.563*** | 0.704*** | 1 | | | | | | |
| 8. Rule of law | 1.743 | 0.507 | −0.179+ | −0.186+ | −0.100 | 0.498*** | 0.603*** | 0.725*** | 0.766*** | 1 | | | | | |
| 9. Control of corruption | 1.855 | 0.501 | −0.316** | −0.337*** | −0.224* | 0.351*** | 0.579*** | 0.723*** | 0.589*** | 0.650*** | 1 | | | | |
| 10. GNI per capita | 450.089 | 398.443 | 0.253* | 0.251* | 0.159 | 0.391*** | 0.465*** | 0.361*** | 0.177+ | 0.251* | 0.230* | 1 | | | |
| 11. Roads paved | 21.251 | 18.694 | −0.185+ | −0.186+ | −0.203+ | 0.252* | 0.412*** | 0.202+ | 0.109 | 0.286** | 0.398*** | 0.390*** | 1 | | |
| 12. Phones per capita | 16.542 | 25.113 | 0.124 | 0.123 | 0.048 | 0.359*** | 0.462*** | 0.409*** | 0.238* | 0.429*** | 0.317** | 0.765*** | 0.598*** | 1 | |
| 13. Geographical proximity | 0.082 | 0.275 | 0.304** | 0.303** | 0.296** | −0.025 | −0.077 | 0.100 | 0.124 | 0.059 | −0.122 | −0.140 | −0.177+ | −0.112 | 1 |
| 14. Colonial link | 0.612 | 0.490 | −0.101 | −0.111 | 0.080 | 0.119 | −0.112 | 0.016 | 0.239* | 0.041 | −0.067 | −0.245* | −0.174 | −0.252* | 0.237* |

+$p<0.1$; *$p<0.05$; **$p<0.01$; ***$p<0.001$.

These results imply that, although developing-country MNEs may have an edge in LDCs because they know how to deal with the poorer regulatory quality and lower control of corruption that is prominent in developing countries, they nevertheless prefer LDCs where the rule of law applies and property rights are protected. Managers of developing-country MNEs may be more adept at dealing with corruption and with imperfect and changing regulation, but still prefer respect for rules and enforceable contracts. An example that illustrates this point is the case of a Taiwanese firm investing in Vietnam: the firm "was so frustrated by corrupt customs officials who failed to do what they had been bribed to do that it tried to sue one of them for breach of contract" (*Economist*, 2000).

The coefficients of the control variables show that the prevalence of developing-country MNEs is positively related to GNI per capita, and to geographic proximity. First, developing-country MNEs are more prevalent in LDCs where citizens have higher average income. Consumers in an LCD with a high per capita GDP are much more similar to consumers in developing countries than to consumers in developed nations. Therefore the developing-country MNE will truly know how to serve consumers in these LDCs, because they will have an economic profile similar to consumers at home. It is also possible that in LDCs with very low per capita income, investments are concentrated on exporting industries (such as natural resources) or on serving foreign clients (such as in hospitality services) rather than serving the home market, which is where the developing country MNE would be stronger. Second, developing-country MNEs are more prevalent in countries that are more geographically proximate to their home country. The reduced geographical distance provides an advantage to developing-country MNEs in terms of transfer of resources and coordination. It is important to note that the results of analyzing the governance conditions are significant after controlling for this variable.

## Robustness Tests and Alternative Explanations
We check for the robustness of these results and the existence of alternative explanations that may account for the findings by running additional analyses.

***The influence of natural resource industries.*** An argument that may account for some of the observed behavior is that developed-country MNEs invest in LDCs only to obtain access to natural resources rather than to sell to consumers in those countries, while developing-country MNEs invest in LDCs in order to sell to consumers there. If this is the case, comparing these two groups of MNEs would be like comparing apples and oranges. Developed-country MNEs have to invest in LDCs because these countries have some desired natural resources, whereas developing-country MNEs choose to invest in LDCs because these countries can be profitable markets. Hence we check for the robustness of the previous results by excluding firms in natural resource industries: agriculture, fishing, forestry, cattle, oil, and mining.

The results of our analysis examining the prevalence of developing-country MNEs excluding firms in natural resource industries are in line with the previous findings. First, although much of the FDI in LDCs is in extractive industries (UNCTAD, 2001a, 2002; World Bank, 2005), both developed- and developing-country MNEs invest in those industries. For example, Indian and South African companies have invested in the Zambian mining sector alongside firms from Switzerland and the United States. Thus the idea that developed-country MNEs invest in LDCs only to access natural resources while developing-country MNEs invest in LDCs only to serve clients is not borne out by the data. After excluding affiliates in natural resource industries, developed-country MNEs still account for over 83% of all the largest affiliates of foreign firms in LDCs. Second, the results of the test excluding firms in natural resources (Model 2b) point toward similar conclusions to the previous test. The coefficients of regulatory quality and control of corruption are negative and statistically significant, the coefficient of rule of law is positive and statistically significant, and the coefficients of voice and accountability, political stability and absence of violence, and government effectiveness are not statistically significant. In other words, after excluding firms in natural resource industries, developing-country MNEs are more prevalent in LDCs with poorer quality of regulation, lower control of corruption, and higher rule of law.

***The influence of firms from the former colonial power.*** The influence of firms from former colonial powers could also affect the results. West European MNEs historically undertook much of the FDI in LDCs, especially in Africa, because of colonial history and post-colonial ties (UNCTAD, 2001a: 10). Some of the foreign affiliates from these countries have been

**Table 5** Results of random-effect Tobit analyses of determinants of prevalence of developing-country MNEs among largest affiliates of foreign firms in LDCs

| | All subsidiaries | | Excluding firms in natural resource industries | | Excluding firms from former colonial power | |
|---|---|---|---|---|---|---|
| | Model 1a | Model 1b | Model 2a | Model 2b | Model 3a | Model 3b |
| *Independent variables of interest* | | | | | | |
| Voice and accountability | — | −6.756 | — | −7.409 | — | 0.904 |
| | | (5.321) | | (5.238) | | (7.262) |
| Political stability and absence of violence | — | −3.105 | — | −2.563 | — | **−19.242**** |
| | | (4.477) | | (4.374) | | (6.910) |
| Government effectiveness | — | 1.797 | — | 2.392 | — | **20.794*** |
| | | (6.278) | | (6.026) | | (8.338) |
| Regulatory quality | — | **−16.672**** | — | **−15.724**** | — | **−24.820***** |
| | | (5.375) | | (5.059) | | (7.637) |
| Rule of law | — | **20.882*** | — | **22.274*** | — | **36.540**** |
| | | (9.208) | | (8.928) | | (13.765) |
| Control of corruption | — | **−27.706**** | — | **−29.514***** | — | **−44.473***** |
| | | (9.456) | | (9.068) | | (12.715) |
| | | | | | | |
| *Controls* | | | | | | |
| GNI per capita | 0.050*** | 0.068*** | 0.023* | 0.071*** | 0.028* | 0.078*** |
| | (0.009) | (0.012) | (0.010) | (0.012) | (0.014) | (0.017) |
| Roads paved | −0.497 | −0.113 | −0.258 | −0.074 | −0.401 | 1.196* |
| | (0.332) | (0.277) | (0.338) | (0.271) | (0.331) | (0.466) |
| Phones per capita | −0.190 | −0.179 | −0.123 | −0.179 | −0.205 | −0.350 |
| | (0.262) | (0.288) | (0.280) | (0.284) | (0.376) | (0.418) |
| Geographic proximity | 52.603*** | 52.057*** | 50.946*** | 54.021*** | 83.394*** | 154.44*** |
| | (8.042) | (6.831) | (7.600) | (6.732) | (12.326) | (20.504) |
| Colonial link | 16.684* | 5.985 | 14.675* | 5.149 | — | — |
| | (6.508) | (6.912) | (6.383) | (6.718) | | |
| Constant | −30.458*** | 17.681 | −30.244** | 13.179 | −19.379+ | −54.707* |
| | (8.751) | (14.683) | (9.011) | (14.738) | (11.452) | (24.694) |
| | | | | | | |
| *N* | 44 | 42 | 44 | 42 | 44 | 42 |
| Chi-squared | 61.62*** | 106.46*** | 60.25*** | 119.97*** | 63.61*** | 84.94*** |
| Log likelihood | −189.585 | −161.035 | −185.323 | −160.385 | −184.790 | −152.885 |
| Test random *vs* pooled model | 35.74*** | 25.24*** | 36.38*** | 28.17*** | 39.00*** | 44.47*** |

+$p<0.1$; *$p<0.05$; **$p<0.01$; ***$p<0.001$. Numbers in bold indicate statistical significance.

in the LDCs for a long period of time. Therefore, although they qualify as developed-country MNEs in our data, in practice they have already developed the ability to manage in the "difficult" institutional environment of the LDC. Moreover, they benefit from the historical links and similarity in the environment imposed by the colonial power (Ghemawat, 2001; Johanson & Wiedersheim-Paul, 1975; La Porta et al., 1998; Rangan & Drummond, 2004). The presence of such firms places a downward bias on our results.

Model 3b presents the results after excluding firms from the former colonial power. In this analysis we do not control for the colonial link,

because we are excluding firms that have such a link. The results are similar to the ones presented previously, with additional variables gaining statistical significance. The coefficients of political stability and absence of violence, regulatory quality, and control of corruption are negative and statistically significant, the coefficients of government effectiveness and rule of law are positive and statistically significant, and the coefficient of voice and accountability is not statistically significant. In sum, the results support Hypotheses 2, 4 and 6, are contrary to Hypotheses 3 and 5, and do not provide support for Hypothesis 1. After excluding firms from the former colonial power, developing-coun-

try MNEs are more prevalent in LDCs with lower political stability, lower regulatory quality, and less control of corruption, as expected. However, contrary to expectations, they are also more prevalent in LDCs with better government effectiveness and better rule of law.

However, although significance is gained in some of the variables, this is an imperfect test. By excluding all MNEs from a former colonial power we also censor the more recent entries by MNEs from those countries that would still face difficulties in managing there. A better test would require us to exclude only those firms that had been there for longer than a specified period of time. This test cannot be conducted, unfortunately, because we lack the establishment dates for many foreign affiliates.

**Lack of investment by developed-country MNEs in LDCs.** A third argument that may account for the results is that MNEs from developing countries become prevalent in LDCs not because they are more adept at managing under poor governance conditions, but because developed-country MNEs do not invest in LDCs. Developed-country MNEs may have a higher return on their ownership advantages in other developed nations, where the quality of governance, consumer purchasing power, or infrastructure is similar to their home market. Since LDCs would not provide better returns for these firms, they avoid expanding into these countries. We treat this alternative explanation as an empirical question and explore in the results section whether or not developed-country MNEs invest in LDCs.

The analysis of data on the largest affiliates of foreign firms (Table 6) does not support this competing argument. In 2001, the most recent year for which we have data, 44 of the *Fortune 500* firms had invested in 31 LDCs (UNCTAD, 2002: 8). All of these *Fortune 500* firms except for one originated in developed countries. This tells us that developed-country MNEs do invest in LDCs. However, the *Fortune 500* firms are rarely, if at all, among the largest subsidiaries in LDCs, proving our point that they are not as large and successful as in other countries. Moreover, on average, developed-country MNEs constitute 87% of the largest affiliates of foreign firms in LDCs. We also observe that, in 22 LDCs, all the largest foreign firms are developed-country MNEs, again proving that developed-country MNEs do invest in LDCs and can become successful (as measured by their size). In contrast, developing-country MNEs represent half or more of

**Table 6** Foreign direct investment in the least developed countries

| Country | FDI inflows[a] ($USm) | Fortune 500[b] | Largest affiliates of foreign firms[c] | | |
|---|---|---|---|---|---|
| | | | All | Developing-country | Developed-country |
| Afghanistan | 0.1 | 0 | 3 | 3 | 0 |
| Angola | 1312.1 | 10 | 25 | 3 | 22 |
| Bangladesh | 45.2 | 7 | 25 | 3 | 22 |
| Benin | 41.0 | 3 | 10 | 0 | 10 |
| Bhutan | 0.3 | 1 | NA | NA | NA |
| Burkina Faso | 8.2 | 1 | 10 | 2 | 8 |
| Burundi | 0.0 | 0 | 3 | 0 | 3 |
| Cambodia | 53.8 | 2 | 3 | 0 | 3 |
| Cape Verde | 13.9 | 0 | NA | NA | NA |
| Central African Rep. | 4.3 | 3 | 5 | 0 | 5 |
| Chad | 900.7 | 1 | 4 | 0 | 4 |
| Comoros | 1.5 | 0 | 1 | 0 | 1 |
| Congo, Dem. Rep. | 31.9 | 3 | 5 | 1 | 4 |
| Djibouti | 3.5 | 1 | 7 | 1 | 6 |
| East Timor | NA | NA | NA | NA | NA |
| Equatorial Guinea | 323.4 | 1 | 2 | 1 | 1 |
| Eritrea | 21.0 | 0 | NA | NA | NA |
| Ethiopia | 75.0 | 4 | 17 | 1 | 16 |
| Gambia | 42.8 | 1 | 6 | 0 | 6 |
| Guinea | 30.0 | 3 | 11 | 2 | 9 |
| Guinea-Bissau | 1.0 | 0 | 1 | 0 | 1 |
| Haiti | 5.7 | 0 | 7 | 0 | 7 |
| Kiribati | 0.5 | 0 | 1 | 0 | 1 |
| Laos | 25.4 | 0 | 2 | 0 | 2 |
| Lesotho | 24.4 | 0 | 2 | 0 | 2 |
| Liberia | -65.1 | 5 | 29 | 0 | 29 |
| Madagascar | 8.3 | 4 | 27 | 3 | 24 |
| Malawi | 0.0 | 0 | 1 | 0 | 1 |
| Maldives | 12.3 | 1 | 3 | 2 | 1 |
| Mali | 102.2 | 3 | 7 | 0 | 7 |
| Mauritania | 12.0 | 2 | 2 | 1 | 1 |
| Mozambique | 405.9 | 1 | 26 | 6 | 20 |
| Myanmar | 128.7 | 5 | 24 | 3 | 21 |
| Nepal | 9.0 | 2 | 7 | 0 | 7 |
| Niger | 7.9 | 1 | 7 | 0 | 7 |
| Rwanda | 2.6 | 2 | 2 | 0 | 2 |
| Samoa | 1.3 | 2 | 8 | 0 | 8 |
| Sao Tome & Principe | 1.8 | 0 | 1 | 0 | 1 |
| Senegal | 93.3 | 7 | 38 | 1 | 37 |
| Sierra Leone | 4.7 | 1 | 3 | 0 | 3 |
| Solomon Islands | -6.6 | 0 | 19 | 5 | 15 |
| Somalia | -0.2 | 0 | NA | NA | NA |
| Sudan | 681.0 | 1 | 5 | 1 | 4 |
| Togo | 74.7 | 1 | 8 | 1 | 7 |

**Table 6** Continued

| Country | FDI inflows[a] ($USm) | Fortune 500[b] | Largest affiliates of foreign firms[c] | | |
|---|---|---|---|---|---|
| | | | All | Developing-country | Developed-country |
| Tuvalu | 0.1 | 0 | NA | NA | NA |
| Uganda | 274.8 | 4 | 38 | 16 | 22 |
| U. Rep. of Tanzania | 240.4 | 7 | 38 | 9 | 29 |
| Vanuatu | 15.0 | 7 | 24 | 3 | 21 |
| Yemen | 64.3 | 3 | 7 | 0 | 7 |
| Zambia | 197.0 | 8 | 34 | 3 | 31 |

*Source*: Created using data from UNCTAD (2002) and World Bank (2004). East Timor joined the list of LDCs in December 2003; data on its FDI inflows and the largest affiliates of foreign firms are not available.
NA: not available.
[a]Foreign direct investment inflows in millions of US$, 2002 or latest available year.
[b]Number of *Fortune 500* firms present in the country from the list of global 500 companies in *Fortune*, 23 July 2001. Although 7% of the *Fortune 500* companies are developing-country firms, only one appears as an investor in LDCs.
[c]Largest affiliates of foreign firms from the UNCTAD FDI/TNC database, based on *Who owns Whom* CD-ROM (London: Dun and Bradstreet Ltd, 2002) and national sources. Only majority-owned (above 50%) affiliates are considered.

the largest foreign affiliates only in four LDCs. One might argue that this shows that developed-country MNEs in fact dominate in LDCs, and that this evidence goes counter to our core proposition. However, it should be remembered that we are not claiming that developing-country MNEs will *always* be prevalent in LDCs. Rather, our core proposition is that the poorer the governance conditions are in an LDC, the higher the proportion of developing-country MNEs among the largest subsidiaries in that country. We should also emphasize that, although developed-country MNEs constitute 87% of the largest subsidiaries in LDCs, overall they constitute 96% of the largest 100 TNCs list, and 91.6% of the *Fortune 500* global list – both higher than the 87% we see in LDCs.

A variant of this competing argument is that the data say more about MNEs from developing countries doing poorly in developed countries than about their prowess in LDCs[2] We would argue that this is simply a restatement of our central argument. That is, developing-country MNEs' skills in managing difficult institutional environments are useful when operating in LDCs with poor governance environments. Since we have shown that developed-country MNEs operate side by side with their developing-country counterparts in LDCs,

there must be some factor(s) explaining why the latter are represented more heavily among the largest subsidiaries in LDCs than they are in the developed world, or why they comprise an even higher percentage of largest affiliates in LDCs with poorer governance quality. We argue that in developed countries these skills are not as valuable, which makes them less prevalent there. Simply put, in the absence of difficult institutional environments, developing-country MNEs are robbed of a major advantage.

Finally, a third variant of the competing argument is that developed-country MNEs serve LDCs using trade, while developing-country MNEs prefer to use FDI. However, data on trade patterns presented in UNCTAD (2004: 339) do not support this idea. In 2002, imports from developed countries represented 39.0% of all imports into LDCs, while imports from developing countries accounted for 57.1%, and 3.9% were unallocated amounts. Even after excluding imports from OPEC countries, which are primarily energy resources, imports into LDCs from developing countries still accounted for 50.1% of total imports. These figures contrast with the distribution of imports into all developing countries, where 50.7% came from developed countries, 46.9% from developing countries, and 2.5% were unallocated.

**Limitations of the Empirical Analysis**
Although our results are robust to inclusion and exclusion of several relevant variables representing alternative explanations, there are several limitations that we would like to point out. One issue is the lack of data for LDCs, which is a standard problem in firm-level studies in developing countries (e.g., Aykut & Ratha, 2004; Booth et al., 2001; Wells, 1983). This precludes a more complete analysis. First, lack of data already reduces the effective sample to those countries for which data are available. Second, it constrains the classification of firms into two types: developed-country MNEs and developing-country MNEs. In making this classification, we are implicitly assuming a degree of homogeneity among firms within each group. We acknowledge that there are variations within a group of firms, and that competition occurs among firms in each group. However, the groups also have widely accepted commonalities, which constitute our object of analysis. Third, we do not have firm-level data other than home country and industry of operation, making it impossible to delve into the resources and capabilities possessed by each firm.

Hence we cannot definitively show that it is the capability to operate under poor governance conditions that makes the developing-country MNEs prevalent in the LDCs. Moreover, we cannot directly control for the experience of operating in developing countries. Experience in other developing countries may help developed-country MNEs in LDCs, rendering country of origin less important. Additionally, we do not have data on profitability. We acknowledge that being among the largest foreign subsidiaries in an LDC does not necessarily imply above-average profitability. Theoretically, we used as many examples from the popular press and academic literature as we could to present evidence supporting our argument. Empirically, we imperfectly control for these additional variables through the panel specification. However, lacking detailed resource profiles of individual firms in a country, we can only state that the results are consistent with our theoretical argument (and inconsistent with several competing arguments). Fourth, we cannot prove beyond doubt that the distribution of developing- *vs* developed-country MNEs is different in LDCs than elsewhere in the world without data for all countries. However, we do show that developing-country MNEs are less prevalent among the largest transnationals around the world than they are in LDCs (see Table 1). We hope to address these issues when more data becomes available.

Second, it may not be possible to replicate our results in more developed countries. We deliberately selected LDCs because these countries provide a unique research setting to test our arguments. Developing-country MNEs invest in developed and developing countries, and can be successful in both. We focus on the more "difficult" countries to illustrate the theoretical arguments, where the developing-country MNEs not only are successful, but can also become the largest foreign firms thanks to their ability to manage under poor governance conditions.

Third, the analysis is a cross-sectional panel. As with any cross-sectional study, it has limited power in establishing causality relationships. We partially overcome this limitation by lagging the independent variables by one year and using a panel data specification. However, we have only two years of data available and 50 potential data points in each, with 42 usable ones after accounting for missing data. This limits our ability to introduce additional controls and study longer temporal patterns. Nevertheless, we make the most of the available data on LDCs.

## DISCUSSION
The empirical analysis reveals three findings. First, developing-country MNEs are more prevalent among the largest foreign firms in LDCs than among the overall population of largest public firms or transnationals in the world. Whereas developing-country MNEs tend to have a relative disadvantage in that they come from countries with poor institutions and are much smaller than developed-country MNEs, they can nevertheless possess an advantage and have relatively large operations in LDCs. Thus a source of relative disadvantage – having a home country with poorly developed institutions – becomes a source of relative advantage when the MNE moves into other countries with poor institutional environments. This argument complements the idea that the value of resources is contingent on time and location (Amit & Schoemaker, 1993; Brush & Artz, 1999; Hu, 1995; Tallman, 1992), and specifically the idea that a source of advantage may later become a source of disadvantage (Leonard-Barton, 1992).

Second, the prevalence of developing-country MNEs among the largest affiliates of foreign firms in LDCs varies with prevailing governance conditions in the country – especially governance indicators relating to the efficiency and smooth functioning of markets. In particular, developing-country MNEs are more prevalent in LDCs with worse regulatory quality and with more corruption. However, they are also more prevalent in LDCs with better rule of law and a relatively higher per capita income. Managers of developing-country MNEs may be more used to high uncertainty and be more flexible in dealing with unpredictable regulatory agencies and corrupt government officials. However, they still prefer to operate in countries where the rule of law applies and property rights are protected. In other words, developing-country MNEs need the basic protection of the rule of law to become successful. But they seem to have ability in managing several market inefficiencies such as poor regulatory quality (e.g., discretionary regulation) or corruption. In contrast, and as we suspected, political governance quality does not seem to have an effect on whether the largest firms are from developing or developed countries. This idea complements extant literature on institutions and MNEs, which has focused primarily on understanding how the conditions of *host* countries influence the behavior of foreign MNEs (e.g., Bevan et al., 2004; Henisz, 2000). We add to this literature by showing how the conditions of the *home*

country influence the behavior of MNEs, and how *similarity* between home and host country institutional environments influences MNE performance in the host market.

Third, contrary to popular belief, developed-country MNEs do invest in LDCs, not only to obtain natural resources but also to sell to clients there. In fact, they constitute the majority of the largest foreign firms in LDCs. The fact that even LDCs can become markets for developed-country MNEs provides further support for the idea that the bottom of the pyramid is a valuable market for developed-country MNEs (Prahalad, 2004).

These results are valid even after accounting for geographic, economic and cultural factors. However, the relative advantage of developing-country MNEs over developed-country MNEs when both operate in LDCs with poor governance conditions cannot be taken for granted. Developed-country MNEs learn to operate in the LDC over time, and gradually change their attitudes as they gain knowledge about the characteristics of the LDC (Johanson & Vahlne, 1977), thus reducing their relative liability of foreignness (Zaheer & Mosakowski, 1997). Developed-country MNEs may even try to rapidly surmount the challenge of operating in LDCs with poor governance conditions by hiring local managers. However, this may not fully eliminate the difficulty of operating in LDCs. Such an option may not be available because of the lack of trained managers in LDCs. Additionally, local managers still have to deal with managers in the regional or global headquarters, who may not be receptive to their ideas because of their attitudes towards international markets (Perlmutter, 1969). This difficulty is not situated at the local level, but rather in headquarters and in the assumptions of its managers regarding the potential of developing countries (Prahalad & Lieberthal, 1998).

## CONCLUSIONS

We discussed the disadvantages and advantages of developing-country MNEs in comparison with developed-country MNEs. Despite being smaller, having less sophisticated resources and coming from problematic home markets with poorly developed governance environments, developing-country MNEs can still be successful in their internationalization. The ability to manage in a challenging governance environment, which they have developed at home, can help them become leading firms in LDCs by reducing their difficulties in internationalization.

The paper makes several contributions to the literature. First, we focus on the capability to manage the institutional environment, as opposed to more conventional resources and capabilities necessary to compete in an industry (e.g., Barney, 1991; Peteraf, 1993). We argue that having a home country with poor institutions, which creates disadvantages in the firm's operations at home, can become a relative advantage when the firm moves into other countries with even more difficult governance conditions. Hence, when analyzing internationalization, we need to broaden our attention from those resources that help the firm compete, including resources that help the firm operate in an institutional environment. Both can support the firm's advantage abroad.

Second, we provide a statistical test to complement anecdotal evidence and prior case-based analyses of competition between developing- and developed-country firms (Bartlett & Ghoshal, 2000; Dawar & Frost, 1999). In so doing, we add to the trailblazing single-country analyses of competition among foreign firms in third countries (Rangan & Drummond, 2004; Tallman, 1991) by studying the prevalence of developing-country MNEs in multiple countries. Our study highlights how variation in the institutional conditions of the host country affects the nature of the largest foreign firms. Competition among MNEs can be based on resources that help firms compete in an industry as well as those that help firms operate in an institutional environment.

Finally, this is the first paper to investigate the phenomenon of MNEs in LDCs. These countries are in particularly dire need of foreign firms to contribute to their growth, and yet attract the least FDI (UNCTAD, 2002; World Bank, 2005). The present paper sheds light on the nature of foreign investors in these countries, dispelling previous assumptions. Both developed- and developing-country MNEs invest there, not only to extract resources but also to serve clients there. LDCs can be attractive markets despite their challenging institutional conditions.

## NOTES

[1]We follow UNCTAD's (2004) classification of countries into developed and developing. Developed countries are: Canada, United States, Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, United Kingdom, Israel, Japan, Australia, and New Zealand. All other countries are classified as developing countries.

[2]We would like to thank an anonymous referee for bringing this to our attention.

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