

**STRUCTURAL REFORM AND THE ACCELERATED  
MULTINATIONALIZATION  
OF DEVELOPING-COUNTRY FIRMS \***

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September 3, 2008

Abstract

We analyze the impact of structural reform on the multinationalization of developing-country firms. Structural reform is a form of institutional change whereby the institutional framework is realigned to reduce transaction costs, improve governance, and facilitate market functioning. Building on institutional economics, we argue that structural reform helps firms become multinationals by establishing institutions that support their international competitiveness. Moreover, we propose that, contrary to the views of critics of globalization, the positive impact of structural reform on the multinationalization of firms is greater for developing-country firms. The reason is that structural reform in these countries reduces location disadvantages that limit the firms' international competitiveness, accelerating their multinationalization.

Keywords: Structural reform, multinationalization, developing countries, outward foreign direct investment, institutional economics

JEL classification: F23, M16

Prepared for discussion at: "Emerging Multinationals: Outward Foreign Direct Investment from Emerging and Developing Economies" conference, Copenhagen Business School, Copenhagen, Denmark, October 9-10, 2008. Suggestions for improvement are welcome.

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\* The first author thanks the Center for International Business Education and Research at the University of South Carolina for financial support. The second author thanks the financial support of the University of South Carolina Graduate School. Authors are listed alphabetically.

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We study the multinationalization of firms from developing countries. Recent years have witnessed a large growth in the creation and expansion of multinational enterprises (MNEs) around the world. Between 1990 and 2006, the number of MNEs in the world has more than doubled, growing from 35,000 in 1990 to 78,411 by 2006 (UNCTAD, 1992; 2007). At the same time, the stock of outward foreign direct investment (OFDI) has more than quintupled, increasing from US\$1,815 billion in 1990 to US\$10,577 billion in 2005 (UNCTAD, 2007). MNEs from developing countries represent a small fraction of these figures, but they have grown in importance. Whereas in 1990 there were 4,100 developing-country MNEs, or 11.71% of the total, by 2006 the number of developing-country MNEs had quintupled to 20,172, or 25.72% of the total. At the same time, the stock of OFDI from developing countries has increased by a factor of 50, growing from US\$21 billion, or 1.15% of the total in 1990, to US\$1,006 billion, or 9.51% of the total in 2005.

This growth of developing-country MNEs has been a surprise to many, especially when these firms began acquiring large competitors in developed countries, such as the purchase of the personal computer division of the American IBM by the Chinese computer firm Lenovo, the acquisition of the European steel producer Arcelor by the Indian producer Mittal, or the purchase of the US brewer Miller by the South African firm SAB. This growth has generated a renewed interest in the topic of developing-country MNEs (see the special issues by Aulakh, 2007, and Luo and Tung, 2007). Initial studies on developing-country MNEs discussed their low costs advantages and indicated that they were at a disadvantage in technology and marketing in comparison to developed-country counterparts (e.g., Lall, 1983; Wells, 1983). Recent studies have highlighted that this competitive gap has narrowed and that some of these firms have become leading investors in other developing countries (e.g., Barnard, 2008; Cuervo-Cazurra and Genc, 2008). However, the question remains not so much in terms of the advantages or disadvantages of developing-country MNEs, which is a

matter of studying specific firms, but in terms of their emergence in the global stage now. Why is it that most developing-country firms did not become MNEs until recent times?

We build on institutional economics (e.g., North, 1981, 1990) to argue that structural reform, which has occurred in many developing countries in the last quarter of the 20<sup>th</sup> century, largely explains the emergence of developing-country MNEs. Structural reform is a form of institutional change whereby the institutional framework is realigned to reduce transaction costs, improve governance, and facilitate market functioning. We argue that structural reform helps firms become MNEs by establishing institutions that support their international competitiveness. Moreover, we propose that, contrary to the views of critics of globalization, the positive impact of structural reform on multinationalization is greater for firms from developing countries. The reason is that structural reform in these countries reduces location disadvantages that limited their international competitiveness, accelerating their multinationalization.

These arguments contribute to the literature on the emergence of MNEs. Instead of focusing on host-country factors that attract firms to invest abroad, it discusses the home-country factors that induce firms to become MNEs. As such, it complements the investment development cycle model, which argues that as countries develop, they move from being net recipients of FDI to becoming net sources (Dunning, 1981, 1986; Dunning and Narula, 1996). We complement this idea by proposing that structural reform accelerates the rate of transformation of developing-country firms into MNEs by resolving some of the location disadvantages that limited their international competitiveness. As a result, countries with the same level of development but different levels of structural reform will have different amounts of OFDI.

These arguments also contribute to a better understanding of developing-country MNEs by providing an explanation for their recent emergence. This complements other

studies of developing-country MNEs that have focused on the advantages that they enjoy in comparison to domestic firms elsewhere (e.g., Cuervo-Cazurra and Genc, 2008; Del Sol and Kogan, 2007; Tolentino, 2008), the selection of countries for investment (e.g., Barnard, 2008; Cuervo-Cazurra, 2007), and the selection of entry methods (e.g., Cuervo-Cazurra, 2008). Developing countries have institutional voids that limit the competitiveness of local firms and induce them to undertake unrelated diversification strategies (e.g., Ghemawat and Khanna, 1998; Khanna and Palepu, 2000; Khanna and Yafeh, 2007). Structural reform reduces some of these location disadvantages and enables firms to become multinationals more rapidly.

Finally, the paper contributes to the globalization debate (e.g., Bhagwati, 2004; Guillen, 2001; Henisz, Zelner, and Guillen, 2005; Stiglitz, 2002) by highlighting how one dimension of globalization – structural reform – is beneficial to firms, because it helps them become internationally competitive. The paper counters the argument of detractors of globalization who argue that developed countries are the sole beneficiaries of structural reform (e.g., Mander and Goldsmith, 1996) by indicating that not only do both developing and developed countries benefit from structural reform – in terms of the foreign expansion of their firms – but also that developing countries benefit more from structural reform. At the same time, the paper suggests that proponents and detractors of globalization need to examine who benefits from globalization rather than simply discuss whether it is beneficial or not.

## **STRUCTURAL REFORM AND DEVELOPING-COUNTRY MULTINATIONALS**

### **Structural Reform**

Structural reform consists of a transformation of institutional frameworks and regulations required for markets to function properly (IMF, 2004: 105). Structural reform involves not only economic liberalization in the form of deregulation of markets, liberalization of prices, and privatization of state-owned firms, as some critics believe, but also improvements in national governance in the form of flexible and targeted regulation that

limits market imperfections. This does not mean that the government ceases to play a role in the economy. It means that the government changes its role from an active participant to a provider of basic infrastructure, law and order, rules, and public goods needed to undertake economic relationships, and to limit market imperfections (World Bank, 1995). The intellectual base of structural reform is commonly traced back to Adam Smith (1776), who proposes that limitations on governments facilitate growth by allowing the ingenuity and entrepreneurial spirit of individuals to flourish. This idea is further developed by writers of the Austrian School, such as Hayek (1944), and the Chicago School, such as Friedman (1962).

Although in current times the majority of countries have undertaken structural reform and reduced the influence of the government in the economy, during most of the 20<sup>th</sup> century governments maintained a very active role in the economy. In capitalist developed countries – then known as the First World – governments followed the ideas of Keynes (1936) and highly regulated the market economy. In communist countries – then known as the Second World – governments applied the principles of Marx (1867) and implemented a communist economic system composed of central planning of prices and quantities and state ownership of means of production. In developing countries – then known as the Third World – governments followed a middle path, using a capitalist economic system composed of a price system to allocate goods and services and private property, but also high levels of government regulation, state ownership of firms, and price controls (Sachs and Warner, 1995).

Structural reform in the last quarter of the 20<sup>th</sup> century transformed the influence of the government in the economy. In developed countries, structural reform started in the early 1980s in the UK under Prime Minister Thatcher and in the US under President Reagan, later expanding to other developed countries. Governments reduced their influence in the economy

through deregulation and, in some cases, privatization of state-owned enterprises (Peltzman, 1989; Winston, 1993). In communist countries – now called transition economies, given their movement toward capitalism – structural reform started in the early 1980s in China, and was then implemented in the former Soviet Union and Eastern Europe in the late 1980s. It involved the dismantling of the communist economic system and its replacement by a capitalist system, resulting in a deep transformation of the economy (Blanchard, 1997). In developing countries, structural reform started in the mid 1970s in Chile and spread to other developing countries in the mid 1980s. It involved economic liberalization in the form of deregulation of industries, liberalization of prices, and privatization of state-owned firms, and governance improvements in the form of a strengthening of the rule of law (Rodrik, 1996, 2006; Williamson, 1990).

### **Structural Reform in Developing Countries**

In developing countries structural reform has become known as the Washington Consensus. Initially, Williamson (1990) coined the term Washington Consensus to refer to the desirable policies for reform in Latin America, which he perceived as being dominant in Washington, D.C., where the World Bank, International Monetary Fund (IMF), and U.S. government are based. However, the term has come to be used as a prescription for development and as a way to solve the ailments of developing countries in general (Williamson, 2004). Williamson's (1990) original text includes ten areas of reform: fiscal discipline, reordered public expenditure priorities, tax reform, liberalized interest rates, competitive exchange rates, trade liberalization, liberalization of inward foreign direct investment, privatization, market deregulation, and secure property rights. Improved governance was later added to this list (Rodrik, 2006; Williamson, 2004).

Governments in developing countries were initially reluctant to implement structural reform. During most of the 20<sup>th</sup> century governments maintained a high level of control over

the economy, but the oil crisis of the 1970s and stagflation that accompanied it revealed the limitations of a government-led model of development. In the mid 1970s, Chile became the first developing country to implement structural reform to solve its economic crisis. The program was successful, making Chile one of the fastest-growing economies in Latin America, but was not replicated elsewhere because it was assumed that it could only be implemented in a dictatorship. However, when in the mid-1980s Bolivia – which had a democratic government – implemented structural reform and stopped hyperinflation, it demonstrated that structural reform could also be implemented successfully in a democracy (Yergin and Stanislaw, 1998). As a result, in the late 1980s and early 1990s, developing countries throughout Latin America (e.g., Argentina, Brazil, Mexico), Asia (e.g., India, Turkey) and Africa (e.g., Egypt, Ghana) undertook structural reform (Bruton, 1998).

Although structural reform has resulted in economic growth, by the late 1990s doubts about the benefits of structural reform began to emerge, resulting in an intense debate. Structural reform has tended to enable developing countries to achieve macroeconomic stability and growth, but progress has been slow (Fraga, 2004; Katz, 2004; Lora, 2001; Rodrik, 2006). Defenders of structural reform argue that the lack of adequate progress originates in the inconsistent application of policies (Fraga, 2004; Kuczynski and Williamson, 2003b). Critics of structural reform, on the other hand, argue that structural reform was designed to favor developed nations and their MNEs at the expense of developing countries and their firms (Mander and Goldsmith, 1996).

The empirical literature, unfortunately, does not appear to help resolve the debate. Country-level studies tend to find that countries that undertook structural reform have achieved macroeconomic stability and growth, although not in all cases and not to the expected degree (Katz, 2004; Knack and Keefer, 1995; Rodrik, Subramanian, and Trebbi, 2004; see the reviews by Rodrik, 1999, 2006). Firm-level studies provide an even more

limited solution to the debate because there are conflicting findings. On the one hand, some single-country studies find that structural reform is positive for developing-country firms. For example, Amann and Nixon (1999) find that productivity and technology levels in Brazil improved, while imports remained low after the liberalization of the steel sector. Forbes (1999) argues that Indian firms responded to liberalization by increasing internal R&D, importing more advanced technology, and improving efficiency. Dedrick et al. (2001) find that computer use increased and prices dropped in Mexico and Brazil after deregulation. Rishi and Saxena (2004) find that only after structural reform began to be implemented in India in 1991 did banks in that country adopt technological innovations prevalent elsewhere in the world. On the other hand, other single-country studies find that structural reform is negative for or does not have an impact on developing-country firms. For example, Salim (2003) indicates that most of the improvement in productivity of food manufacturing firms in Bangladesh is explained by technological progress rather than by reform. Das (2004) finds that in India, both the private and public sectors had lower innovation output after liberalization, despite the former increasing R&D and the latter reducing it.

### **Structural Reform and Developing-Country Multinationals**

We contribute to the debate on the benefits of structural reform by studying its impact on the multinationalization of firms. We focus on the emergence of MNEs as an indirect indicator of the success of firms. Firms face large difficulties in their internationalization (Hymer, 1976; Zaheer, 1995; for an analysis of causes of the difficulties, see Cuervo-Cazurra, Maloney, and Manrakhan, 2007). Companies that become MNEs are able not only to overcome these difficulties, but also to have sources of competitive advantage that enable them to compete across borders (Caves, 2007; Hymer, 1976; for a review of advantages, see Cuervo-Cazurra and Un, 2004, and Tallman and Yip, 2001). Hence, becoming a MNE is an



indirect indicator that the firm has achieved levels of international competitiveness and is potentially a successful firm.

A widely discussed explanation of the growth of MNEs can be found in the investment development cycle model (Dunning, 1981, 1986; Narula and Dunning, 1996). The model argues that FDI inflows and outflows in a country evolve with its level of development. A developing country offers opportunities for accessing low-cost factors of production and thus becomes an attractive location for foreign firms, resulting in large FDI inflows. At the same time, the lack of development of the country has associated with it domestic firms that are not internationally competitive and face large limitations in their ability to become MNEs, resulting in low FDI outflows. As the country develops, its relative cost advantage is eroded, resulting in large but lower FDI inflows. At the same time, domestic firms improve their competitiveness as they learn how to satisfy the needs of more demanding local customers, resulting in higher FDI outflows. Once the country becomes developed, it receives lower FDI inflows while its firms achieve levels of international competitiveness that result in large FDI outflows. Although the model predicts that development explains the net FDI flows of the country, with countries changing from being net recipients of FDI to becoming net sources of FDI as they develop, it implicitly explains the growth of developing-country MNEs. Developing-country firms do not become MNEs when the country is less developed; rather, they start becoming MNEs as the country develops and become large foreign investors once the country reaches developed-country status.

We complement this explanation by arguing that structural reform results in an accelerated multinationalization beyond the level achieved through the development of the country. This is because structural reform solves some of the location disadvantages that limited the competitiveness of developing-country firms, accelerating their

multinationalization. Hence, we propose that independent of the level of development of the country, firms in countries that undertake more structural reform are likely to become larger foreign investors.

We build on institutional economics (North, 1981, 1990; North and Thomas, 1973) to explain the impact of structural reform on the growth of developing-country MNEs. This theoretical approach argues that firm behavior is affected by the institutional environment in which it operates<sup>1</sup>. North (1981: 201-202) defines institutions as “a set of rules, compliance procedures, and moral and ethical behavioral norms designed to constrain the behavior of individuals in the interests of maximizing the wealth or utility of principals.” Societies create and diffuse institutions to reduce uncertainty, to simplify a complex reality, and to provide structure to societal relations. This theory assumes imperfect markets, opportunism, bounded rationality, and profit maximization.

***Structural Reform and the Multinationalization of Firms.*** The benefits of structural reform are not confined to developing countries, but accrue to all countries; we now discuss the general impact of structural reform on the multinationalization of all firms and later discuss the specific impact on developing-country firms.

Structural reform helps firms accelerate their multinationalization through two main avenues: economic liberalization and national governance improvements. The first broad dimension of structural reform is economic liberalization, whereby the government retreats from the economic arena through price liberalization, industry deregulation, and privatization, thus increasing the opportunities and activity-set available to firms. As a result of economic liberalization, firms are able to select optimal actions and strategies that support

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<sup>1</sup> In addition to institutional economics, Campbell (2004) identifies two other schools that analyze the influence of institutions on firms: organizational institutionalism or neo-institutionalism (e.g., Scott, 1995) and historical institutionalism (e.g., Granovetter, 1985). We do not build on these two other schools because their assumptions are largely incompatible with those of institutional economics (Campbell, 2004).

their international competitiveness, enabling them to overcome the challenges of expanding abroad and become multinationals.

Economic liberalization helps firms improve their competitiveness to international levels through three mechanisms: through undertaking activities in a more optimal manner, through the availability of better inputs, and through the pressures of competition. The first two enable firms to improve their competitiveness, while the third forces them to do so. First, economic liberalization allows firms to undertake new activities and conduct their operations in a more optimal manner, enabling them to improve their efficiency and competitiveness. The deregulation of industries, price liberalization, and privatization of state-owned firms that accompany economic liberalization enable companies to have more freedom of action and to participate in activities from which they were previously excluded (Kuczynski and Williamson, 2003a). Firms can operate in industries and control assets that were reserved for the state, they can modify prices to reflect market conditions, and they can hire and fire workers as needed for their operations. As a result, companies have a wider set of actions at their disposal, enabling them to undertake optimal investments and actions that help them achieve efficiency.

Second, as a result of economic liberalization, firms can have access to different and better inputs that enable them to improve their efficiency and competitiveness. Structural reform increases competition within the supplier industries and facilitates the import of inputs (Toulan, 2002). Companies can obtain lower price or higher quality inputs from foreign firms. Additionally, the deregulation of the suppliers' industries forces local suppliers to improve and provide better inputs. Thus, the access to better foreign and domestic inputs reinforces the competitiveness of firms.

Third, economic liberalization not only enables firms to be more efficient and competitive, but also forces them to be so. Economic liberalization is accompanied by

increases in competition. The liberalization of trade and foreign investment and the deregulation of markets and industries result in new competitors in the country, both foreign firms (Blomstrom, 1986) and new domestic entrants. New foreign and domestic entrants bring new managerial and organizational techniques and new technologies that previously were not available in the industry. These induce firms to revamp the manner in which they operate to improve their technologies and increase efficiency (Eslava *et al.*, 2004), helping firms achieve the levels of international competitiveness that support their multinationalization.

In addition to supporting a firm's efficiency and international competitiveness, economic liberalization helps firms become multinationals through the reduction of barriers to international trade and investment. As part of the import substitution regime some countries established tariffs and regulations in order to force domestic companies to sell their products and invest domestically (Bruton, 1998). Economic liberalization lifts these tariffs and barriers (Edwards, 1993) and leads countries to reduce the bureaucratic controls needed to trade and invest internationally (Djankov *et al.*, 2002). The lifting of barriers and controls reduces the costs of investing abroad. As a result, firms that did not find it profitable to become MNEs or to increase their multinational presence when the barriers were in place can do so profitably after the barriers are lifted. Moreover, economic liberalization may, in some cases, force firms to seek foreign markets as their domestic market becomes saturated. The deregulation of the industry, international trade, and international investment result in a greater number of new domestic and foreign competitors. This may increase competition in the country to the point where incumbent firms do not have enough opportunities to sell within the domestic market, thereby being forced to seek foreign markets as outlets for their production (Leonidou *et al.*, 2007), hence becoming multinationals.

The second broad dimension of structural reform is governance improvements, whereby the government reforms the basis for the economic relationships, improving both regulations and their implementation. These governance improvements reduce the transaction costs of establishing economic relationships by improving the establishment, monitoring, and solution of contractual relationships, thus helping firms become more efficient and internationally competitive and supporting their multinationalization.

Governance improvements help reduce transaction costs and improve efficiency, which allow for more swift and transparent resolutions of contractual conflicts, through two mechanisms: the reduction and improvement of rules and regulations that lower the costs of doing business in the country, and the better implementation of those rules and regulations. First, governance improvements involve not only less regulation, but also better regulation. As part of the transformation of the role of the government, there is a focus on creating regulation that helps firms conduct their operations more efficiently: reducing regulations that constrain market operations, developing new regulations that support market relationships, and providing a clear and predictable framework for economic interactions (World Bank, 1995). As a result, firms face not only lower transaction costs in terms of the rules they have to follow, but also lower uncertainty in the application of such rules, further lowering transaction costs and helping them achieve efficiency.

Second, governance improvements also entail a better implementation of regulations, helping realize the reduction in transaction costs. Improvements in governance involve reforming the monitoring and enforcement mechanisms required to ensure the proper implementation of the rule of law. This reduces transaction costs because contractual relationships no longer need to introduce additional monitoring mechanisms or be internalized by firms; it is now possible to solve conflicts using the court system. Additionally, governance improvements also reduce the discretion of government officials,

limiting opportunities for corruption. This control of corruption further reduces transaction costs as both the uncertainty and cost of bribery are constrained (Shleifer and Vishny, 1993), helping firms become more efficient and competitive.

In sum, we argue that structural reform accelerates the multinationalization of firms. Structural reform reduces transaction costs and barriers to international expansion. This enables firms to achieve levels of efficiency and competitiveness needed to become MNEs, and in many cases are also induced to become MNEs. Formally, we hypothesize that:

*Hypothesis 1: Structural reform has a positive impact on the multinationalization of firms.*

***Structural Reform and the Multinationalization of Developing-Country Firms.*** We also argue that structural reform has a larger influence on the multinationalization of developing-country firms. This argument runs against the views of detractors of globalization, who argue that structural reform is designed to benefit firms from developed countries at the expense of developing countries (e.g., Mander and Goldsmith, 1996).

We propose that in developing countries, structural reform reduces some of the location disadvantages that further limit the competitive advantage of firms, that is, it reduces what managers call “developing-country costs”. As a result, structural reform enables developing-country firms to accelerate their multinationalization faster than their developed-country counterparts.

Although a commonly-held view of developing countries is that they have location advantages in the form of lower-cost factors of production, especially labor, these countries suffer from location disadvantages in the form of underdeveloped institutions. These location disadvantages take the form of institutional voids (Khanna and Palepu, 1997, 2000; Khanna, Palepu, and Sinha, 2005) that result in a lack or underdevelopment of intermediate markets for inputs and products, lack of sophisticated factors of production, and lack of institutions that support contracting. The outcomes of these voids are lower levels of competitiveness of

developing-country firms. The companies have to internalize the development of inputs that are otherwise provided by the government or suppliers in developed countries, even having to invest in the development of infrastructure (Fisman and Khanna, 2004; Ghemawat and Khanna, 1998). As a consequence of the lack of development of intermediate markets, firms become highly diversified (Khanna and Palepu, 1997, 2000).

Structural reform solves some of these location disadvantages, enabling developing-country firms to greatly increase their international competitiveness and become MNEs. First, economic liberalization results in the growth of intermediate markets for inputs, reducing the need for firms to invest in the development of these inputs. The deregulation of input industries increases the availability of more and better inputs as new entrants are allowed to operate in the country. These new entrants put competitive pressures on incumbent firms, resulting in international competitive suppliers of supporting activities (Porter, 1990). As a result, the firm in a developing country no longer has to internalize the creation of inputs and instead can rely on external providers. Moreover, the opening of input industries to imports and foreign firms ensures that the quality of such inputs meets international levels of competitiveness, further helping the firm outsource inputs and improving its efficiency (Stigler, 1951; Toulan, 2002; Young, Huang, and McDermott, 1996).

Second, governance improvements further support the development of intermediate markets, contributing to the multinationalization of developing-country firms. The establishment of the rule of law and the protection of property rights, which already exist in developed countries, helps developing-country firms further improve their competitiveness by saving on additional monitoring and enforcement costs in contracts (Cuervo-Cazurra and Dau, 2009). Additionally, these help with the development of intermediary markets, particularly financial markets relying on institutions that support contracts to generate sophisticated instruments and markets (Booth *et al.*, 2001).

In sum, the development of intermediate markets that accompanies structural reform provides developing-country firms with an additional support to their international competitiveness by reducing some of the location disadvantages of being in a developing country. Developing-country firms no longer have to internalize inexistent or poorly developed intermediate markets, becoming more efficient as they reduce these costs. They can then fully benefit from the location advantages that their countries provide in the form of lower-cost factors of production, enabling them to become MNEs in an accelerated manner. Developed-country firms, in contrast, do not enjoy this additional boost in competitiveness because their countries already have well developed intermediate markets. Formally, we hypothesize that:

*Hypothesis 2. Structural reform has a larger positive impact on the multinationalization of firms from developing countries than on the multinationalization of firms from developed countries.*

## **RESEARCH DESIGN**

### **Sample and Data Sources**

We test these hypotheses using a database of 138 countries from 1995-2007; we include all countries for which we have data for all the variables. Data on OFDI come from the United Nations Conference on Trade and development (UNCTAD) website (UNCTAD, 2008). Data on structural reform come from the Heritage Foundation/Wall Street Journal Index of Economic Freedom (Holmes, Feulner, and O'Grady, 2008), which is available annually from 1994 to 2006. Data for the control variables come from the World Bank's World Development Indicators Online database (World Bank, 2008). Countries are classified as developed or developing according to the UNCTAD (1995) because the database starts in 1995.

### **Variables and Measures**



Table 1 describes the variables and measures. The dependent variable is multinationalization, which we measure with the natural logarithm of outward foreign direct investment flows, as is commonly done in the literature (e.g., Barnard, 2008; Buckley *et al.*, 2007).

\*\*\* Insert Table 1 about here \*\*\*

The independent variable of interest is structural reform. We measure it with the Index of Economic Freedom (Holmes et al., 2008). This measure covers the period 1994-2007<sup>2</sup>. This index captures the shift that countries have displayed from high state intervention and domestic market protectionism to policies geared toward efficiency, better market functioning, and a reduction in state influence on economic activities. As such, it captures both the economic liberalization of these countries and the improvements in governance. The index ranges from 0 to 100, with higher values representing higher levels of structural reform. In addition, as part of our robustness tests, we use each of the reforms that make up the structural reform measure, in order to have a better understanding of which particular reforms affect OFDI.

To test the argument that structural reform has a larger positive impact for firms from developing countries, we classify countries into developing and developed following the UNCTAD (1995). We then multiply this indicator by the measure of structural reform. This interaction measures the moderating effect that being a developing country has on the relationship between structural reform and OFDI.

We control for other factors that affect OFDI. First, we control for economic development to take into account the predictions of the investment development cycle model (Dunning, 1981, 1986; Narula and Dunning, 1996). We measure economic development with an indicator of gross national income (GNI) per capita. Second, we control for the growth of

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<sup>2</sup> Although the Heritage Foundation's measures (Holmes et al., 2008) are designated as spanning the period 1995-2008, in fact each year is a measure for the previous calendar year. For example, the measures designated as being for 1995 are actually measures for 1994.

a country because this has an impact on OFDI, as discussed by the investment development cycle model. We measure growth with an indicator of gross domestic product (GDP) annual change. Third, we control for the size of a country, as larger nations tend to have more resources and capabilities to generate OFDI. We measure this with an indicator of the population of a country. Fourth, we control for any specific events (e.g., economic crises, drastic changes in political regimes) that occurred in a given year that could affect the results. We use an indicator of the year of analysis. Fifth, we control for other unobserved country-specific factors with an indicator of the country.

We follow the guidelines for testing models in the presence of categorical moderators presented in Frazier, Tix, and Barron (2004)<sup>3</sup>. In order to reduce potential multicollinearity problems inherent in models with interaction terms and to increase interpretability, we center and standardize the continuous variables (Frazier *et al.*, 2004; Hofmann and Gavin, 1998). Furthermore, as it is commonly done in the literature, we lag our independent variables by one year in order to ascertain the impact of structural reform and the other variables in a given year on OFDI in the following year.

### **Method of Analysis**

We use a cross-sectional time-series random effects generalized least squares (GLS) model with correction for panel-specific autocorrelation AR(1) and heteroskedasticity. This model addresses several issues that may be inherent in the error structure of panel data. The specification of the general model we use is the following:

$$\begin{aligned} \ln OFDI_{kt} = & \beta_0 + \beta_1 * Structural\ reform_{kt-1} + \beta_2 * Developing\ country_{kt-1} + \beta_3 * Structural \\ & reform_{kt-1} * Developing\ country_{kt-1} + \beta_4 * GDP\ per\ capita_{kt-1} + \beta_5 * GDP\ growth_{kt-1} + \beta_6 * \\ & Population_{kt-1} + \beta_i * Year_{t-1} + \beta_j * Country_k + \varepsilon \end{aligned}$$

<sup>3</sup> Frazier, Tix, and Barron (2004) caution that, in the presence of unequal error variance across groups (in this case across countries) the results of multivariate analyses may be unreliable. We therefore test for unequal error variance across groups. Bartlett's test indicates homogeneous error variance, James' test and Alexander's test indicate the presence of a moderating effect, suggesting the data is suitable for multivariate analysis with a categorical moderator.

To test Hypothesis 1, we do not include the interaction term because we are interested in the general impact of structural reform on OFDI for all countries in the sample. Without the interaction term,  $\beta_1$  captures the impact of structural reform on OFDI. Hypothesis 1 is supported if  $\beta_1$  is positive and statistically significant.

To test Hypothesis 2, we use the full model and focus on  $\beta_1$  and  $\beta_3$ . The results of multivariate studies with categorical moderator variables should be interpreted differently than other models because the results are conditional (Frazier et al., 2004: 121). First, with the interaction terms,  $\beta_1$  captures the influence of structural reform on OFDI for developed countries, which serves as the baseline category. If  $\beta_1$  is positive (negative) and statistically significant, that indicates that structural reform tends to increase (decrease) OFDI for developed countries. Second,  $\beta_3$  captures the impact of structural reform on OFDI for developing countries relative to the impact on developed countries. That is,  $\beta_3$  indicates how much more or less of an impact structural reform has on OFDI from developing countries than on OFDI from developed countries. If  $\beta_3$  is positive (negative) and statistically significant, that suggests that the impact of structural reform on OFDI is larger (smaller) for developing countries than for developed countries. In order to ascertain the impact of structural reform on developing countries, we add  $\beta_1$  and  $\beta_3$ . This sum is also referred to as the marginal effect. If the sum is positive (negative) and statistically significant, that means that the impact of structural reform on OFDI is positive (negative) for developing countries<sup>4</sup>. Hypothesis 2 is expressed in relative terms, that is, its support depends on the relative size of the coefficients. Therefore, Hypothesis 2 is supported when, at statistically significant levels,  $\beta_1$  is positive,  $\beta_3$  is positive, and their sum is positive.

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<sup>4</sup> Another way of testing what the impact of structural reform is on developing-country OFDI is simply to change the baseline category from developed country to developing country. Note that in that case, the coefficient of structural reform ( $\beta_1$ ) would represent the impact of structural reform on developing-country OFDI and the interaction term ( $\beta_3$ ) would represent the incremental impact of structural reform on developed-country OFDI, relative to the baseline category. In other words,  $\beta_1$  in that case would be the same as the sum we calculate above.

Furthermore, as a robustness test, we test the impact of each individual reform that makes up the structural reform measure on OFDI. There are nine individual reforms (sub-indices): foreign investment reform, trade reform, business reform, monetary reform, financial policy reform, fiscal reform, government size, property rights protection, and corruption reform. We describe these in Table 1. We use these names for the variables, as opposed to the names Holmes et al. (2008) use, in order to make them more intuitive. Each measure ranges from 0 to 100, with larger numbers representing a greater degree of reform implementation. Two of the reforms have a different direction: Larger values for government size represent smaller government and larger values for corruption reform indicate less corruption. As we noted before, we standardized each of these variables. Moreover, as many of these variables are highly correlated (see Table 2), we do not include all of the reforms simultaneously in a model. Instead, we run a separate model for each of the reforms.

## **RESULTS**

Table 2 provides the summary statistics and correlation matrix. We tested for multicollinearity using variance inflation factors (VIF) and obtained values below 4 for all of the variables and a mean of 1.47, which is well below the commonly used cutoff values of 5 and 10. This suggests that multicollinearity is not an important concern in these models.

\*\*\* Insert Table 2 about here \*\*\*

Table 3 presents the results of the analyses of the influence of structural reform on OFDI. Models 1 through 4 are incremental models in which the first only includes the control variables, the second adds structural reform, the third adds whether or not a country is developing, and the fourth is the full model with the interaction term. We present partial models to show that the coefficients are relatively stable in sign and significance across models, and as a further illustration that the results are not caused by multicollinearity. Model 2, the model without the interaction term, allows us to test the impact of structural reform on

OFDI for all countries in the sample, regardless of whether they are categorized as developed or developing. Model 4, the full model, allows us to test the differential impact of structural reform on OFDI for developed and developing countries.

\*\*\* Insert Table 3 about here \*\*\*

The result of Model 2, which does not include the interaction term, supports Hypothesis 1. The coefficient of structural reform is positive and statistically significant. This suggests that countries with higher levels of structural reform tend to have more MNEs.

The result of Model 4, which includes the interaction term, supports Hypothesis 2. The coefficient of structural reform is positive and statistically significant and the coefficient of the interaction between structural reform and the indicator of developing country is positive and statistically significant. Furthermore, the sum between the coefficients of structural reform and the interaction term is positive ( $0.42 + 0.95 = 1.38$ ) and statistically significant (the standard error is 0.08). This suggests that the impact of structural reform on OFDI is positive for both categories of countries, but the impact is greater for developing countries. In other words, structural reform has a larger positive impact on the growth of multinationals from developing countries in comparison to those from developed countries.

Some of the controls are statistically significant. First, the level of development of the country is positive and statistically significant in all models. This supports the investment development cycle model (Dunning, 1981), which argues that as countries develop their firms become multinationals. Second, the coefficient of population is positive and statistically significant in some models. This supports the idea that larger countries provide more scope for firms to specialize and improve their competitiveness and become multinationals. Third, the coefficient of developing country is negative and statistically significant. This is in line with other studies that have found that the largest foreign investors come from developed countries (e.g., Cuervo-Cazurra and Genc, 2008).

Table 4 presents the results for the individual reforms (sub-indices) that make up the structural reform measure. The results suggest that all reforms but trade reform and monetary reform have a positive impact on OFDI from developing countries. Moreover, the results also indicate that monetary reform, financial policy reform, property rights reform and corruption reform have a positive impact on OFDI from developed countries, while fiscal reform and government size reform have a negative impact on OFDI from developed countries. These are interesting results require more careful analysis in future research because in each of these analyses we are not controlling for the influences of other reforms.

\*\*\* Insert Table 4 about here \*\*\*

In sum, we find that structural reform accelerates the multinationalization of firms beyond the general impact of a country's level of development. However, we also find that structural reform benefits the multinationalization of developing-country firms more than developed-country firms. Furthermore, we find that most of the individual reforms that compose structural reform have a greater positive impact on the multinationalization of developing-country firms.

These findings are important and novel. They complement the argument of the investment development cycle model by supporting the idea that structural reform accelerates the multinationalization of firms beyond the general impact of the level of the country's development. They also provide support for the notion that structural reform further accelerates the multinationalization of developing-country firms in comparison to developed-country firms. The reduction in the location disadvantages that accompany structural reform in developing countries provides an additional boost to the competitiveness of local firms that further accelerates their multinationalization.

### **Alternative Explanations and Robustness Tests**

We run several additional analyses, not presented here for the sake of brevity, to verify that the findings are not capturing other explanations and to corroborate the robustness of the results. We find that the alternative explanations are not supported. Each of these analyses shows a very similar pattern of results and provides comparable support for the hypotheses.

A first alternative explanation is that the categorization of countries into developed and developing that we use could be the reason for the results. However, this idea is not supported based on the additional analyses. First, we use the IMF (2008) categorization of countries into developed and developing, instead of the one by the UNCTAD, which we used in the main analyses. Second, we remove transition economies from our sample, because they may have a different institutional dynamic in response to structural reform. Third, we use the degree of development of a country rather than a bivariate indicator. More specifically, we use either GDP per capita or GNI per capita as our measure of development and interact this with structural reform to see whether the impact of structural reform on OFDI is greater for developing countries. (As this is quite a different approach to testing the arguments, we present the results in Table 5). In each of these three cases, we find that structural reform is beneficial for countries in general, but tends to be more beneficial for developing countries.

\*\*\* Insert Table 5 about here \*\*\*

A second alternative explanation is that the measures used account for the results. However, this idea is not supported because we run additional analyses using different measures and find similar results. First, we run analyses using an independently generated alternative measure of structural reform: the Index of Economic Freedom measure from the Fraser Institute (Gwartney, Lawson, and Easterly, 2006), calculated every five years from 1970 to 2000 and annually thereafter. Second, we run the analyses using outward FDI stock as our dependent variable instead of outward FDI flows. Third, we control for GDP per capita

instead of GNI per capita. Fourth we control for GDP instead of population as a measure of the size of a country. Fifth, we use year as a continuous variable instead of as a categorical variable. None of these alternative models change the conclusions.

A third alternative explanation is that the statistical methods used account for the results. We use a two-level random coefficient growth model (sometimes referred to as a hierarchical linear growth model). This model accounts for both the time-series and multilevel nature of the data. The data are multilevel as observations for each year are nested within country. Furthermore, this model allows for random effects of the coefficients and the intercept and an unstructured covariance structure. Once again, the conclusions do not change by using this alternative model; the results are similar in terms of signs and significance to the ones reported.

A fourth alternative explanation is that the base category we use in the models, developing country, may have affected the results. We therefore rerun the analyses with developed country as the base category and obtain equivalent results.

## **CONCLUSIONS**

In this paper we analyzed the impact of structural reform on the multinationalization of developing-country firms. The benefits of structural reform on developing country firms are under debate, especially since the empirical literature offers mixed conclusions. We argued that structural reform accelerates the multinationalization of firms worldwide because it reform helps and induces firms to improve their competitiveness to international levels. However, we also argued that developing-country firms benefit more from structural reform because it reduces some of the location disadvantages that limit their international competitiveness, location disadvantages that developed-country firms do not suffer.

This analysis of structural reform is important and novel because it highlights how institutions in a country influence the behavior of firms. As such, the paper contributes to



several literatures. First, it contributes to the literature on institutions (e.g., North, 1981, 1990). It explains how changes in institutions in a host country – structural reform in our case – influence the behavior of firms in developing and developed countries. Thus, it highlights the benefits of integrating the analysis of institutions with strategic management thinking to enrich the understanding of the behavior of firms in their environment (e.g., Henisz, 2000; Peng, 2002).

Second, the paper contributes to the analysis of the multinationalization of firms by complementing previous explanations based on the investment development cycle model (Dunning, 1981, 1986; Narula and Dunning, 1996). The results provide additional empirical support to the notion that as countries develop, their firms tend to become multinationals. Additionally, the paper indicates that this multinationalization is accelerated by the degree of structural reform implemented in a given country, and that this is especially the case in developing countries. Hence, countries with similar levels of development but different degrees of structural reform will have different degrees of multinationalization of their firms.

Third, the paper contributes to the study of structural reform by highlighting which countries benefit from it more. The findings are important because they contradict the critics of structural reform in particular and globalization in general (Mander and Goldsmith, 1996), who argue that developed-country firms are the only beneficiaries of structural reform, often to the detriment of their developing-country counterparts. We find that both developing- and developed-country firms increase their multinationalization as a result of structural reform, and that the former benefit more from structural reform than the latter.

This paper has important implications for politicians and managers in developing countries. First, politicians may consider structural reform as a means of strengthening not only the economy but also domestic firms because it accelerates their multinationalization. Moreover, politicians can use the findings to defend structural reform and counter criticism.

Second, the study allows managers to understand better how beneficial structural reform may be for their companies and how to respond to the level of reform in a given country. Managers may therefore choose to lobby their national governments for additional structural reform, because it helps their companies improve and accelerate their multinationalization.

The paper has some limitations that can be addressed in future research. First, we studied OFDI as the indicator of the multinationalization of firms. Future research can analyze more detailed firm-level data to assess not only the increase in OFDI, but also the method of OFDI (greenfields, acquisitions, alliances) and how these methods vary with the degree of structural reform in the host country. Second, we discussed the mechanisms that explain how structural reform supports the multinationalization of firms, but we did not test these mechanisms directly in the analyses. Future studies can take these ideas and measure and test how the mechanisms influence the multinationalization of firms.

In sum, the paper highlights how structural reform accelerates the multinationalization of developing-country firms. As such, the study explains and provides additional empirical evidence on the benefits of globalization, while at the same time indicating that countries benefit differently. Future theoretical discussions and policy debates need to move away from discussing whether globalization is good, and discuss instead who benefits from it.

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**Table 1**  
Variables, measures, and sources of data

Variable	Measure	Value	Source
1. Outward FDI (ln)	Natural log of the total outward foreign direct investment flows from a country in a given year	Continuous	Computed using data from UNCTAD (2008)
2. Developing country	Dummy variable indicating whether a country is developed (0) or developing (1)	0 or 1	Based on IMF (2008) classification
3. Structural reform	Composite (mean) of the nine reforms below <sup>a</sup> , indicating the total level of structural reform undertaken in a country	0 to 100	Obtained from the Holmes et al. (2008) index of economic freedom
4. Foreign investment reform	Degree of ease of inward and outward flow of capital	0 to 100	Obtained from the Holmes et al. (2008) measure of investment freedom
5. Trade reform	Degree of tariff & non-tariff barriers for imports and exports	0 to 100	Obtained from the Holmes et al. (2008) measure of trade freedom
6. Business reform	Ease of creating and running a company	0 to 100	Obtained from the Holmes et al. (2008) measure of business freedom
7. Monetary reform	Degree of price stability and price controls	0 to 100	Obtained from the Holmes et al. (2008) measure of monetary freedom
8. Financial policy reform	Banking security and independence	0 to 100	Obtained from the Holmes et al. (2008) measure of financial freedom
9. Fiscal reform	Measure of degree of taxation	0 to 100	Obtained from the Holmes et al. (2008) measure of fiscal freedom
10. Government size	Captures the total government expenditures	0 to 100	Obtained from the Holmes et al. (2008) measure of government size
11. Property rights protection	Strength of regulations protecting property rights	0 to 100	Obtained from the Holmes et al. (2008) property rights measure
12. Corruption reform	Degree of corruption	0 to 100	Obtained from the Holmes et al. (2008) measure of freedom from corruption
13. GNI per capita	Gross national income in thousands of US\$ divided by total population	Positive	Computed using data from World Development Indicators, World Bank (2008)
14. GDP growth	Percentage increase in gross domestic product from one year to the next	Continuous	Computed using data from World Development Indicators, World Bank (2008)
15. Population	Total population of a country	Positive	Computed using data from World Development Indicators, World Bank (2008)
16. Year	Indicator of the year of analysis	Categorical, 1995-2007	-

<sup>a</sup> The Holmes et al. (2008) index of economic freedom is composed of 9 subindices until 2004 and 10 subindices after that. For the sake of consistency, we remove the tenth subindex from the calculation of the structural reform aggregate measure. The tenth subindex, which is a measure of labor reform, unfortunately does not have sufficient observations in common with the other variables we use in the analyses. Therefore, we are unable to analyze the impact of this particular reform on outward FDI.

**Table 2**  
Descriptive statistics and correlation matrix

<b>Variables</b>	<b>Mean</b>	<b>s.d.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
<b>1.</b> Outward FDI (ln)	4.48	3.99														
<b>2.</b> Developing country	0.78	0.41	-0.57													
<b>3.</b> Structural reform	0.00	1.00	0.50	-0.40												
<b>4.</b> Foreign investment reform	0.00	1.00	0.32	-0.37	0.73											
<b>5.</b> Trade reform	0.00	1.00	0.45	-0.40	0.59	0.38										
<b>6.</b> Business reform	0.00	1.00	0.47	-0.42	0.77	0.59	0.38									
<b>7.</b> Monetary reform	0.00	1.00	0.33	-0.27	0.67	0.38	0.32	0.39								
<b>8.</b> Financial policy reform	0.00	1.00	0.36	-0.37	0.79	0.68	0.44	0.61	0.45							
<b>9.</b> Fiscal reform	0.00	1.00	-0.13	0.38	0.34	0.04	0.15	0.06	0.20	0.12						
<b>10.</b> Government size	0.00	1.00	-0.30	0.48	0.05	-0.15	-0.17	-0.19	0.04	-0.13	0.50					
<b>11.</b> Property rights protection	0.00	1.00	0.56	-0.58	0.79	0.64	0.42	0.77	0.41	0.64	-0.05	-0.32				
<b>12.</b> Corruption reform	0.00	1.00	0.60	-0.62	0.75	0.53	0.46	0.71	0.45	0.59	-0.07	-0.41	0.82			
<b>13.</b> GNI per capita	0.00	1.00	0.41	-0.34	0.19	0.08	0.13	0.18	0.13	0.12	-0.09	-0.08	0.22	0.22		
<b>14.</b> GDP growth	0.00	1.00	-0.04	0.07	-0.06	-0.12	-0.02	-0.10	0.01	-0.11	0.16	0.10	-0.14	-0.12	-0.02	
<b>15.</b> Population	0.00	1.00	0.19	0.00	-0.06	-0.07	-0.17	-0.08	0.01	-0.10	0.01	0.12	-0.05	-0.06	0.48	0.06

n = 1160. Correlations greater than or equal to  $|0.04|$  are significant at the 0.05 level (2-tailed).

Correlations for the year categorical variables omitted in the interest of brevity.

The continuous independent variables are centered and standardized and thus show a mean of 0 and standard deviation of 1.



**Table 3**

Results of the random-effects GLS analysis with correction for heteroskedasticity and panel-specific autocorrelation of the impact of structural reform on OFDI flows.

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Intercept	3.72 *** (0.13)	3.73 *** (0.13)	7.11 *** (0.16)	7.83 *** (0.20)
GNI per capita	1.68 *** (0.16)	1.70 *** (0.21)	0.56 ** (0.19)	0.69 *** (0.17)
GDP growth	-0.08 † (0.05)	-0.04 (0.04)	-0.02 (0.04)	-0.01 (0.04)
Population	-0.04 (0.07)	0.12 (0.08)	0.47 *** (0.09)	0.45 *** (0.08)
Year control <sup>a</sup>	Included	Included	Included	Included
Structural reform <sup>b</sup>	---	1.84 *** (0.07)	1.24 *** (0.07)	0.42 ** (0.16)
Developing country <sup>c</sup>	---	---	-4.49 *** (0.16)	-5.20 *** (0.21)
Structural reform x Developing country	---	---	---	0.95 *** (0.17)
Observations (n)	1160	1160	1160	1160
Countries (groups)	138	138	138	138
Wald $\chi^2$	304.83 ***	1083.27 ***	2403.50 ***	3595.84 ***

<sup>a</sup>Indicators for each of the 13 years are included in the model but not reported for the sake of brevity.

<sup>b</sup>The base category is developed country, so the results should be interpreted relative to that category.

<sup>c</sup>Indicator for whether a country is developed (0) or developing (1), based on the IMF classification.

Standard errors appear in parentheses. Significance levels (2-tailed): †p<0.10, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

**Table 4**

Results of the random-effects GLS analysis with correction for heteroskedasticity and panel-specific autocorrelation of the impact of the components of structural reform on OFDI flows.

Variables	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13
Intercept	9.42 *** (0.18)	8.74 *** (0.29)	9.47 *** (0.16)	3.48 *** (0.78)	9.19 *** (0.19)	8.90 *** (0.19)	8.52 *** (0.19)	8.34 *** (0.30)	8.42 *** (0.23)
GNI per capita	0.60 *** (0.13)	0.71 *** (0.12)	0.63 *** (0.13)	0.69 *** (0.13)	0.61 *** (0.11)	0.51 *** (0.08)	0.59 *** (0.08)	0.49 *** (0.10)	0.56 *** (0.12)
GDP growth	-0.02 (0.04)	-0.06 (0.04)	-0.01 (0.04)	-0.03 (0.04)	0.00 (0.04)	-0.06 (0.04)	-0.04 (0.04)	0.00 (0.04)	-0.02 (0.05)
Population	0.35 *** (0.07)	0.51 *** (0.05)	0.43 *** (0.08)	0.32 *** (0.08)	0.41 *** (0.07)	0.35 *** (0.06)	0.32 *** (0.07)	0.42 *** (0.08)	0.47 *** (0.09)
Year control <sup>a</sup>	Included	Included	Included	Included	Included	Included	Included	Included	Included
Developing country <sup>b,c</sup>	-5.57 *** (0.17)	-5.44 *** (0.27)	-5.64 *** (0.15)	-1.81 * (0.83)	-5.37 *** (0.19)	-5.16 *** (0.20)	-4.50 *** (0.19)	-4.12 *** (0.30)	-4.33 *** (0.23)
Foreign investment reform	0.13 (0.12)								
Foreign inv. ref. x Developing country	0.29 * (0.13)								
Trade reform		0.30 (0.28)							
Trade reform x Developing country		0.34 (0.29)							
Business reform			0.04 (0.10)						
Business reform x Developing country			1.19 *** (0.12)						
Monetary reform				0.06 *** (0.01)					
Monetary reform x Developing country				-0.04 *** (0.01)					
Financial policy reform					0.26 ** (0.09)				
Financial pol. ref. x Developing country					0.41 *** (0.11)				
Fiscal reform						-0.57 *** (0.12)			
Fiscal reform x Developing country						1.16 *** (0.14)			
Government size							-0.65 *** (0.09)		
Govt. size x Developing country							0.57 *** (0.12)		
Property rights protection								0.89 *** (0.18)	
Prop. rights x Developing country								0.37 <sup>†</sup> (0.20)	
Corruption reform									0.60 *** (0.12)
Corruption reform x Developing country									0.77 *** (0.14)
Observations (n)	1160	1160	1160	1160	1160	1160	1160	1160	1160
Countries (groups)	138	138	138	138	138	138	138	138	138
Wald $\chi^2$	3360.6 ***	6459.8 ***	4695.1 ***	3089.8 ***	3485.1 ***	3437.8 ***	3791.7 ***	3761.8 ***	4373.7 ***

<sup>a</sup>Indicators for each of the 13 years are included in the models but not reported for the sake of brevity.

<sup>b</sup>The base category is developed country, so the results should be interpreted relative to that category.

<sup>c</sup>Indicator for whether a country is developed (0) or developing (1), based on the IMF classification.

Standard errors appear in parentheses. Significance levels (2-tailed): <sup>†</sup>p<0.10, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

**Table 5**

Results of the random-effects GLS analysis with correction for heteroskedasticity and panel-specific autocorrelation of the impact of structural reform on OFDI flows.

<b>Variables</b>	<b>Model 14</b>
Intercept	4.04 *** (0.12)
GDP growth	-0.04 (0.04)
Population	-0.42 *** (0.10)
Year control <sup>a</sup>	Included
Structural reform	1.68 *** (0.06)
GNI per capita	3.76 *** (0.19)
Structural reform x GNI per capita	-1.80 *** (0.12)
Observations (n)	1160
Countries (groups)	138
Wald $\chi^2$	2338.67 ***

<sup>a</sup>Indicators for each of the 13 years are included in the model but not reported for the sake of brevity.

Standard errors appear in parentheses. Significance levels (2-

tailed): †p<0.10, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.