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# DEREGULATION AND FOREIGN DIRECT INVESTMENT:

# LESSONS FOR HEAVILY REGULATED COUNTRIES


**BY**

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## Abstract

Countries with high levels of growth-fostering business deregulation for domestic small and medium scale enterprises (SMEs) appear to attract more FDI inflows than countries with low levels of business deregulation. This may be because SMEs in such deregulated countries attract ample cross-border mergers and acquisitions (M&As), which are a major conduit of FDI inflows. This study therefore investigates the relationship between FDI inflow and business deregulation.

The study employs a triangulation of quantitative research methodologies and a panel data of 154 countries to analyze the relationship between FDI and deregulation.

Results from the study generally show that there are statistically significant and inversely proportional relationships between inbound FDI and the deregulation of: (i) starting a business, (ii) paying taxes, and (iii) export trading, by a country's domestic SMEs. The study also documents positive correlations between cross-border M&As and inbound FDI. Thus, countries are likely to attract more FDI inflows, especially through cross-border M&As, as they deregulate the: starting of businesses, payment of taxes and exportation of products for their domestic SMEs. Therefore, on policy front, it is recommended that in order to enhance FDI inflows, countries ought to deregulate these areas of infringement to efficient running of SMEs; this finding provides a complementary and/or substitute policy to the popular outward-looking incentive programs for attracting FDIs.



**Key Words:** Deregulation, Foreign Direct Investment, Mergers and Acquisitions, and Small and Medium Scale Enterprises

## Declaration

I declare that this research report is my own unaided work. It is submitted for the degree of **Doctor of Philosophy** at the University of the Witwatersrand, Johannesburg, South Africa. It has not been submitted before for any other degree or examination in any other university.

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## List of abbreviations and acronyms

| | |
|---|---|
| FDI | Foreign Direct Investment |
| FEM | Fixed Effects Model |
| FGLS | Feasible Generalized Least Squares |
| FTA | Free Trade Area/s |
| GNI | Gross National Income |
| HIC | High-income Country |
| LDC | Least Developed Country |
| LIC | Low-income Country |
| M&A | Mergers and Acquisitions |
| MIC | Middle- income Country |
| OECD | Organization for Economic Co-operation and Development |
| REM | Random Effects Model |
| SME | Small and Medium-sized Enterprise |
| SPSS | Statistical Package for Social Scientists |
| TNC | Transnational Corporation |
| UNCTAD | United Nations Conference on Trade and Development |
| UNIDO | United Nations Industrial Development Organization |
| USA | United States of America |

# CHAPTER ONE

# INTRODUCTION TO THE STUDY

This study investigates the relationship between inbound foreign direct investment (FDI) and business regulations that affect domestic small and medium-sized enterprises (SMEs) of a country.

This chapter explains the background to the study, the research problem, the objectives of the study, the study's significance and contribution to existing knowledge, the scope of the study and the study's methodology, and ends with the structure of the study.

## 1.1 Background to the study

Virtually all countries are keen to attract FDI as a means to generate new jobs, acquire new technologies and, more generally, promote growth and employment (OECD, 2008). The political and international focus on the importance of FDI for the developing countries has resulted in many developing countries giving incentives to foreign investors that are often not provided to domestic investors. Many business-related policy decisions of governments of developing countries have become influenced by a fear of scaring off foreign investors. For instance, governments make sure that exchange rates are not too variable in order not to harm foreign investors, often with negative consequences for the national economy and domestic businesses (OECD, 2008).

In this regard, the wide range and sheer number of investment promotion instruments advocated and/or employed by the Organization for Economic Co-operation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), United Nations Industrial Development Organization (UNIDO) and the World

Bank raise questions about their effectiveness. Most of the measures recommended for attracting FDI give foreign investors protection (in a similar way as takes place through bilateral investment treaties and free-trade areas (FTAs), with many African governments focusing on removing perceived barriers to foreign investors while extending little care and facilitation to domestic investors (SOMO, 2008).

The conventional measures for attracting FDI are generally more focused on facilitating transnational corporations (TNCs) to pursue green-field FDI projects rather than cross-border mergers and acquisitions (M&As), yet most FDI flows more through M&As than green-field projects (UNCTAD, 2009). For example, Ngowi (2001), UNCTAD (2008) and the US Department of State (2005) have observed that low-income countries (LICs) have continuously received a small share of global FDI inflows over time despite the full implementation of policy amendments recommended by institutions such as UNCTAD. This implies that the existing conventional strategies for attracting FDI to especially the least-developed countries (LDCs) are not effective enough and thus need to be improved.

Existing literature indicates that countries that rank high on the Ease of Doing Business indices also experience high FDI inflows. Thus, an investigation into the relationship between business deregulation for domestic businesses and FDI inflows is justified, as the Ease of Doing Business indices that determine such FDI inflows are based on are based on the relative regulation levels of various countries' business environments. Entities, such as UNCTAD, have recognised the potential of business deregulation to attract FDI inflows, but no known scientific study of the relationship between business deregulation and FDI has been conducted. For instance, in its *Investment Policy Review* of 1999, UNCTAD noted that Uganda's regulatory framework is not sufficiently developed to provide a clear structure for

FDI. UNCTAD (1999) also observed that the small size of the economy means that Uganda must work exceptionally hard on its regulatory framework to attract substantial investment from major international investors. However, these observations and recommendations are not backed by any known empirical analysis and findings. As much as many countries have liberalised their economies as one of the strategies for attracting FDI, many countries, especially the LICs and middle-income countries (MICs), still have heavy business regulations that inhibit the development of their domestic SMEs (World Bank, 2007). The domestic SMEs of heavily regulated countries are generally so stunted that they do not facilitate cross-border M&As, which are the main conduits for FDI inflows (UNCTAD, 2008). This makes it crucial to understand and contribute to knowledge of the major policy effect of business deregulation for especially domestic SMEs on inbound FDI.

Thus, it is against this background that this study aims at filling this gap by investigating the relationship between inbound FDI and deregulation for domestic businesses, particularly the indigenous Small and Medium scale Enterprises.

## 1.2 Statement of the research problem

Poor deregulation of domestic businesses apparently inhibits inbound FDI because it stunts the growth of most domestic businesses and thus makes these businesses unattractive for cross-border M&As, yet such M&As form a major channel for FDI inflows (UNCTAD, 2008). Heavily -regulated countries, most of which are LICs and MICs (World Bank, 2010); generally attract less FDI inflows than their counterparts/HICs (UNCTAD, 2010). The conventional measures for attracting FDI in most LICs and several MICs generally facilitate foreign investors, while the domestic businesses remain heavily regulated (SOMO, 2008). Whereas most countries have liberalised and stabilised their economies and made several other policy reforms as some of the strategies for attracting FDI, many countries, especially

the LICs and MICs, still have intensely regulated business environs that inhibit the prosperity of their domestic SMEs (World Bank, 2007). Consequently, most domestic SMEs of heavily regulated countries are so underdeveloped that they hinder ample cross-border M&As, which are the main conduits for FDI inflows (UNCTAD, 2008). Most of the LICs and MICs seek foreign investors that target green-field FDI projects rather than the cross-border M&A type of FDI, yet FDI inflow through cross-border M&As has increasingly been more than that through green-field FDI projects (UNCTAD, 2009). Such biased FDI-pull government policies compromise the capacity of domestic businesses to contribute towards attraction of FDI through cross-border M&As and taxes that can be used to establish infrastructure necessary for increased investments. Thus, the cross-border M&As and their subsequent FDI inflows, registered in the heavily regulated LICs and MICs, have for long been a very small proportion of the global share (UNCTAD, 2010). It appears that deregulation that facilitates domestic SMEs has not been effectively utilised as a strategy to attract FDI, especially through cross-border M&As by most of the LICs and MICs. These observations make it imperative to empirically investigate the relationship between business deregulation that facilitates the development of domestic SMEs and inbound FDI.

### 1.3 Objectives of the study and research questions

The main objective of the study is to investigate the relationship between inbound FDI and the deregulation of domestic SMEs of any given country. The key research question derived from the main objective of the study is thus: What is the relationship between inbound FDI and the deregulation of domestic SMEs of any given country?

The specific objectives that emanate from the key research question stated above are to:

- investigate the relationship between deregulation of starting a business and FDI;

- determine the relationship between deregulation of paying taxes and FDI; and
- investigate the relationship between deregulation of export trading and FDI.

These specific objectives are synonymous with the sub-problems of the study and were addressed by seeking answers to the following specific research questions:

- What is the relationship between FDI and the deregulation of starting a business?
- What is the relationship between FDI and the deregulation of paying taxes?
- What is the relationship between FDI and the deregulation of export trading?

It is thus important to point out that the analyses in the subsequent chapters are guided by the specific objectives and/or questions outlined above.

### 1.4 The study's significance and contribution to existing knowledge

The study presents novel and potent measures for attracting substantial FDI inflows to the heavily regulated LICs and MICs in particular by advocating for business deregulation that can catalyse increased cross-border M&As. The research reveals statistically significant relationships between inbound FDI and business deregulation tailored to benefit domestic SMEs of a country. A considerable causal relationship between deregulation and FDI is also established using Granger causality tests. The study establishes that through deregulating the starting of businesses, payment of taxes and export trading by domestic SMEs, a country is likely to realise greater FDI inflows, especially in the form of cross-border M&As. Specifically, the study proves that a reduction in the procedures, time and costs of starting a business, paying taxes and exporting enables domestic businesses of a country to flourish and thereby attract greater FDI inflows through cross-border M&As. Thus, the research findings augment recommendable measures that are empirically and statistically proven to realise greater and sustainable FDI inflows through facilitating the development of domestic businesses.

The study indicates that hitherto, most incentives for attracting FDI focus on facilitating foreign investors who are targeting green-field FDI projects, yet globally, most FDI flows are in the form of cross-border M&As (UNCTAD, 2009). Thus, the study reveals that domestic SMEs of most countries, notably the LICs and MICs, are stunted due to heavy regulations, yet they should be the primary drivers of cross-border M&As that consequently ensure substantial FDI inflows. The research reveals major constraints to and proposes appropriate measures for substantial FDI flows to heavily regulated countries, and especially the LICs, that were hitherto ignored by investment promotion agencies and policy makers. By recommending consistent deregulation that facilitates domestic SMEs, the study establishes solutions to several economic limitations such as corruption, bureaucratic and structural bottlenecks/red-tape, limited tax bases and underdeveloped domestic markets, among other factors, that are typical of particularly the heavily regulated LICs and many MICs. By emphasising cross-border M&As as opposed to green-field FDI projects, the study remarkably offers a multifaceted ('double-barrel') approach to realising economic growth and development, particularly for the heavily regulated LICs and MICs. Heavily regulated countries that competitively seek FDI inflows can substantially facilitate prosperity of their respective domestic SMEs by implementing the recommendations made in this study.

The study can substantially assist policy makers, academia and practitioners in establishing effective policies and strategies for social-economic growth and development. Authorities, institutions, agencies, bodies and/ or organisations that are responsible for enhancing FDI inflows can benefit tremendously from this research by recognising and applying new strategies for boosting inbound FDI. This is because the study provides quantitative premises and benchmarks that can stimulate debate on policies, both by exposing potential challenges

and by identifying where policy makers can identify lessons and good practices. The study provides measurable comparative data on business deregulation, which can inspire governments, of especially the LICs, to reform their investment policies and thereby enhance FDI inflows, especially through cross-border M&As, as their respective domestic entrepreneurs develop. Investment promotion agencies, governments and international entities such as UNCTAD can use this research as a basis for proposing and recommending new feasible policy reforms for realising greater FDI inflows to their stakeholders and beneficiaries. Prospective investors can utilise the study findings to make better-informed business decisions as they prepare to invest in especially LDCs such as Uganda. The study also provides a basis for conducting further studies concerning the relationships between FDI and business deregulation.

### 1.5 Scope, limitations and delimitations of the study

The time scope of the study is five years, stretching from 2005 to 2009, because it is only during this period that comprehensive data were available for all the variables that were used for the panel data analysis.

The geographical and population scope of the study covered 204 countries identified by UNCTAD (2010) as autonomous or semi-autonomous political economies located in the various continents of the world.

The theoretical scope of the study is FDI inflows and business deregulation of domestic SMEs with a focus on the ease of starting a business, paying taxes and export trading. The study focuses on only three out of the 10 key variables of business deregulation identified by the World Bank as the measures of ease of doing business so as to allow for a thorough, in-depth investigation. These three key variables have a total of 10 sub-variables and have been

selected because they have the most comprehensive data for a balanced panel data set used in this study. Business deregulation referred to in this study is tailored to benefit and facilitate a country's domestic SMEs located in the most populous city of a country, in particular, because the data upon which this study is based are also on SMEs located in such cities.[1]

The study is limited to specific measurements and operational definitions of FDI inflows and business deregulation, as explained in Chapter Three. The focus of the study is on the monetary value of inbound FDI, but not its quality. The study does not cover FDI outflows or the suitability (quality and utilisation) of the FDI flowing to the host countries, but focuses on FDI inflows only.

### 1.6 Operational and contextual definitions of the key concepts and variables

The following key concepts and variables have special textual and/or operational meanings in this study, as explained below.

#### 1.6.1 Deregulation (*business deregulation)*

Deregulation as a concept has various definitions. Kahn (1988), for instance, defines deregulation as the means by which governments remove, reduce or simplify restrictions on businesses and individuals in order to (in theory) encourage the efficient operation of markets. Winston (1993) defines deregulation as the removal of government controls from an industry or sector to allow for a free and efficient marketplace. It is vital to note that deregulation is not the same as liberalisation because many economies are liberalised but still have heavy business regulations, especially for their indigenous SMEs (World Bank, 2007).

[1] The Ease of Doing Business database and Doing Business reports by the World Bank, upon which this study greatly relied for data on business deregulation, focuses business regulations of SMEs in the most populous cities of the countries studied.

In this study, however, deregulation contextually refers to the ease of doing business through official policies that reduce, simplify or remove procedural, time and/or cost constraints experienced by investors, and especially the domestic SMEs in a country. This definition is principally derived from the Doing Business annual reports and the Ease of Doing Business database that have been compiled by the World Bank since 2004.

The specific components of business deregulation that are considered in this study are operationally defined as follows:

#### 1.6.1.1 Deregulation of export trading

Deregulation of export trading refers to governments' tendency to remove, reduce or simplify the costs, time and procedures involved in exporting a standardised (20-feet container) shipment of goods.

#### 1.6.1.2 Deregulation of paying taxes

Deregulation of paying taxes refers to governments' tendency to remove, reduce or simplify the tax that a SME must pay or withhold in a given year, as well as measures of the administrative burden of paying taxes. This entails lessening the number of tax payments a business entity (SME) must make; the number of hours spent preparing, filing, and paying taxes; and the percentage of its profits it must pay in taxes.

#### 1.6.1.3 Deregulation of starting a business

Deregulation of starting a business refers to the government's tendency to remove, reduce, or simplify restrictions on the procedures, time, and costs for a limited liability company (i.e., formal SME) to legally start operations.

### 1.6.2 Developed country

A developed country, also termed a 'more developed country' (MDC), refers to any one of 34 countries recognised by the International Monetary Fund (IMF) as an 'advanced economy' (World Bank, 2007). The developed countries (MDCs) referred to in this study are thus Australia, Austria, Belgium, Canada, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Malta, the Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, the United Kingdom and the United States of America

### 1.6.3 Foreign direct investment

Foreign direct Invest (FDI or Inbound FDI), in the context of this study refers to any investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity of one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). This operational definition of FDI refers to only inbound FDI and is directly derived from that given by the OECD (2008), and UNCTAD (2008).

### 1.6.4 Green-field FDI project

A green-field FDI project, in the context of this study, refers to a form of FDI where a parent company starts a new venture in a foreign country by constructing new operational facilities from the ground up where no previous facilities exist. It is thus an alternative to other forms of investment, such as M&As, joint ventures or licensing agreements. The concept emerges from the idea of building a facility literally on a 'green' field, such as a farmland or a forest.

### 1.6.5 High-income country

A high-income country (HIC), in the context of this study, refers to a country whose gross national income (GNI) per capita is equivalent to US$12 196 or more. This definition of HICs is the same as that given by the World Bank (2009a).

### 1.6.6 Least-developed country (LDC)

A Least Developed Country, in this study, refers to a country with such a low income that its three-year average estimate of GNI per capita of less than US$905 and that has a population of not more than 75 million. Such countries are also characterised by substantial human resource weakness and economic vulnerability. This definition of LDCs is the same as that advanced by UNCTAD, (2008).

### 1.6.7 Low-income country

A low income country (LIC), in this study, refers to a country with a gross national income per capita equal to or less than US $ 995. This definition is the same as that advanced by the World Bank (2009).

### 1.6.8 Mergers and acquisitions (M&As)

The concept "mergers and acquisitions" (M&As), in the context of this study, refers to the aspect of corporate strategy, corporate finance and management dealing with the buying, selling and combining of different companies that can aid, finance or help a growing company in a given industry to grow rapidly without having to create another business entity. A 'merger' is the combination of two or more companies to form a new company altogether, while an 'acquisition' specifically refers to the purchase of one company by another company.

### 1.6. 9 Middle-income country (MIC)

A middle income country (MIC) refers to any country whose gross national income per capita is between US$996 and US$ 12 195. This definition again is according to the classification of such countries by the World Bank (2009).

### 1.6.10 Small and medium-sized enterprise

Small and medium enterprises (SME), in this study, are defined according to the definition of the World Bank (2010) whereby 'small enterprises' refer those businesses that employ between five and nineteen people, while 'medium-sized enterprises' are those businesses employing between 20 and 99 people. This study focuses on domestic (i.e. ordinary, often indigenous/locally owned) SMEs operating within a country's most populous city, because the panel data analysed for this study are based on the same type of businesses. These domestic SMEs are alternatively referred to as the 'business' or 'businesses' in this study.

## 1.7 Abridged methodology of the study

The study is based on a triangulation of quantitative research methodologies with a focus on cross-sectional time series panel data empirical modelling of the relationship between business deregulation and inbound FDI of various countries. An estimated random effects model (REM) of regressions that are based on cross-sectional time series feasible generalised least squares (FGLS) is the principal methodology applied to investigate the relationship between FDI and business deregulation. The other methodologies used are Granger-causality tests, correlations and descriptive statistics of the study variables for a sample of 154 countries. The rationale for choosing these methodologies is explained in Chapter Three.

The study is designed as applied, secondary (desktop) research based on panel data derived from the World Investment reports and Ease of Doing Business indices published by UNCTAD and the World Bank respectively for the period 2005–2009.

### 1.8 Basic assumptions of the study

The main assumption of the study is that countries with business deregulation that facilitates the development of their domestic SME investors are bound to realise more FDI inflows, particularly through cross-border M&As.

The other assumptions of the study are:

- FDI is vital and necessary for the economic growth of all economies and thus all countries relentlessly compete for FDI inflows.
- The share of the global FDI realised in developing countries can expand depending on the measures taken to attract foreign investment.
- The cases and samples for the study are representative of the general research population.
- The secondary data collected and used as a basis for the conclusions and recommendations of the study are authentic, empirical, conventional and reliable.

### 1.9 Structure of the study

The study is stratified into five chapters, with each chapter comprising several sections and having a distinct focus, as explained below:

**Chapter One: Introduction to the study.** This covers the background to the study, the statement of the research problem, the objectives of the study and key research questions, the significance of the study and its contribution to existing knowledge, the scope of the study,

operational and contextual definitions, a synopsis of the research methodology and the description of how the study is structured.

**Chapter Two: Literature review.** This contains an overview of the global trends of FDI and deregulation, cross-border M&As and FDI, the relationship between FDI and deregulation, the conceptual framework and the hypotheses of the study.

**Chapter Three: Research methodology.** This chapter explains the research design, the study population and sampling, types and sources of data, measurement of the variables, the analysis and interpretation of data, the regression models of the study and the reliability, validity and dissemination of the findings.

**Chapter Four: Results, presentation and discussion.** Here the output of data analysis is presented and discussed within the study's conceptual framework and according to the study objectives and hypotheses.

**Chapter Five: Conclusions and recommendations.** This comprises of a conclusive summary of the discussions of the research findings and recommended measures for addressing the research problem.

# CHAPTER TWO

## LITERATURE REVIEW

### 2.0 Introduction

This chapter covers an overview of the global trends of FDI and business deregulation, highlights why some countries have been receiving more FDI than others and reviews the theoretical and empirical underpinnings of the relationship between business deregulation and FDI. The chapter ends with the conceptual framework and hypotheses of the study.

### 2.1 Global trends of foreign direct investment and deregulation-Overview

The rapid advances in technology in the last few decades – especially in transport and communication – have led to tremendous increases in FDI. Global inward FDI flows rose from US$59 billion in 1982 to a peak of US$1 491 billion in 2000. On an annual average basis, FDI inflows increased from 23.1 percent in the period 1986–1990 to 40.2 percent over the period 1996–2000 (UNCTAD, 2008). This implies that as time goes by, inward FDI received by various countries in the world generally increases. This surge of FDI inflows may be attributed to the rising levels of the social, economic and political globalization. However, it is important to note that while most countries register increasing FDI inflows, some countries do register stagnated and/or reducing FDI inflows (UNCTAD, 2009).

In terms of regional distribution, developed countries account for the bulk of global FDI inflows (Table 2.1). Until the early 1990s, the share of FDI inflows to the developed countries represented more than three-quarters of the total flows. For the period 2005–2009, the share of FDI inflows to the developed countries was over 60 percent of the global FDI flows, as shown in Table 2.1 below.

**Table 2.1: FDI inflows attained by the various economic blocks of the world: 2005–2009 (in millions of US dollars)**

| Year | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **World** | **985 796** | **1 459 133** | **2 099 973** | **1 770 873** | **1 114 189** |
| Developed economies | 624 529 | 970 098 | 1 444 075 | 1 018 273 | 565 892 |
| ***Europe*** | *509 148* | *628 420* | *988 422* | *551 059* | *378 388* |
| ***North America*** | *130 465* | *296 897* | *374 371* | *379 830* | *148 540* |
| **Developing economies** | **330 166** | **434 366** | **564 930** | **630 013** | **478 349** |
| ***Africa*** | *38 197* | *55 382* | *63 092* | *72 179* | *58 565* |
| ***Sub-Saharan Africa*** | ***25 961*** | ***32 232*** | ***38 307*** | ***48 081*** | ***40 279*** |
| ***Latin America & Caribbean*** | *75 955* | *94 557* | *163 612* | *183 195* | *116 555* |
| ***Asia & Oceania*** | *216 014* | *284 426* | *338 226* | *374 639* | *303 230* |

Source: UNCTAD, FDI/TNC database, 2009

Table 2.1 above clearly illustrates that between 2005 and 2009, the FDI inflows realised by sub-Saharan Africa, where 70% of the LDCs are located, was less than 4% of the global FDI inflows. This was despite the fact that most of the LDCs diligently implemented most of the conventional policies and reforms recommended for attracting FDI (UNCTAD, 2008). It is, however, vital to note that the domestic businesses of such LDCs are considerably more regulated than those of the developed countries (World Bank, 2009) and sub-Saharan Africa registers only a very small fraction of the global cross-border M&As (UNCTAD, 2009).

The levels of business deregulation of the developed countries have generally been a lot higher than those noted in most of the developing countries between 2004 and 2009 (World Bank, 2009). The LDCs, most of which are in sub-Saharan Africa, have been particularly noted to have the poorest ranking in business deregulation in the whole world since 2004 (World Bank, 2009). Figure 2.1 below corroborates the facts stated above by highlighting the variance in the levels of deregulation pertaining to a few variables of business regulations for the various income categories of the countries in the world.

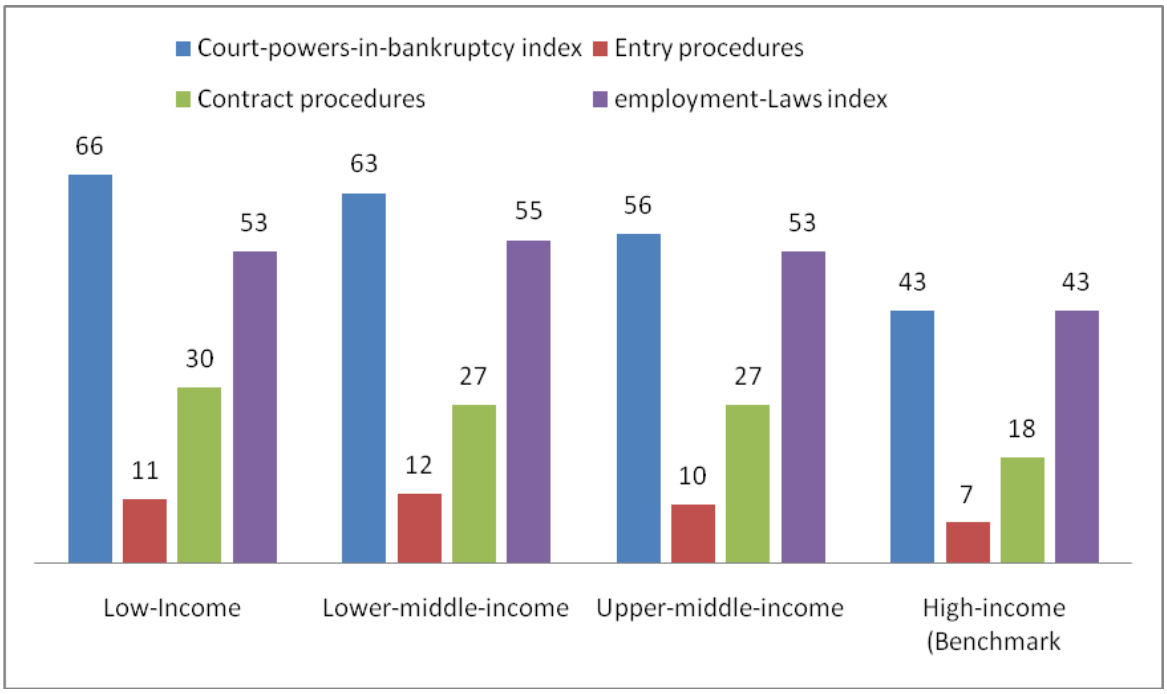


**Figure 2.1: Levels of business deregulation for LICs, MICs and HICs**

Note that the indicators for high-income countries are used as benchmarks. The average value of each indicator is shown above each column.

The variance in business deregulation highlighted by Figure 2.1 above is possibly responsible for the low FDI inflows realised by the LDCs. This is because the poor levels of deregulation in LDCs are likely to inhibit the prosperity of their domestic businesses, rendering them unattractive to foreign investors, despite the fact that most FDI flows are in the form of cross-border M&As (UNCTAD, 2009).

## 2.2 Cross-border mergers and acquisitions, deregulation and FDI

Over 70% of the global FDI flow is in the form of cross-border M&As and only less than 30% of FDI is attracted through green-field FDI projects (UNCTAD, 2009). Despite this observation, the developing countries and the LDCs have always had a comparatively larger number of green-field FDI projects than cross-border M&As as illustrated by Table 2.2

below. This possibly explains why the developing countries and LDCs realise comparatively less FDI inflows.

**Table 2.2: Cross-border M&As and green-field FDI projects attained by the various economic blocks of the world in 2002 and 2007 (UNCTAD, 2008)**

| Region | Number of green-field FDI projects | | Number of cross-border M&As | |
|---|---|---|---|---|
| | **2002** | **2007** | **2002** | **2007** |
| **World** | 5 703 | 11 703 | 6 553 | 10 145 |
| **Developing countries** | 2 362 | 4 922 | 1 302 | 2 273 |
| **Africa** | 170 | 380 | 80 | 174 |
| **Sub-Saharan Africa** | 95 | 184 | 63 | 143 |
| **Latin America & Caribbean** | 565 | 780 | 390 | 644 |
| **Asia & the Pacific** | 1 627 | 3 762 | 832 | 1 455 |

Table 2.2 above shows that the proportion of the number of M&As globally registered by the developing countries decreased substantially between 2002 and 2007. The table also shows that the smallest number and poorest growth rate of cross-border M&As were registered in sub-Saharan Africa, which comprises the majority of LDCs with the lowest levels of deregulation. These revelations can be attributed to the fact that the developing countries and especially the LDCs generally have lower level of business deregulation than their counterparts (World Bank, 2009). Hence, the domestic SMEs of the developing countries are generally stunted and thus unsuitable for cross-border M&As (UNCTAD, 2000). This indicates that business deregulation for the prosperity of domestic SMEs is a basic requirement to stimulate cross-border M&As through which most FDI inflows are realised.

A total number of 108 cross-border M&A deals, each worth over US$1 billion, were completed in the year 2009 alone and the total worth of all the 108 deals was approximately

US$352.5 billion (UNCTAD, 2010). This further proves that a considerable number and amount of FDI flows are in form of cross-border M&As.

The empirical and theoretical underpinning of the relationship between business deregulation and FDI is explained in the subsequent sections of this chapter.

**2.2 Relationship between deregulation and FDI: Theoretical underpinning**

Heavy business regulation has a perverse effect on the people it is meant to protect (World Bank, 2007). Faced with a large regulatory burden and few incentives to become formal, entrepreneurs in many developing countries choose to operate in the unofficial economy. Bad institutions—cumbersome entry procedures, rigid employment laws, weak creditor rights, inefficient courts and overly complex bankruptcy laws—simply do not get used. Instead, businesses use informal institutions, which is an improvement but a poor substitute for good-practice regulation. In most heavily regulated economies, over 50% of the business activity takes place in the informal sector. It is hard for businesses to get credit or resolve disputes through formal institutions, such as courts. Growth is inhibited because transactions take place only within a narrow group of established business relationships. The resources for delivering basic infrastructure are reduced because businesses do not pay taxes. There is no quality control of products and entrepreneurs keep their operations small, below an efficient production size, for fear of inspectors and the police. The results: poor economic outcomes, a reduced tax base and a large group of entrepreneurs and businesses never entering the formal sector. It is in the most heavily regulated countries that investment and productivity are low and unemployment is high (World Bank, 2006). Heavier regulation is generally associated with greater inefficiency of public institutions and more corruption but not with better quality of private or public goods. The countries that regulate the most (i.e. the LDCs), have the least

enforcement capacity and the fewest checks and balances to ensure that regulatory discretion is not used to abuse businesses and extract bribes (World Bank, 2007).

It is also noted that regardless of how business deregulation is determined, the rich countries (MDCs) regulate their respective businesses the least and protect property rights the most. By combining modest levels of business regulation with property rights that are clearly defined and well protected, the rich countries achieve what many others strive to do: have regulators act as public servants and not public masters (World Bank, 2006). The World Bank further observes three findings concerning the practice of business regulation, namely: regulation varies widely around the world; heavier regulation of business activity generally brings bad outcomes, while clearly defined and well protected property rights enhance prosperity; and rich countries regulate business consistently on all dimensions, while poor countries do not (World Bank, 2009).

The facts stated above indicate that most domestic SMEs of heavily regulated countries are generally so underdeveloped that they are not suitable for cross-border M&As. Hence, the heavily regulated countries can not attract substantial FDI inflows, as most FDI flows in through cross-border M&As (UNCTAD, 2009).

The empirical and theoretical underpinnings of the relationships between FDI and the specific independent variables of this study are stated in the subsequent sub-sections.

### 2.2.1 Deregulation of starting a business and FDI

When entrepreneurs draw up business plans and try to implement them, the first hurdles they face are the procedures required to incorporate and register the new firm before they can legally operate (Barseghyan, 2008). This observation highlights regulatory constraints that

businesses, especially the SME start-ups, face while starting business which may inhibit their prospects of appealing to foreign investors seeking mergers and /or acquisitions thus enhance FDI inflows.

Countries differ greatly in how they regulate the entry of new businesses. In some, the process is straightforward and affordable. In others, especially the developing countries, the procedures are so burdensome that entrepreneurs may have to bribe officials to expedite the process or they may decide to run their business informally. Cumbersome entry procedures are associated with more corruption, particularly in developing economies. Each procedure is a point of contact, a potential opportunity to extract a bribe. Analysis shows that burdensome entry regulations do not increase the quality of products, make work safer or reduce pollution. Instead, they constrain private investment; push more people into the informal economy; increase consumer prices and fuel corruption (Alesina, Silvia, Giuseppe & Fabio, 2005).

Antunes and Cavalcant (2007), Djankov, ganser, Mcliesh, Ramalho & Shleifer (2008) and Klapper, Luc and Rajan (2006) observe that lower costs of entry can encourage entrepreneurship and reduce corruption. According to UNCTAD (2007), flourishing entrepreneurship and reduced corruption are basic requirements for cross-border M&As, which are the basic media for FDI inflows.

Djankov et al. (2008) observe that lower barriers to start-up are associated with a smaller informal sector. Many developing economies make starting a business so cumbersome that entrepreneurs opt out and operate in the informal sector.

Barseghyan (2008,) observes that easier start-up is correlated with higher productivity among existing firms. A study, in an analysis of 97 countries, finds that reducing entry costs by 80 percent of income per capita increases total factor productivity by an estimated 22 per cent. Analyzing 157 countries, it finds that the same reduction in entry costs raises output per worker by an estimated 29 percent. Such privileges as observed by Barseghyan (2008) above can only accrue to countries that uphold deregulation of starting businesses and that attract FDI (UNCTAD, 2008).

Simpler and faster business entry makes it easier for workers and capital to move across sectors when economies experience economic shocks. A study of 28 sectors in 55 countries compared sectoral employment reallocation in the 1980s and 1990s (Barseghyan, 2008). The finding was that reallocation is smoother in countries where it takes fewer days to start a business. This finding is confirmed by many studies on the effect of entry regulation in economies opening their product markets to trade, as observed by Caves (1996) and Helpman, Marc and Yona (2008).

The Investor Glossary (2009) indicates that deregulation provides an economic environment favourable to upstart companies that were unable to enter the industry prior to the passing of deregulation. It is also widely held that deregulation often serves as a catalyst for increased innovation and mergers among weaker competitors (Fisman & Virginia, 2004).

Djankov, Rafael, Florencio and Shleifer (2002) observed that cumbersome entry procedures push entrepreneurs into the informal economy, where businesses pay no taxes and many of the benefits that regulation is supposed to provide are missing. Svensson (2003) notes that as a consequence of lack of business deregulation, workers lack health insurance and pension

benefits; products are not subject to quality standards; businesses cannot obtain bank credit or use courts to resolve disputes; women are disadvantaged disproportionately, as they constitute 75% of informal employees; and corruption is rampant, as bureaucrats have many opportunities to extract bribes. All these result from poor deregulation of starting a business and prove unfavourable for FDI inflows (UNCTAD, 2007).

New entry of formal businesses grows when regulation is relaxed and administrative processes are simplified. For instance, registrations in Bosnia and Herzegovina, Colombia and Russia shot up by over 15% after start-up procedures were streamlined (World Bank, 2006). Enticing enterprises to the formal economy has two economic benefits. First, because formally registered enterprises have less need to hide from government inspectors and the police, and second, they grow to more efficient sizes. As more companies move to the formal economy, governments can lower the tax burden on all firms. This gives every business more incentive to produce. International evidence suggests that a 1% reduction in taxes is associated with a 3.7% increase in firms, a 0.9% increase in sales and a 1.1% increase in employment (World Bank, 2005). Alesina et al. (2005) observe that there are other benefits of carrying out deregulation of starting a business, one of which is the associated increase in investment.

In conclusion, various authors have observed that deregulation of starting a business leads to the formation of increased numbers of formally established and prosperous businesses in a country. The more the number of such formal prosperous businesses in a country, the higher the opportunities for cross-border M&As, which are the major conduits for FDI flows

### 2.2.2 Deregulation of paying taxes and FDI

It is generally observed that taxes are essential for availing funds for the basic public services vital to a well-functioning economy and an inclusive society. However, firms in 90% of the countries covered by the World Bank Enterprise Survey rank tax rates and tax administration among the top five obstacles to doing business (World Bank, 2008).

Businesses generally prefer lower tax rates that are applied in a straightforward and simple way or, if rates are high, businesses want something (i.e. good services) in return for tax payments. All too often this is not the case, especially in developing countries. Across countries, higher taxes payable are not associated with better social outcomes, even controlling for country income levels. Instead, outcomes of high tax rates have generally proven deterrent and repulsive to business investors (World Bank, 2009). Having a simple tax system with standardised rates and payment channels is fundamental to the ease of doing business. Such a simple tax system normally appeals to not only domestic investors of a country but also foreign direct investors (World Bank, 2004).

Studies examining cross-border FDI flows suggest that on average, FDI decreases by 3.7% following a 1 percentage point increase in the tax rate on FDI. Some recent studies found, for example, that FDI is becoming increasingly sensitive to taxation. Such estimates may be used to estimate the long-term impact of corporate tax reform on FDI (OECD, 2008). Thus, deregulation of paying taxes, by especially a country's indigenous SMEs, is likely to increase FDI inflows.

Where taxes are high and commensurate gains seem low, many businesses simply choose to stay informal. A recent study found that higher tax rates are associated with less private investment, fewer formal businesses per capita and lower rates of business entry. The

analysis suggests, for example, that a 10% increase in the effective corporate tax rate reduces the investment-to-GDP ratio by 2 percentage points (Djankov et al., 2008). Desai, Foley and Hines (2004) also observe that a 10% cut in indirect taxes, such as value added tax, may imply a rise in investment of up to 7%. Goolsbee (2002) observes that a cut of 1 percentage point in corporate tax rates is associated with up to a 3.7% increase in the number of firms and up to 1.1% higher employment.

The literature reviewed above generally indicates that the deregulation of paying taxes favours domestic businesses, which can then lead to FDI inflows through cross-border M&As. There is therefore a need to address the plight of domestic entrepreneurs whose prosperity catalyses cross-border M&As that can enhance FDI inflows. However, no known empirical study has focused on the relationship between deregulating tax payments to equitably benefit domestic and foreign investors and FDI inflows. Thus, this study fills the research gap through an empirical analysis of the relationship between deregulating the number of tax payments per year, time spent on taxes and total tax rate (percentage of profit) affecting domestic SMEs and FDI inflows.

### 2.2.3 Deregulation of export trading and FDI

High costs and delays in export trading constrain participation in global trade for businesses in many countries. In a recent study of 126 economies, the loss from export delays was calculated at around 1% of trade for each extra day. For perishable agricultural products, the cost is nearly 3% of the volume of trade for each day's delay. Some non-agricultural products are also time-sensitive, such as fashion apparel and consumer electronics. The more time-consuming the export or import process, the less likely that a trader will be able to reach markets in a timely fashion. This affects the ability to expand businesses (World Bank, 2009). Sadikov (2007) finds that each extra signature an exporter has to collect reduce trade by

4.2%. For high-end exports, the reduction is nearly 5%. For manufactured exports, the cost of export trade transactions in developing countries, which includes the cost of dealing with customs and inland transport, exceeds the cost imposed by tariffs in the European Union and the USA (Sadikov, 2007). Sadikov (2007)'s observations above imply that reforming policies that regulate trade across borders is likely to stimulate growth of domestic enterprises and ultimately lead to increased FDI inflows through cross-border merger and acquisitions. However, countries with highly deregulated trade across border are likely to experience increased trade vices such as smuggling, dumping and entry of counterfeits which compromise the suitability and competitiveness of their domestic investment climate.

Red tape is estimated to cost more than 10% of the value of exports in developing countries. Inefficient customs and trade transport mean that businesses in developing countries must hold larger inventories at their warehouse, adding 4% to 6% to production costs. Thus, just-in-time manufacturing, which is one of the major determinants of FDI inflows, is not easily achievable in such developing countries (Subramanian & Anderson, 2005).

Economies that reduce delays in export trading can integrate more rapidly in the global trade (World Bank, 2009) and such economies register relatively more substantial FDI inflows than their counterparts (UNCTAD, 2008). Empirically, countries with cumbersome export trading attain considerably less FDI inflows compared to their counterparts.

The filing of a large number of export documents is often associated with more corruption in customs and faced with long delays and frequent demands for bribes, many traders avoid customs altogether. Instead, they smuggle goods across the border. Smuggling defeats the very reason for having border control of trade: to ensure high quality of goods and levy taxes.

If governments want to make it easier to run businesses, reducing export and import trade costs is a good place to start (World Bank, 2008).

Entrepreneurs in the LDCs and many developing countries face numerous regulatory hurdles to exporting and their share of the global trade has subsequently reduced tremendously despite the surge of faster ships and bigger planes that have shrunk the world. One reason is that in the case of manufactured goods, customs and transport together represent the single greatest cost of trading in developing countries – even higher than the cost of tariffs on their exports imposed by rich countries (World Bank, 2006).

The observations stated above indicate that cumbersome export trading is not conducive for establishing domestic businesses that have a potential of attracting FDI inflows through cross-border M&As. Countries that deregulate export trading for both their domestic and foreign investors register relatively more substantial FDI inflows than their counterparts (UNCTAD, 2008; World Bank, 2009). However, there is no known study that focuses on the quantitative analysis of the relationship between deregulation of export trading to benefit a country's domestic SMEs and FDI inflows. This research gap therefore further justifies the cause for this study.

### 2.3 The conceptual framework of the study

The conceptual framework of this study is derived from the inference that there is a statistically significant relationship between FDI inflows and business deregulation tailored to benefit domestic SMEs of a country. The study is based on the conception that business deregulation for domestic SMEs can attract cross-border M&As, which in turn lead to significant FDI inflows. This is because cross-border M&As account for the biggest proportion of global FDI flows (UNCTAD, 2008). Hence, once domestic SMEs are

facilitated to prosper through deregulation, more cross-border M&As will occur, and thereby more FDI inflows will be realised in the country. The study focuses on three major variables of a country's deregulation, namely the deregulation of starting a business (with four sub-variables), paying taxes (with three sub-variables) and exporting (with three sub-variables) as well as the monetary value (US$ millions) of FDI realised. The conceptual interrelationships of these study variables are as illustrated in Figure 2.2 below.

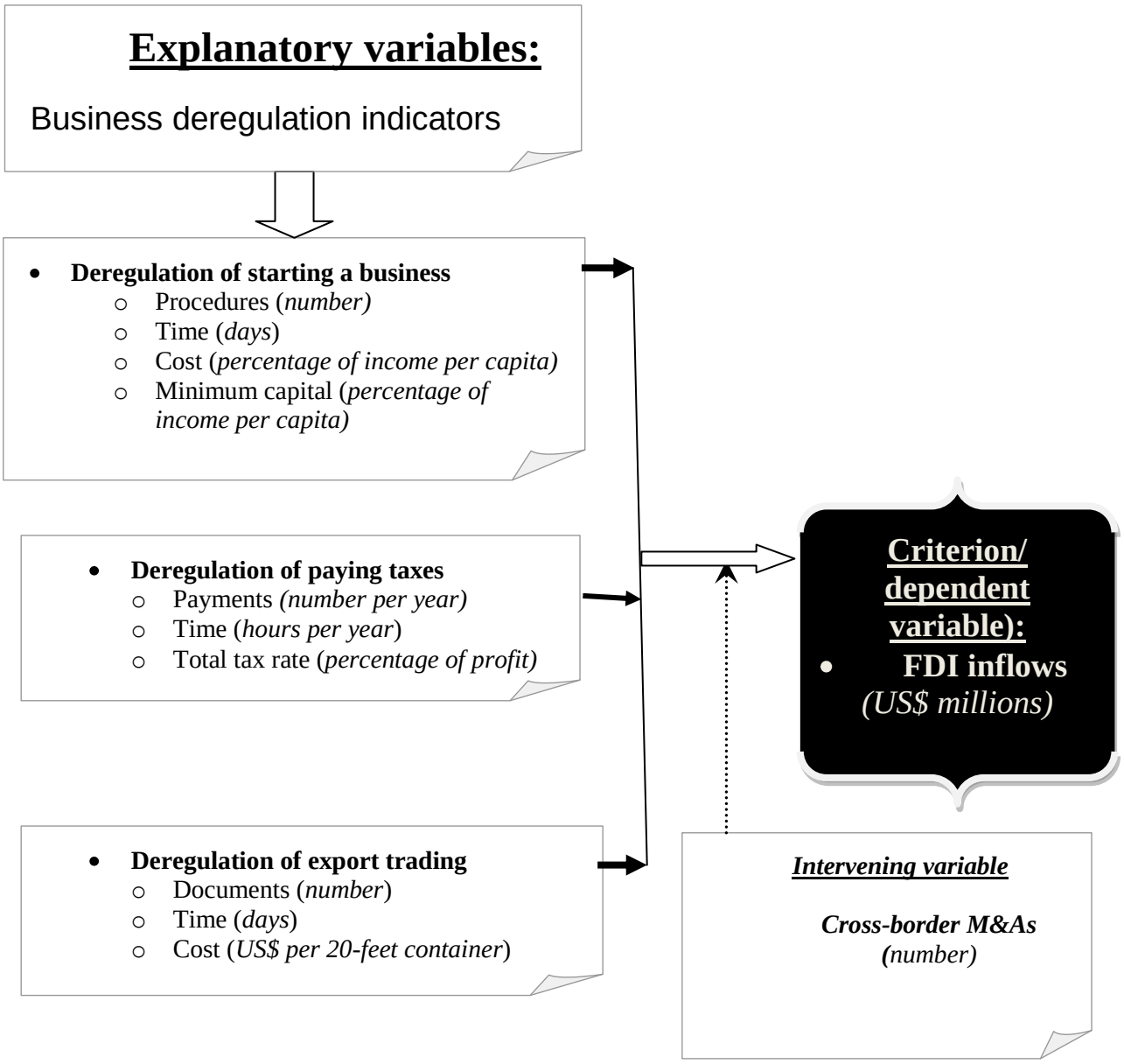


**Figure 2.2: Conceptual framework of the study (Author's conceptualisation based on the World Bank's Ease of Doing Business database and UNCTAD's World Investment reports)**

Figure 2.2 above illustrates the interrelationships among the variables that were deemed to be integral to the dynamics of the relationship investigated. It thus displays the conceptualised relationships among the criterion (FDI), explanatory variables (deregulation) and an intervening variable (cross-border M&As).

## 2.4 Hypotheses of the study

A hypothesis is a logically conjectured relationship between two or more variables expressed in the form of a testable statement (Babbie, 2007). Thus, the study generally sets out to test the following null and alternate hypotheses:

**$H_0$**: There is no statistically significant relationship between business deregulation and inbound FDI.

**$H_1$**: There is a statistically significant relationship between business deregulation and inbound FDI.

The specific hypotheses tested are derived from the specific objectives of the study, which are as stated below:

The null and alternative hypotheses used to investigate the relationship between deregulation of starting a business and inbound FDI are as follows:

**$H0_a$**: There is no statistically significant relationship between deregulation of starting a business and inbound FDI.

**$H1_a$**: There is a statistically significant relationship between deregulation of starting a business and inbound FDI.

The null and alternative hypotheses used to investigate the relationship between the specific variables of deregulation of starting a business and FDI inflows are as follows:

**$H0_{a1}$**: There is no statistically significant inverse relationship between the number of procedures for starting a business and inbound FDI.

**$H1_{a1}$**: There is a statistically significant inverse relationship between the number of procedures for starting a business and inbound FDI.

**$H0_{a2}$**: There is no statistically significant inverse relationship between the time (days) for starting a business and inbound FDI.

**$H1_{a2}$**: There is a statistically significant inverse relationship between the time (days) for starting a business and inbound FDI.

**$H0_{a3}$**: There is no statistically significant inverse relationship between the cost (percentage of income per capita) for starting a business and inbound FDI.

**$H1_{a3}$:** There is a statistically significant inverse relationship between the cost (percentage of income per capita) for starting a business and inbound FDI

**$H0_{a4}$**: There is no statistically significant inverse relationship between the minimum capital (percentage of income per capita) for starting a business and inbound FDI.

**$H1_{a4}$**: There is a statistically significant inverse relationship between the minimum capital (percentage of income per capita) for starting a business and inbound FDI.

The null and alternative hypotheses used to investigate the relationship between deregulation of paying taxes and FDI inflows are as follows:

**$H_{0b}$**: There is no statistically significant relationship between the deregulation of paying taxes and inbound FDI.

**$H_{1b}$**: There is a statistically significant relationship between deregulation of paying taxes inbound FDI and.

The null and alternative hypotheses used to investigate the relationship between the specific variables of deregulation of paying taxes and FDI inflows are as follows:

**$H0_{b1}$**: There is no statistically significant inverse relationship between the number of tax payments and inbound FDI.

**$H1_{b1}$**: There is a statistically significant inverse relationship between the number of tax payments and inbound FDI.

**$H0_{b2}$**: There is no statistically significant inverse relationship between the time (hours) spent on paying taxes and inbound FDI.

**$H1_{b2}$**: There is a statistically significant inverse relationship between the time (hours) spent paying taxes and inbound FDI.

**$H0_{b3}$**: There is no statistically significant inverse relationship between the total tax rate (percentage of profit) and inward FDI.

**$H1_{b3}$**: There is a statistically significant inverse relationship between the total tax rate (percentage of profit) and inward FDI.

The null and alternative hypotheses used to investigate the general relationship between deregulation of export trading and FDI inflows are as follows:

**$H0_{c}$**: There is no statistically significant relationship between deregulation of export trading and inbound FDI.

**$H1_{c}$**: There is a statistically significant relationship between the deregulation of export trading and inbound FDI.

The null and alternative hypotheses used to investigate the relationship between the specific variables of deregulation of export trading and FDI inflows are as follows:

**$H0_{c1}$**: There is no statistically significant inverse relationship between the number of documents completed for exporting a 20-feet container of goods and FDI.

**$H1_{c1}$**: There is a statistically significant inverse relationship between the number of documents completed for exporting a 20-feet container of goods and FDI.

**$H0_{c2}$**: There is no statistically significant inverse relationship between the time (days) for exporting a 20-feet container of goods and inbound FDI.

**$H1_{c2}$**: There is a statistically significant inverse relationship between and the time (days) for exporting a 20-feet container of goods and inbound FDI

**$H0_{c3}$**: There is no statistically significant inverse relationship between the cost (US$) of exporting a 20-feet container of goods and inbound FDI.

**$H1_{c3}$**: There is a statistically significant inverse relationship between the cost (US$) of exporting a 20-feet container of goods and inbound FDI.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter is a description of the research methodology used in this study. The chapter covers the research design, study area, study population, samples and sampling technique, type and sources of data, analysis and interpretation of data and the reliability and validity of the study and ends with dissemination of the study findings and recommendations.

## 3.2 Research design

A research design comprises six basic aspects, namely the purpose of the study, the type of investigation, the extent of researcher interference, the study setting, unit(s) of analysis and the time horizon of the study (Sekaran, 2003). These six components for this study's design are described below.

### 3.2.1 Purpose of the study

The purpose of a research study can be exploratory, descriptive, hypothesis testing and/or a case study analysis (Sekaran, 2003, p. 119). The purpose of this study is hypothesis testing. Hypothesis testing design is applied to explain the relationships and interdependencies among factors (variables) of interest. Specifically, hypothesis testing is undertaken to explain the variance in the dependent variable (FDI) by variations in the explanatory variables (variables of business deregulation for domestic SMEs) (Sekaran, 2003).

### 3.2.2 Type of investigation

The type of investigation conducted is correlational so as to delineate the critical variables associated with the study problem (Sekaran, 2003). The study entails a triangulation of

quantitative research techniques with a focus on empirical time series longitudinal panel data modelling of the relationship between FDI and business deregulation for domestic SMEs. The investigation generally assumes a positivism paradigm so as to remain objective and scientific in nature and also because it is predominantly quantitative (Neuman, 2000). The study is designed as applied research by relying on empirical data to establish viable solutions to real-life problems (Amin, 2006). The specifics of the empirical test techniques (models) of the study are elaborated upon in Section 3.6.

### 3.2.3 Study setting and extent of researcher interference

The extent of the researcher interference with the natural (normal) environment of the study setting has been minimal in order to study the key variables and events as they normally occur as recommended for social scientific studies (Sekaran, 2003).

The research is invariably conducted in a non-contrived setting so as to ensure reliable and valid correlation of the study variables within their normal (natural) settings (Sekaran, 2003).

### 3.2.4. Units of analysis

The unit of analysis refers to the level of aggregation of data collected during the subsequent data-analysis stage (Sekaran, 2003). The units of analysis for this study are countries (i.e. individual nations/economies) and groups of countries (i.e. country groupings) based on the various levels of GNI per capita, as recognised by UNCTAD (2010) and the World Bank (2010) respectively. The country groups used as units of analysis for the study are low income countries (LICs), middle income countries (MICs), and high income countries (HICs) as defined and recognised by the World Bank (2010). The choice of these country groupings was based on the observation by the World Bank (Doing Business reports and database, 2005–2010) that business deregulation is generally directly proportional to the level of a

country's GNI per capita. Hence, the LICs represent the most heavily regulated countries; the MICs are generally moderately deregulated, while the HICs are the most deregulated category. Likewise, the HICs have since 1990 received the highest proportion of cross-border M&As and inbound FDI, followed by the MICs and the LICs receive the least (UNCTAD/*World Investment Report*, 2010). The specific countries and groups of countries that constitute the units of analysis for this study are listed as appendices to this report.

### 3.2.5 Time horizon of the study

The time horizon design for the research comprises of a combination of cross-sectional and longitudinal studies (Panel Data) so as to counteract the weaknesses pertaining to purely cross-sectional or solely longitudinal studies (Sekaran, 2003). Some aspects are analysed longitudinally where data on specific variables were collected at various successive points in time, while other variables were subjected to cross-sectional studies. The time scope for the longitudinal time series data is 2005 to 2009. The choice of this time limit (2005-2009) is based on the fact that this is the only period for which data on all the study variables were available to enable the compilation of a balanced panel.

### 3.2.6 Study area

The geographical study area covers 154 countries spread over the various continents of the world. The study is based on a sample of 154 out of a population of 204 countries because these are the only countries with the relevant recorded data for all the study variables.

## 3.3 Study population and sampling

The study population consists of 204 countries, while the study sample is made up of 154 countries (subjects) that are recognised by UNCTAD (2010) as autonomous or semi-autonomous political economies. Lists of the sampled LICs, MICs and HICs are appended to

this report. The study sample of 154 countries was derived purposively basing on the establishment that these are the only countries with accessible data for each of the study variables and in the selected time scope. This approach is used so as to come up with a balanced set of panel data, which is more recommendable for panel data modelling than the unbalanced panel (Greene, 2003). Ideally, the study would have covered all the 204 countries, if all the relevant data for each country could be accessed.

### 3.4 Types and sources of data

The research is principally based on secondary quantitative cardinal data on business deregulation and FDI that were collected through a desk-top review of various literatures. Such cardinal data are chosen because they are based on objective measurements and are thus very reliable (Jon & Roger, 2008).

The major sources of data on business deregulation are Doing Business reports and the Ease of Doing Business database compiled by the World Bank, while data on FDI is obtained from the World Investment reports compiled by UNCTAD. The rationale for choosing these two sets of publications as the main sources of data for the study is that each of these sources provides well-researched, detailed, reliable, objective, comprehensive and empirical data, as further explained below.

**Justification for relying on the Doing Business reports and Ease of Doing Business database for data on business deregulation**

The Doing Business annual reports and the Ease of Doing Business database are the only substantial sources for well-compiled, compared and ranked laws, policies, regulations and institutional arrangements that shape the daily economic activities of over 180 countries (World Bank, 2009). These sources provide well-researched, valid, objective and reliable

quantitative measures of business deregulation, as they apply to the life cycles of domestic SMEs across various economies and selected cities at the sub-national and regional level (World Bank, 2010).

The downside of the Doing Business reports and the Ease of Doing Business database, however, is that the Doing Business project does not measure all aspects of the business environment that matter to firms or investors – or all factors that affect competitiveness. It does not, for example, measure security, macroeconomic stability and corruption. The methodology applied in compiling the Doing Business reports and the Ease of Doing Business database has limitations that were considered when interpreting the data. First, the collected data refer to businesses in the economy's largest business city and may not be representative of regulation in other parts of the economy. Second, the methodology assumes that the business has full information on what is required and does not waste time when completing procedures, which is not always the case in the real world (World Bank, 2010).

**Justification for relying on the World Investment reports for FDI data**

The World Investment reports contain scientifically developed and thorough analyses of the trends in FDI, global ranking of TNCs, in-depth analysis of all FDI-related topics, basic FDI policy analysis and recommendations, and statistical annexes with data on FDI flows and stocks for over 195 countries/economies (UNCTAD, 2008).

### 3. 5 Measurement of the study variables

The measurements of the criterion and explanatory variables of the study are exactly as presented by the World Investment reports and Doing Business reports and the Ease of Doing Business database that are respectively compiled by UNCTAD and the World Bank.

The criterion (dependent/inbound FDI) variable is thus measured in millions of US dollars on a net basis (i.e. credits of capital transactions less debits between direct investors and their foreign affiliates). FDI inflows with a negative sign that feature in this study indicate that at least one of the three components of FDI (i.e. equity capital, reinvested earnings or intra-company loans) is negative and is not offset by positive amounts of the other components, or represent instances of reverse investment or disinvestment (UNCTAD, 2008).

The independent variables are measured according to their respective analogous variables in the Ease of Doing Business indices that are compiled by the World Bank, as explained below.

The *Deregulation of starting a business* variable is measured as a direct equivalent of a country's global rank on the *Ease of Starting a Business* indices, as determined by the World Bank (2010). This variable comprises four sub-variables measured as 1) the number of procedures to legally start and operate a company (i.e. registration requirements such as name verification and notarisation and registration in the economy's most populous city and post-registration requirements such as social security registration and company seal); 2) time (days) required to complete each procedure of starting a business (such time is calculated on the assumption that it does not include days spent gathering information, each procedure starts on a separate day, each procedure is completed once a final document is received and no prior contact with officials existed; 3) cost required completing each procedure measured as percentage of income per capita (this focuses on official costs only, and excludes bribes and professional fees, unless services were required by law); and 4) paid-in minimum capital, also measured as percentage of income per capita (this refers to only the money deposited in a bank or with a notary before registration begins).

The *Deregulation of paying taxes* variable is measured as a direct replica of the global ranking on the *Ease of Paying Taxes* indices by the World Bank (2010). Thus, this variable comprises three sub-variables that are measured as 1) the number of tax payments made by a manufacturing company, including any formal contributions paid and consumption taxes (value added tax), and the method and frequency of payment in a year; 2) time (hours) spent on complying with three major taxes (this specifically focuses on collection of information to compute tax payable, completing tax forms, filing with proper agencies, arranging or withholding payment and preparing separate tax accounting books); and 3) the total tax rate, measured as a percentage of profit, paid by each business (this takes into consideration the profit or corporate income tax; social contributions and labour taxes paid by the employer; property and property transfer taxes; dividends, capital gains and financial transactions taxes; and the taxes for waste collection, vehicle, road and other services).

The *Deregulation of export trading* variable is measured as the global ranking on the *Ease of Trading across Borders* indices by the World Bank (2010). This independent variable comprises three sub-variables, which are measured as follows: 1) the number of documents necessary to export, with a focus on bank documents, customs clearance documents, port and terminal handling documents, and transport documents; 2) time (days) required to export (this considers obtaining all the export documents, inland transport, customs clearance and inspections and port and terminal handling, but excludes ocean transport time; and 3) cost to export measured in US dollars for a 20-feet container (this measure considers only the official charges/fees (no bribes) for obtaining all the necessary documents, inland transport, customs clearance and inspections, and port and terminal handling.

The time period for all the criterion and explanatory variables is measured in annual years.

### 3.6 Analysis of data and empirical models of the study

Triangulation of quantitative techniques has been applied to analyse data so as to enhance the reliability and validity of the findings (Amin, 2006). The main methodologies applied include empirical panel data modelling of the relationship between deregulation and FDI using the estimated log of the Feasible Generalised Least Squares (FGLS) regression as a suitable technique of the Random Effects Model (REM). Percentiles of the units of measurements for the various variables are generally applied in the empirical panel data modelling, as it is prudent and recommendable to base such models on a common unit of measurement (Greene, 2003). Panel data modelling has been applied because of its various advantages identified by Wooldridge (2009), as explained below. The other major quantitative techniques applied include: PAIRWISE correlations, Pearson product-moment correlation, Granger-causality tests and descriptive statistics of the study variables for various countries and country groupings.

Data have been analysed within a framework of the basic research questions and hypotheses using the Stata computer statistical software version 10 (2003) and the Statistical Package for Social Scientists (SPSS) Version 16.

#### 3.6.1 Models of the study

The study is generally based on the econometric model stated here below:

$$I_{it} = \alpha + \beta bd_{it} + \varepsilon_{it} \qquad (1)$$

Where:

$I_{it}$ = FDI inflows

$bd_{it}$ = Business deregulation variables

$\beta$ = Coefficient of business deregulation

$\alpha$ = Constant

$\varepsilon$ = Error term

i = The cross-sectional unit identifier

t = The time period

The model stated above is developed into a more specific model that focuses only on the variables that constitute the scope of the study, as presented in Equation 2 below:

$$\gamma_{it} = \beta_0 + \beta_1 \chi_{1_{it}} + \beta_2 \chi_{2_{it}} + \beta_3 \chi_{3_{it}} + u_{it} \quad (2)$$

Where:

$\gamma_{it}$ = FDI inflows to various economies over time (i.e. dependent variable)

$\beta_0$ = Constant (intercept)

$\beta_1$ = Coefficient for deregulation of starting a business

$\chi_1$ = Deregulation of starting a business as a predictor variable

$\beta_2$ = Coefficient for deregulation of paying taxes

$\chi_2$ = Deregulation of paying taxes as a predictor variable

$\beta_3$ = Coefficient for deregulation of export trading

$\chi_3$ = Deregulation of export trading as a predictor variable

**u** = Error component/term (i.e. random disturbance)

**i** = The cross-sectional unit identifier (i.e. individual dimension/countries analysed, i.e. i=1, 2, 3,….n countries)

**t** = The time period identifier (i.e. the time dimension/years covered. i.e., t= 1, 2, 3,…..n years = 2005 ≥ 2009 for this study)

The criterion and explanatory variables of the general conceptual model above are then tested for normality in their respective distributions and it is proved that FDI, the dependent variable, is leptutic and skewed. Thus, a natural log of FDI (LnFDI) is applied in the estimated model following Wooldridge (2009), as shown here below:

$$\ln \hat{Y}_{it} = \hat{\beta}_0 + \hat{\beta}_1 \chi_{1it} + \hat{\beta}_2 \chi_{2it} + \hat{\beta}_3 \chi_{3it} \quad (3)$$

Where:

$\ln \hat{Y}_{it}$ = Estimated natural log of the dependent variable (i.e. FDI inflows)

$\hat{\beta}_0$ = Estimated constant

$\hat{\beta}_1$ = Estimated regression coefficient for deregulation of starting a business

$\chi_1$ = Deregulation of starting a business

$\hat{\beta}_2$ = Estimated regression coefficient for deregulation of paying taxes

$\chi_2$ = Deregulation of paying taxes

$\hat{\beta}_3$ = Estimated regression coefficient for deregulation of export trading

$\chi_3$ = Deregulation of export trading

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

A Hausman specification test is then applied to the study sample so as to choose between a Fixed Effects Model (FEM) and Random Effects Model (REM) as an appropriate specification for the model represented by equation 3 above. At a 5% level of significance, the Hausman test outcome is in favour of the REM. The FGLS technique of the REM emerges as the most appropriate for the study because the variance structure (Ω matrix) of the panel data is not known (Woodridge, 2002). Subsequently, the study model is represented by Equation 4 below:

$$\gamma_{it} = \alpha + \chi'_{it}\beta + (\mu_i + \nu_{it}) \quad (4)$$
$$= \gamma_{it} = \alpha + \chi'_{it}\beta + w_{it}$$

Where:

$w_{it} = \mu_i + \nu_{it}$ and $\mu_i \sim \text{IID}(0, \sigma^2_\mu)$ and $\nu_{it} \sim \text{IID}(0, \sigma^2_\nu)$. The $\mu_i$ is assumed independent of $\nu_{it}$ and $\chi_{it}$, which are also independent of each other for all i and t.

Also in Equation (4) above: $\gamma_{it}$ = FDI inflows, $\chi'$ = all the variables of business deregulation (i.e. predictors), $\beta$ = coefficients (slopes) for the predictors, $\alpha$ = intercept, $\mu_i$ = the cross-section, or individual error component, $\nu_{it}$ = the combined time series and cross-section error component, $_i$ = the time period identifier, and $_t$ = the time period identifier (i.e. the time dimension/years covered; i.e. t = 1, 2, 3, …n years = 2005, 2006, 2007, 2008 and 2009 for this study).

Sub-models are thereafter derived from the general models stated earlier to facilitate the regression of FDI against each of the major explanatory variables, as described in Equations (3) and (4) above. This is done to present a detailed analysis of the estimated impact of each of the three major predictors on the criterion variable. These sub-models are presented below.

**Sub-models of the estimated model**

The model represented by Equation (4) above is further split into three sub-models to cater for the relationship between the criterion variable and each of the three predictor variables, as explained below.

**Regression model of FDI on deregulation of starting a business**

$$\ln(\hat{\gamma}_{it}) = \hat{\beta}_0 + \hat{\beta}_a \chi_{a_{it}} + \hat{\beta}_b \chi_{b_{it}} + \hat{\beta}_c \chi_{c_{it}} + \hat{\beta}_d \chi_{d_{it}} \qquad (1')$$

Where:

$\ln(\hat{\gamma}_{it})$ = Estimated natural log of the dependent variable (i.e. FDI inflows)

$\hat{\beta}_a$ = Estimated regression coefficient for the procedures (number) for starting a business

$\hat{\beta}_b$ = Estimated regression coefficient for the time (days) for starting a business

$\beta_c$ = Estimated regression coefficient for the cost (percentage of income per capita) for starting a business

$\hat{\beta}_d$ = Estimated regression coefficient for the time (days) for starting a business

$\chi_a$ = Procedures (number) for starting a business

$\chi_b$ = Time (days) for starting a business

$\chi_c$ = Cost (percentage of income per capita) for starting a business

$\chi_d$ = Minimum capital (percentage of income per capita) for starting a business

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

**Regression model of FDI on deregulation of paying taxes**

$$\ln \left( \widehat{\chi}_{it} \right) = \hat{\beta}_0 + \hat{\beta}_e \chi_{e_{it}} + \hat{\beta}_f \chi_{f_{it}} + \hat{\beta}_g \chi_{g_{it}} \qquad (2')$$

Where:

$\ln \left( \widehat{\chi}_{it} \right)$ = Estimated natural log of FDI inflows

$\hat{\beta}_e$ = Estimated regression coefficients for the number of tax payments per year

$\hat{\beta}_f$ = Estimated regression coefficient for time (hours) spent paying taxes per year

$\hat{\beta}_g$ = Estimated regression coefficient for the total tax rate (percentage of profit)

$\chi_e$ = Number of tax payments per year

$\chi_f$ = Time (hours) spent on paying taxes per year

$\chi_g$ = Total tax rate (percentage of profit)

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

**Regression model of FDI on deregulation of export trading**

$$\ln(\hat{Y}_{it}) = \hat{\beta}_0 + \hat{\beta}_h \chi_{h_{it}} + \hat{\beta}_i \chi_{i_{it}} + \hat{\beta}_j \chi_{j_{it}} \qquad (3')$$

Where:

$\ln(\hat{Y}_{it})$ = Estimated natural log of FDI inflows

$\hat{\beta}_h$ = Estimated regression coefficient for the number of export documents

$\hat{\beta}_i$ = Estimated regression coefficient for the time (days) for exporting a 20-feet container of goods

$\hat{\beta}_j$ = Estimated regression coefficient for the cost (US$ per container) of exporting

$\chi_h$ = Number of official documents used to export a 20-feet container of goods

$\chi_i$ = Time (days) spent on exporting a 20-feet container of goods

$\chi_j$ = Cost (US dollars) to export a 20-feet container of goods

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

### 3.6.2 Justification for choosing the techniques used for data analysis

The reasons for choosing the specific techniques used for data analysis in this study are that panel data, and therefore panel data analyses, are very informative (with more variability, less collinearity and more degrees of freedom), estimates are more efficient, they allow the study of individual dynamics (e.g. separating age and cohort effects), they give information on the time ordering of events and they allow controlling for individual unobserved heterogeneity.

As unobserved heterogeneity is the problem of non-experimental research, the latter benefit is especially useful (Greene, 2003). Panel data analysis can provide a rich and powerful study of a set of people, as one considers both the space and time dimension of the data (Gujarati, 2003). The panel data modelling or analysis conducted is a vital method of studying a particular subject within multiple sites, periodically observed over a defined timeframe (Gujarati, 2003). Panel data analysis endows regression analysis with both a spatial and temporal dimension. The spatial dimension of panel data pertains to a set of cross-sectional units of observation, while the temporal dimension pertains to periodic observations of a set of variables characterising these cross-sectional units over a particular time span (Wooldridge, 2009). With repeated observations of enough cross-sections, panel analysis permits the study of the dynamics of change within short time series. Panel data analysis is an increasingly popular form of longitudinal data analysis among social and behavioural science researchers and has enabled researchers to undertake longitudinal analyses in a wide variety of fields (Twisk, 2003). The combination of time series with cross-sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2003).

A random effects model (REM) is deemed appropriate for this study's panel data analysis because the Hausman test proves that the REM is more efficient than the Fixed Effects Model (FEM) and can also give consistent results (Greene, 2003). Preference of the REM to the FEM is also based on the fact that the covariance matrix ($\Omega$, i.e. the variance components) for this study's data is not known. The REM is also chosen because it normally gives better P-values which serve as more efficient estimators. Therefore it is advisable to apply the REM whenever it is statistically justifiable to do so (Greene, 2003). Other reasons for preferring the REM to the FEM are that FEMs have significant drawbacks (Greene, 2003). For instance,

FEMs frequently have too many cross-sectional units of observations requiring too many dummy variables for their specification (Wooldridge, 2009). Too many dummy variables may sap the model of sufficient numbers of degrees of freedom for adequately powerful statistical tests (Greene, 2003). A fixed effects model with many dummies can easily be plagued with multi-collinearity, which increases the standard errors and thereby drains the model of statistical power to test parameters (Wooldridge, 2009). Although the FEM residuals are assumed to be normally distributed and homogeneous, there could easily be country-specific (group-wise) heteroskedasticity or autocorrelation over time, which may further plague estimation (Wooldridge, 2009). Because the individuals (countries and variables pertaining to each country) studied are greater in magnitude (units) than the units of the (years) time period dimension (i.e. the N > T dimension), the REM proves more appropriate for the study than the FEM (Wooldridge, 2009). The REM has the distinct advantage of allowing for time-invariant variables to be included among the regressors (Chatfield, 1989).

Feasible Generalised Least Squares (FGLS), rather than generalised least squares (GLS) regression, are chosen as a basis for regressions using the REM, because FGLS-based regression uses an estimated variance-covariance matrix when the true matrix is not known (Wooldridge, 2009). In other words, the FGLS-based regression technique is used to estimate the variance structure because the $\Omega$ for the panel data is not known. Regressions effected using FGLS are based on the assumption of homoskedasticity, which simplifies mathematical and computational treatment and usually leads to adequate estimation results (Wooldridge, 2009). The preference of FGLS to GLS and ordinary least squares is asymptotic, as the FGLS estimator is typically unbiased and is also asymptotically efficient among the class of linear unbiased estimators (Ruud, 2000).

The Granger-causality test approach is applied because it one of the most potent techniques to investigate a causal relationship between the criterion and predictor variables of a study (Granger, 1969).

The PAIRWISE correlation technique is chosen it is the most suitable and applicable technique for the Stata software applied and the panel data analysed (Greene, 2003).

Pearson Product-moment correlation is chosen to investigate the correlations between the dependent, intervening and predictor variables of the study because the data analysed is categorised as cardinal and the computer software applied for this particular analysis SPSS (Sekaran, 2003).

### 3.7 Data interpretation

As the research is largely conducted within a positivism paradigm, most interpretations occur after data analysis, although some interpretations occurred during the data-collection phase. The interpretation bases on the collected facts, identified patterns in the data, individual reflections of the researcher and potential connections to the 'bigger picture'.

### 3.8 Reliability and validity

Reliability and validity of the study findings are attained through the application of a triangulation of research techniques (Amin, 2006). The panel data upon which the study is based is empirical and scientifically gathered by UNCTAD and the World Bank and thus enhances the reliability and validity of the study findings (Sekaran, 2003).

### 3.9 Dissemination of research findings

The dissemination of the research findings and recommendations is designed to occur through various media that include: research reports; journals, newspapers, magazines, workshops, conferences, lectures and policy-making institutions among others.

# CHAPTER FOUR:

# RESULTS: PRESENTATION AND DISCUSSION

## 4.1 Introduction

This chapter contains the presentation and discussion of the results of the data analysis. The chapter is structured as follows: Section 4.2 presents the results from the analysis of the association among deregulation/regulation, cross-border M&A and FDI based on correlations and descriptive statistics. This is followed by Section 4.3, which covers the panel data assessment to determine the suitable technique for regressing FDI against the predictor variables of the study. The subsequent sections deal with discussions of the results from the analysis of the relationship between the criterion and predictor variables of the study.

## 4.2 Correlations among deregulation/regulation, M&A and FDI

This section highlights the correlation among deregulation / (regulation); cross-border M&A and FDI as a preliminary test of the conceptual framework that motivated this study. Business deregulation is alternatively considered as business regulation here in order to facilitate easy and clear analysis, interpretation and discussion of results as the two concepts are the opposite of one another (i.e. a heavily regulated country is the one with poor/low levels of deregulation and the converse is true). Pearson product-moment correlation is applied for this purpose and only cross-sectional data of the year 2009 for the sampled 154 countries is analyzed to emerge with the correlation coefficients shown in Table 4.1 below.

The specific data considered to come up with the coefficients shown in Table 4.1 below are derived as follows: business regulation/deregulation is estimated using the country rankings on the Ease of Doing Business indices of the World Bank (2010) and cross-border M&As are calculated in millions of US dollars of sales realised by each of the sampled 154 countries during 2009, as published by UNCTAD in their World Investment Report of 2010.

**Table 4.1: Pearson product-moment correlation coefficients for business regulation, cross-border M&A and FDI (author's analysis of data published by UNCTAD, 2010 and the World Bank, 2010)**

| | Country's global ranking in business regulations | M&As (US$ millions) | FDI inflow (US$ millions) |
|---|---|---|---|
| Country's global ranking in business regulations | 1 | | |
| M&As (US$ millions) | -0.339** | 1 | |
| FDI inflow (US$ millions) | -0.309** | 0.650** | 1 |

Note: ** denotes significance at the 0.01 level of significance

From Table 4.1 above it can be noted that the correlation between levels of business regulations and cross-border M&A is statistically significant ($r$ = -0.339) at the 0.01 level of significance. This implies that as a country deregulates (i.e. eases/reduces/lowers regulation levels of) business for the domestic SMEs, it is likely to realise more cross-border M&As.

Table 4.1 also shows that the correlation between cross-border M&A and FDI is statistically significant ($r$ = 0.650) at the 0.01 level of significance. This indicates a significant linear dependence between FDI and M&A, implying that FDI is bound to increase as M&As increase. These results also support the observation that cross-border M&As are a major conduit for FDI inflows (UNCTAD, 2008). The correlation between business regulation and FDI also proved statistically significant ($r$= -0.309) at the 0.01 level of significance. Thus, FDI is likely to increase as business regulations affecting domestic SMEs decrease (i.e. as deregulation improves).

Figure 4.1 below shows the variation in the amount of FDI attained by the groups of the sampled LICs, MICs and HICs.

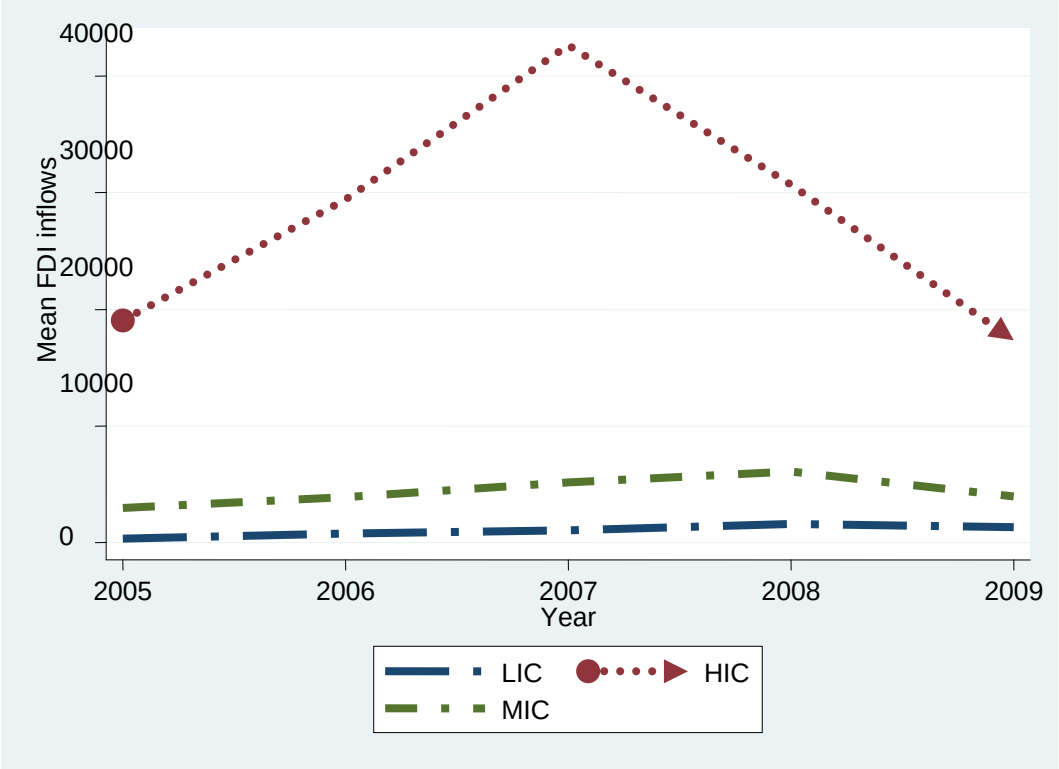


**Figure 4.1: Mean FDI inflows attained by the LICs, MICs, and HICs over time (author's analysis of panel data from UNCTAD/World Investment Reports, 2006-2010)**

From Figure 4.1 above it is evident that the HICs, which are generally renown for having the highest levels of deregulation and M&As (World Bank, 2010), have since 2005 attracted considerably more FDI inflows than the LICs, which are generally known for being heavily regulated and having minimal M&As (World Bank, 2010).

The results presented above corroborate the conceptual premises upon which this study is based. However, it is important to note that the Pearson product-moment correlation coefficients used above do not necessarily imply causation, although they are vital in

indicating some relationship among the three key variables of the study. In the subsequent sections, other analytical techniques, such as Granger-causality tests, and empirical panel data modelling using regressions have been applied to substantiate the preliminary results from the correlation test.

### 4.3 Appraisal of the panel data

This section presents the results from the appraisal of the panel data assembled for the study by checking for normality of data and choosing an appropriate analytical model for conducting regressions. The normality of the panel data is checked using a Shapiro-Wilk test and the following null hypothesis: Inbound FDI is normally distributed. The result obtained from the Shapiro-Wilk test is that the P-value (i.e. Prob > z) = 0.0000 for the inbound FDI data. This outcome being less than the 0.05 level of significance implies that the null hypothesis has to be rejected (Woodridge, 2009).

Hence, the subsequent model estimations are based on the natural log of FDI (LnFDI). Figure 4.2 below illustrates how inbound FDI for the panel data is skewed as proved by the Shapiro-Wilk test, thereby justifying the estimation of the natural log of FDI as the basis for the subsequent regressions.

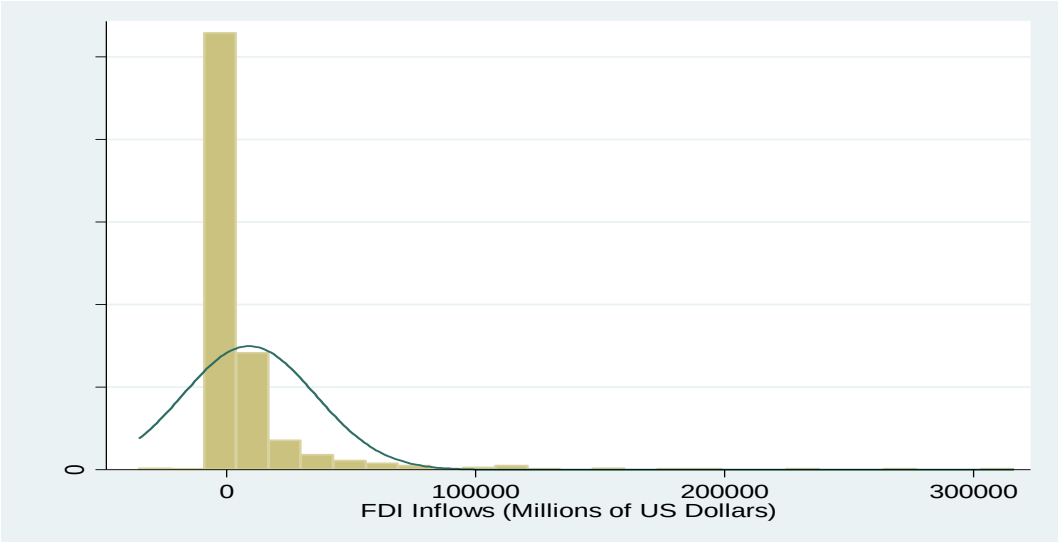


**Figure 4.2: Histogram showing the kurtosis of inbound FDI for the panel data (author's analysis based on the panel data from the World Bank's Ease of Doing Business database)**

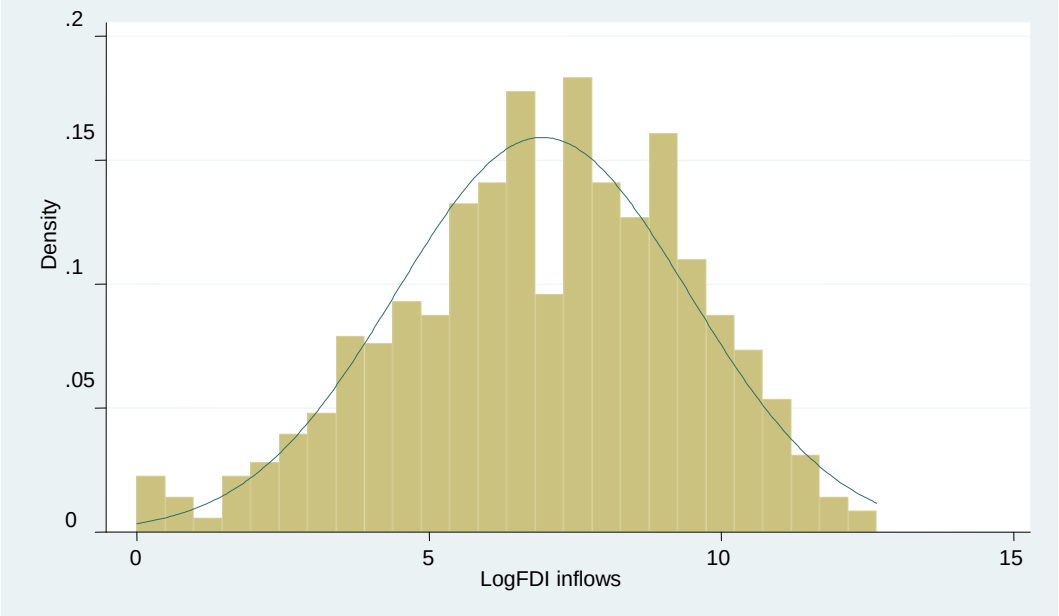


**Figure 4.3: Histogram of the kurtosis of the natural log of inbound FDI (author's analysis based on World Bank and UNCTAD's data sets)**

Figure 4.3 shows the normality of FDI data after transformations using the ln(inbound FDI). The Shapiro-Wilk normality test is in other words repeated on the transformed data. This

outcome is then applied in the estimation of regression models so as to come up with reliable results.

A Hausman test is employed to compare the Fixed Effects Model (FEM) and the Random Effects Model (REM) to choose an appropriate model for analysing the panel data. The null hypothesis upon which the Hausman test is based: The difference in coefficients is not systematic. The results from the Hausman test are provided in Table 4.2 below:

**Table 4.2: REM and FEM comparative results from the Hausman test (author's analysis based on World Bank and UNCTAD data sets)**

| | *FEM (b)* | *REM (B)* | *b-B* | *Square root of SE (b-B)* |
|---|---|---|---|---|
| **Percentiles of variables of:** | *Coef.* | *Coef.* | | |
| Starting a business | -0.0045 | -0.0040 | -0.0005 | |
| | (0.0027) | (0.0021) | | 0.0017 |
| Paying taxes | 0.0015 | 0.0041 | -0.0026 | |
| | (0.0033) | (0.0022) | | 0.0025 |
| Export trading | -0.0044 | -0.0097 | 0.0053 | |
| | (0.0033) | (0.0020) | | 0.0026 |
| Constant | 3.9712 | 4.0725 | | |
| | (0.2269) | (0.1409) | | |
| sigma_u | 0.6980 | 0.6116 | | |
| sigma_e | 0.6363 | 0.6363 | | |
| rho | 0.5461 | 0.4802 | | |
| | rho = fraction of variance due to u_i | | | |

Note: Figures in parenthesis are standard errors (SE); chi2 (3) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 6.32; Prob > chi2 = 0.0970

Table 4.2 above shows that the results (p-value) derived from the Hausman test is equal to 0.0970 (i.e. Prob > chi2 = 0.0970). Such Hausman test results (i.e. p-value = 0.0970) shows that the null hypothesis cannot be rejected at the 0.05 level of significance (Woodridge, 2009). Hence, the Hausman test favours the Random Effects model. On further analysis, the variance structure (Ω matrix) of the data could not be established and therefore the Feasible

Generalized Least Squares (FGLS) regression technique proved more suitable than the Generalized Least Square (GLS) technique as a basis for the REM. The FGLS approach is also chosen for this study because it checks for autocorrelation and ensures homoskedasticity of panels, among other advantages, as explained in Chapter Three (Greene, 2003).

### 4.4 Relationships between deregulation of starting a business and FDI

This section contains a presentation and discussion of results from the investigation of the relationship between deregulation of starting a domestic SME business and inbound FDI using descriptive statistics, correlations, regressions and Granger causality tests.

#### 4.4.1 Descriptive statistics

This sub-section presents a summary of the descriptive statistics of the variables for deregulation of starting a business, FDI and cross-border M&A for the 154 countries sampled for the study. The statistics derived from the panel data and presented according to the LIC, MIC and HIC groupings. Table 4.3 below shows the summary of the descriptive statistics.

The results of the descriptive statistics shown in Table 4.3 below depict that countries with greater deregulation of starting a business generally realise more monetary values of cross-border M&As and FDI inflows. Further, the table shows that the LICs (i.e. the most heavily regulated countries) have the highest average and absolute procedures (number), time (days), cost and minimum capital requirements for starting a business. These LICs are followed by the MICs and then the HICs (i.e. the least regulated countries), which have the highest level of deregulation of starting a business. Likewise, the average monetary value of cross-border M&As and FDI attained by the LICs is the lowest compared to those attained by the MICs and the HICs. These findings buttress the conceptual observation of the study that heavily regulated countries, the majority of which are LICs, apparently register low FDI inflows as

they tend to inhibit the development of their domestic SMEs, hence restraining cross-border M&As, which are the major FDI channels. Such empirical evidence corroborates the basic inference of the study that deregulation of starting a business has a significant relationship with inbound FDI.

**Table 4.3: Descriptive statistics of variables for deregulation of starting a business, M&As and inbound FDI for the three country groupings (author's analysis of data from the World Bank and UNCTAD)**

| Variable | Statistic type | LICs | MICs | HICs |
|---|---|---|---|---|
| Procedures (number) for starting a business | | | | |
| | Mean | 10 | 9 | 6 |
| | Standard deviation | 4 | 3 | 3 |
| | Minimum | 1 | 3 | 1 |
| | Maximum | 19 | 18 | 15 |
| | Observations | 170 | 425 | 175 |
| Time (days) for starting a business | | | | |
| | Mean | 51 | 41 | 19 |
| | Standard deviation | 44 | 31 | 15 |
| | Minimum | 3 | 3 | 1 |
| | Maximum | 203 | 152 | 64 |
| | Observations | 170 | 425 | 175 |
| Cost (percentage of income per capita) for starting a business | Mean | 147 | 41 | 7 |
| | Standard deviation | 191 | 63 | 10 |
| | Minimum | 5 | 2 | 0 |
| | Maximum | 1443 | 643 | 69 |
| | Observations | 170 | 425 | 175 |
| Paid-in minimum capital (percentage of income per capita) for starting a business | Mean | 205 | 118 | 56 |
| | Standard deviation | 303 | 495 | 139 |
| | Minimum | 0 | 0 | 0 |
| | Maximum | 2158 | 5112 | 1237 |
| | Observations | 170 | 425 | 175 |
| M&As attained (US$ millions) in 2009 | Mean | 169 | 293 | 6154 |
| | Observations | 34 | 85 | 35 |
| FDI inflows (US$ millions) in 2009 | Mean | 1337 | 3980 | 17340 |
| | Observations | 34 | 85 | 35 |

Notes: LICs = Low Income Countries, MICs =Middle Income Countries, and HICs = High Income Countries.

The variance in the descriptive statistics for the LICs, MICs and HICs shown in Table 4.3 imply that there is room for improvement by those countries (i.e. LICs) that are heavily regulated and thus realising low FDI inflows through cross-border M&As. For instance, the

LICs can possibly reduce the average cost of starting a business from 147% to 7% of income per capital or less so as to possibly realise greater FDI through increased M&As, as reported for the HICs.

Figures 4.4, 4.5, 4.6 and 4.7 illustrate the variation in the procedures, time, cost and minimum capital for starting a business in the sampled groups of the LICs, MICs and HICs.

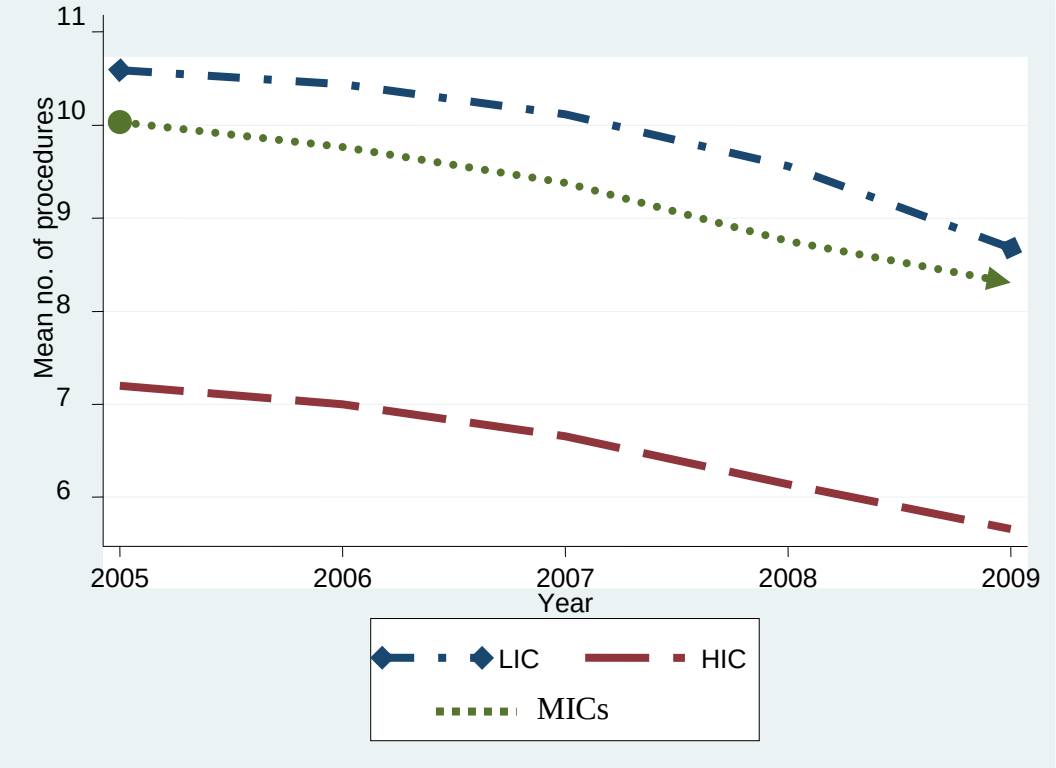


**Figure 4.4: Comparison of the procedures for starting a business followed in the LICs, MICs and HICs (author's analysis of the panel data from the World Bank's Ease of Doing Business database)**

Looking at Figure 4.4, it is apparent that the number of procedures for starting a business in the group of the sampled HICs was a lot less than that of the sampled MICs and LICs. This illustration corroborates the results from the descriptive statistics shown in Table 4.3 above. However, the satisfactory development noticeable in Figure 4.4 above is that these

procedures have since 2005 been steadily decreasing in all the economic/income groups of the sampled countries.

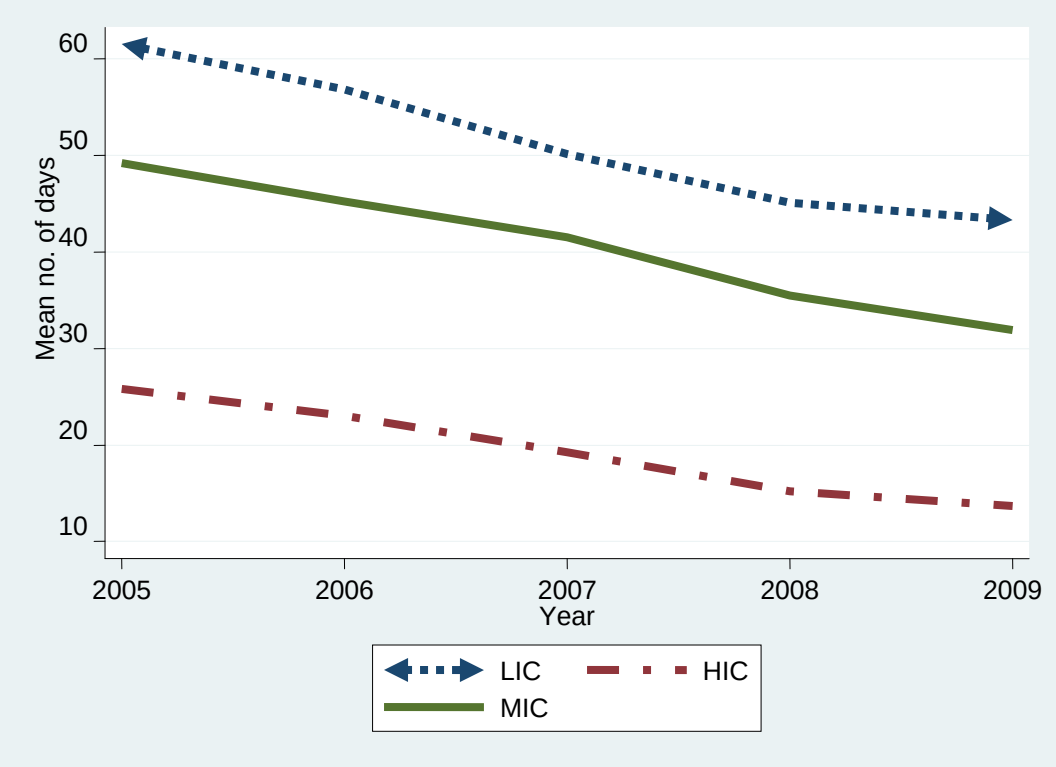


**Figure 4.5: Comparison of time (days) for starting a business in the LICs, MICs & HICs (author's analysis of panel data from the World Bank's Ease of Doing Business database)**

From Figure 4.5 above it is noticeable that the time (days) taken to start a business has been considerably less in the sampled HICs since 2005, while the sampled LICs have required the most time (days). Here again, the satisfactory trend illustrated by Figure 4.5 above is that the time for starting a business has, since 2005, been steadily decreasing in all the economic/income groups of the sample countries.

Figure 4.6 below clearly illustrates a marked variance in the cost of starting a business in the groups of the sampled LICs, MICs and HICs between 2005 and 2009. This figure

substantiates the descriptive statistics shown in Table 4.3 above. Satisfactory to note, however, is that this cost in the sampled LICs has been reducing at a much faster rate since 2005 compared to that in the sampled MICs and HICs. If such trends continue, the LICs may soon equal MICs and LICs in deregulating this aspect of starting a business.

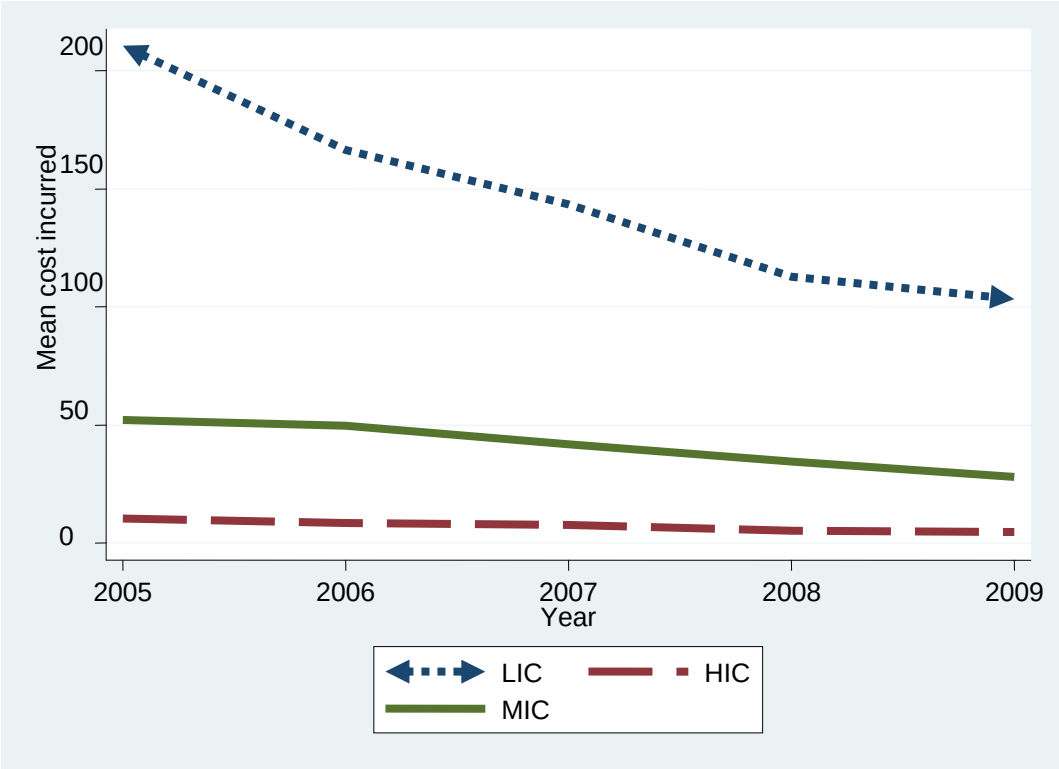


**Figure 4.6: Comparison of the cost of starting a business incurred in the LICs, MICs and HICs (author's analysis of the panel data from the World Bank's Ease of Doing Business database)**

Figure 4.7 below shows that the group of the sampled LICs has since 2005 had the highest level of the minimum paid-up capital requirement for starting a business, followed by the sampled MICs and then the HICs. This evidence also buttresses the descriptive statistics presented in Table 4.3 above.

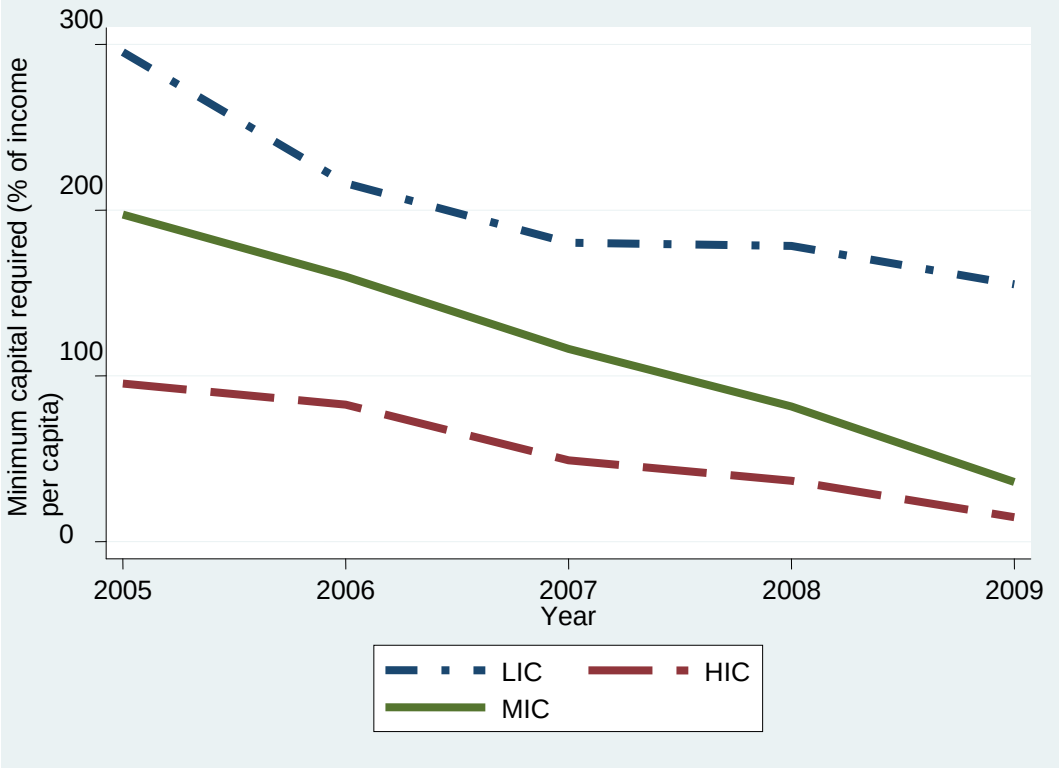


**Figure 4.7: Comparison of Minimum Paid-up Capital for Starting a Business in the LICs, MICs, and HICs (author's analysis of the panel data from the World Bank's Ease of Doing Business database)**

From Figure 4.7 it is interesting to note that the trend of the minimum paid-up capital required for starting a business in all the sampled LICs, MICs and HICs has been steadily decreasing since 2005. However, the sampled HICs indicate the lowest levels of minimum capital for starting a business, followed by the MICs; while the LICs have the highest levels.

### 4.4.2 Pair-wise correlation results

Pair-wise correlations are vital in so far as they enable the detection of a reasonable degree of dependence among the study variables. Table 4.4 below shows the coefficients obtained from pair-wise correlation between FDI and the number of procedures; time (days), cost and minimum capital for starting a business based on the panel data for the sampled 154 countries.

From Table 4.4 it can be noted that the correlations between FDI and the procedures, time (days) and cost (percentage of income per capita) of starting a business are statistically significant with the pair-wise coefficients of -0.1529, -0.1654 and -0.1364, respectively at the 0.01 level of significance. Thus, statistically, FDI proved significantly inversely proportional to the procedures, time (days) and cost of starting a business (Sekaran, 2003).

**Table 4.4: Pair-wise coefficients for the correlation between FDI and the variables of deregulation of starting a business for the sampled 154 countries (author's analysis of panel data provided by the World Bank and UNCTAD)**

| | Inbound FDI (US$ millions) | Procedures (number) for starting a business | Time (days) for starting a business | Cost (% of income per capita) of starting a business | Minimum capital (% of income per capita) for starting a business |
|---|---|---|---|---|---|
| Inbound FDI (US$ millions) | 1 | | | | |
| Procedures (number) for starting a business | **-0.1529**** (0.0000) | 1 | | | |
| Time (days) for starting a business) | **-0.1654**** (0.0000) | 0.5437 (0.0000) | 1 | | |
| Cost (% of income per capita) of starting a business | **-0.1364**** (0.0001) | 0.2648 (0.0000) | 0.3188 (0.0000) | 1 | |
| Minimum capital (% of income per capita) for starting a business | -0.0618 (0.0865) | 0.1655 (0.0000) | 0.0554 (0.1244) | 0.1376 (0.0001) | 1 |
| | Checking for multicollinearity = 0 collinearity; Number of observations = 770 | | | | |

Notes: ** = correlation is significant at the 0.01 level (two-tailed); bracketed figures = p-values

This implies that as a country deregulates the procedures, time (days) and cost of starting a business, it is likely to realise greater FDI inflows, and vice versa. However, it is vital to note that correlation coefficients rather indicate associations between the criterion and predictor variables than causal relationships (Wooldridge, 2009).

The correlation between FDI and the minimum capital for starting a business was not statistically significant at the 0.05 level of significance. However, the pair-wise coefficient resulting from this correlation was negative ($r$ = -0.0618) with a p-value = 0.0865, which is closer to the 0.05 level of significance. This implies that the minimum cost for starting a business is also inversely proportional to FDI inflows, although it is statistically insignificant.

The results (coefficients) from the pair-wise correlation shown in Table 4.4 above generally corroborate the study's postulation that there is a significant relationship between deregulation of starting a business and inbound FDI. Save for the minimum capital for starting a business, the pair-wise coefficients from the correlation between the variables of deregulation of starting a business and FDI proved statistically significant at the 0.01 level of significance. This indicated that inbound FDI is considerably associated with reduction (deregulation) of the procedures, time (days) and cost of starting a business by the domestic SME entrepreneurs of a country.

### 4.4.3 Regression results

Inbound FDI was regressed against the procedures, time, cost and minimum capital for starting a business using cross-sectional time series FGLS regressions of the REM illustrated by equation (1') stated below:

$$\ln \widehat{\chi_{it}} = \hat{\beta}_0 + \hat{\beta}_a \chi_{a_{it}} + \hat{\beta}_b \chi_{b_{it}} + \hat{\beta}_c \chi_{c_{it}} + \hat{\beta}_d \chi_{d_{it}} \quad (1')$$

Where:

$\ln \widehat{\chi_{it}}$ = Estimated natural log of the dependent variable (i.e. FDI inflows)

$\hat{\beta}_a$ = Estimated regression coefficient for the procedures (number) for starting a business

$\hat{\beta}_b$ = Estimated regression coefficient for the time (days) for starting a business

$\beta_c$ = Estimated regression coefficient for the cost (percentage of income per capita) for starting a business

$\hat{\beta}_d$ = Estimated regression coefficient for the time (days) for starting a business

$\chi_a$ = Procedures (number) for starting a business

$\chi_b$ = Time (days) for starting a business

$\chi_c$ = Cost (percentage of income per capita) for starting a business

$\chi_d$ = Minimum capital (percentage of income per capita) for starting a business

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

The cross-sectional time series FGLS regressions made were based on the percentiles of the respective units of measurements for variables considered as given by the sources of the panel data. The rationale for using percentiles of variables was based on the prudent recommendation of modelling panel data using homogeneous units of measurements

(Greene, 2003). However, for the purpose of triangulating the approach used and corroborating the results attained, regression based on the respective levels the variables was also carried out. The results are as summarised in Table 4.5 below.

**Table 4.5: Output of FGLS regression of FDI against deregulation of starting a business based on percentiles of variables (author's analysis of panel data provided by the World Bank and UNCTAD)**

| **LnFDI** | **Coefficient** | **Standard error** | **Z** | **P > /Z/** |
|---|---|---|---|---|
| SB_Procedures | 0.0060563 | 0.0015362 | 3.94 | 0.000 |
| SB_Time (days) | -0.0045561 | 0.001525 | -2.99 | 0.003 |
| SB_Cost | -0.0105063 | 0.0013411 | -7.83 | 0.000 |
| SB_Min. cap | 0.0013429 | 0.0009023 | 1.49 | 0.137 |
| Constant | 4.037405 | 0.0754942 | 53.48 | 0.000 |
| Prob > chi2 = 0.0000 | | Number of observations = 770 | | |
| Wald chi2(4) = 98.23 | | Number of groups = 154 | | |
| Log likelihood = -994.4529 | | Time periods = 5 | | |
| Estimated autocorrelations = 0 | | | | |

Notes: LnFDI = Natural log of FDI; SB = Starting a business; Min. cap = Minimum paid-up capital

From Table 4.5 above, the output of the cross-sectional time series FGLS regression using percentiles of the variables shows that, with the p-value (Prob > chi2) = 0.0000, the overall model is statistically significant. At a 0.05 level of significance, the explanatory variables that proved statistically significant are procedures for starting a business (with a p-value (P > |Z|) = 0.000), time (days) for starting a business (with a p-value (P > |Z|) = 0.003) and cost (percentage of income per capita) of starting a business (with a p-value (P > |Z| = 0.000). Of

these three variables that proved statistically significant, only time (days) and cost of starting a business emerged with the expected negative coefficients of -0.0046 and -0.0105, respectively. The negative coefficients of these variables indicate that as a country deregulates (eases/reduces) the time (days) and cost (percentage of income per capita) for starting a business, it is likely to realise greater inbound FDI.

Table 4.5 above shows that from the regression model based on percentiles of observations, the cost for starting a business emerged as the most influential and statistically significant explanatory variable with a coefficient = -0.0105 and a p-value = 0.000. Procedures for starting a business proved to be the second most statistically significant and influential explanatory variable with a coefficient = 0.0066 and a p-value = 0.000. However, the coefficient for this predictor variable was positive and thus contradictory to the basic conceptual postulation of this study. This positive coefficient is probably due to the fact that most countries have established one-stop centres for facilitating foreign investors with easy and expedited commencement of their businesses (UNCTAD, 2008). The cost (percentage of income per capita) for starting a business with a coefficient = -0.0046 and a p-value (P>|Z|) = 0.003 emerged as the third most influential and statistically significant predictor variable under the regression model. Minimum capital for starting, with a positive coefficient = 0.0013 and a p-value (P>|Z|) = 0.137, proved to be the least influential and it is the only statistically insignificant predictor variable at a 0.05 level of significance under the model where regressions are based on percentiles of observations.

In order to verify the results shown in Table 4.5 above, a cross-sectional time series FGLS random effects regression based on the respective units of measurements (levels) of the variables is conducted. The results are as shown in Table 4.6 below.

**Table 4.6: Output of FGLS regression of FDI against deregulation of starting a business based on respective levels of variables (author's analysis of panel data provided by the World Bank and UNCTAD)**

| LnFDI | Coefficient | Standard error | Z | P>/Z/ |
|---|---|---|---|---|
| SB_Procedures | 0.0273091 | 0.0316574 | 0.86 | 0.388 |
| SB_Time (days) | -0.0128593 | 0.003223 | -3.99 | 0.000 |
| SB_Cost | -0.0057178 | 0.000839 | -6.82 | 0.000 |
| SB_Min. cap | -0.0002313 | 0.0002228 | -1.04 | 0.299 |
| Constant | 7.519797 | 0.2490029 | 30.20 | 0.000 |

| | |
|---|---|
| Prob > chi2 = 0.0000 | Number of observations = 770 |
| Wald chi2(4) = 87.86 | Number of groups = 154 |
| Log likelihood = -1659.527 | Time periods = 5 |
| Estimated autocorrelations = 0 | |

Notes: LnFDI = Natural log of FDI; SB = Starting a business; Min. cap = Minimum paid-up capital

Table 4.6 above shows that results from the FGLS regression based on the respective levels of variables do not differ much from those presented in Table 4.5.

However, Table 4.6 shows that, where FGLS regressions were based on the levels of the variables, time (days) for starting a business, with a coefficient = -0.0128593 and a p-value (P>|Z|) = 0.0000, they proved to be more reliable and statistically significant in influencing FDI inflows than the cost of starting a business, of which the coefficient was = -0.0057178. Table 4.6 shows that procedures and the minimum capital for starting a business did not prove statistically significant at 0.05 levels of significance, where FGLS regressions were based on the levels of the variables. Hence, the implications of the results shown in Table 4.6,

just like for those shown in Table 4.5, are that inbound FDI is bound to increase as the time (days) and cost of starting a business by a domestic SME reduce.

In conclusion, the results of the cross-sectional time series FGLS regressions, as shown in Tables 4.5 and 4.6, affirm that deregulation of starting a business by a domestic SME generally influences inbound FDI. However, only time (days) and cost (percentage of income per capita) for starting a business proved to be statistically significant in explaining the variance in FDI. Procedures and minimum capital for starting a business did not emerge as statistically significant in explaining the variance in FDI, although the minimum cost proved inversely proportional to FDI where regressions were based on levels of the variables. These results corroborate the study's conceptual postulation that there is a statistically significant relationship between inbound FDI and the deregulation (reduction) of the time (days) and cost of starting a business by domestic SMEs. Thus, heavily regulated countries are likely to realise increased FDI inflows as they reduce the time (days) and cost (percentage of income per capita) of starting businesses for their respective domestic SME investors. It is, however, vital to note that the results of the regressions indicate associations rather than causal relationships between criterion and explanatory variables.

### 4.4.4 Granger causality tests results

Granger causality tests for the panel data of income (economic) groupings of the 154 countries sampled for 2006–2009 are carried out to investigate the causal relationships between FDI and the variables of deregulation of starting a business by domestic SMEs. The specific null hypotheses upon which the Granger causality tests are based are:

**$H0_1$**: Number of procedures for starting a business by domestic SME proprietors does not Granger-cause inbound FDI;

**$H0_2$**: Time (days) for starting a business by domestic SME proprietors does not Granger-cause inbound FDI;

**$H0_3$**: Cost (percentage of income per capita) for starting a business by domestic SME proprietors does not Granger-cause inbound FDI

**$H0_4$** : Minimum paid-up capital (percentage of income per capita) for starting a business by domestic SME proprietors does not Granger-cause FDI

The null hypotheses stated above are equivalent to interpreting asymptotic F-test of joint significance. In all cases, the null hypothesis can be accepted only where the asymptotic p-value (Prob > chi2) is greater than 0.05 (asymptotic $p > 0.05$) and rejected where the p-value (Prob > chi2) is less than 0.05 (asymptotic $p < 0.05$).

The results of the Granger causality tests based on the null hypotheses $H0_1$, $H0_2$, $H0_3$ and $H0_4$ stated above for the sampled groups of LICs, MICs and HICs are as detailed in Tables 4.7, 4.8, 4.9 and 4.10 and as summarised in Table 4.11.

**Table 4.7: Granger causality test results for the number of procedures for starting a business and FDI in the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F(1, 1) | Prob>F | Chi2(1) | Prob>chi2 |
|---|---|---|---|---|
| LICs | 0.10 | 0.8086 | 0.38 | 0.5353 |
| MICs | 34.07 | 0.1080 | 136.26 | **0.000**** |
| HICs | 0.99 | 0.5012 | 3.97 | **0.0463*** |

Number of observations = 4

Sample: 2006 to 2009

Notes: * denotes rejection of the null hypothesis of non-causality at the 0.05 level of significance; ** denotes rejection of the null hypothesis of non-causality at the 0.01 level of significance

Table 4.7 above shows that procedures for starting a business Granger-cause inbound FDI in the sampled groups of the MICs and HICs.

**Table 4.8: Granger causality test results for the time (days) of starting a business and FDI in the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.03 | 0.8851 | 0.13 | 0.7152 |
| MICs | 1.25 | 0.4652 | 4.98 | **0.0256*** |
| HICs | 1.02 | 0.4971 | 4.07 | **0.0436*** |

Number of observations = 4

Sample: 2006 to 2009

Notes: * denotes rejection of the null hypothesis of non-causality at the 0.05 level of significance; ** denotes rejection of the null hypothesis of non-causality at the 0.01 level of significance

From Table 4.8 above it is clear that the time (days) for starting a domestic SME Granger-causes inbound FDI in the sampled groups of the MICs and HICs.

**Table 4.9: Granger causality test results for the cost of starting a business and FDI in the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.07 | 0.8318 | 0.29 | 0.5884 |
| MICs | 1.68 | 0.4182 | 6.73 | **0.0095**** |
| HICs | 0.25 | 0.7040 | 1.01 | 0.3157 |

Number of observations = 4

Sample: 2006 to 2009

Notes: * denotes rejection of the null hypothesis of non-causality at the 0.05 level of significance; ** denotes rejection of the null hypothesis of non-causality at the 0.01 level of significance

The results presented in Table 4.9 above show that the costs of starting domestic SMEs Granger-causes inbound FDI in only the sampled group of MICs.

**Table 4.10: Granger causality test results for the minimum capital for starting a business and FDI in the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.12 | 0.7856 | 0.49 | 0.4838 |
| MICs | 4.18 | 0.2897 | 16.70 | **0.0000**** |
| HICs | 1.17 | 0.4746 | 4.69 | **0.0303*** |

Number of observations = 4

Sample: 2006 to 2009

Notes: * denotes rejection of the null hypothesis of non-causality at the 0.05 level of significance; ** denotes rejection of the null hypothesis of non-causality at the 0.01 level of significance

From Table 4.10 above it is apparent that the minimum paid-up capital (as a percentage of income per capita) officially required for starting a domestic SME Granger-causes inbound FDI in the groups of the sampled MICs and HICs.

**Table 4.11: summary of the results (p-values) from the Granger causality tests for the variables of deregulation of starting a business and FDI in the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Variable | Sub-variables | LICs | MICs | HICs |
|---|---|---|---|---|
| Deregulation of Starting a business | Procedures | 0.5353 | **0.000**** | **0.0463*** |
| | Time (days) | 0.7152 | **0.0256*** | **0.0436*** |
| | Cost | 0.5884 | **0.0095**** | 0.3157 |
| | Min. capital | 0.4838 | **0.000**** | **0.0303*** |
| Number of observations = 4<br>Sample: 2006 to 2009 | | | | |

Notes: * denotes rejection of the null hypothesis of non-causality at the 0.05 level of significance; ** denotes rejection of the null hypothesis of non-causality at the 0.01 level of significance

Tables: 4.7, 4.8, 4.9, 4.10 and 4.11 above show diverse Granger causality results that pose various implications for policy reforms in the LICs, MICs and HICs, as discussed below.

Tables: 4.7 and 4.11 show that it is only in the MICs and HICs where procedures for starting a domestic business Granger-cause inbound FDI. This implies that for the LICs to realise greater FDI inflows through reducing the number of procedures for starting a business, they may need to first redress other FDI-deterrent factors that exclusively concern them, as identified by Dunning and Narula (1996), such as poor physical infrastructure, small

domestic markets, relatively higher levels of insecurity and political instability, among other factors.

The time (days) for starting a business proves to Granger-cause inbound FDI in only the MICs and HICs, as shown by the results in tables 4.8 and 4.11. This implies that LICs possibly have other unique characteristics or factors that deter increased FDI inflows accruing from the deregulation (reduction) of the time (days) for starting a business, as the case is in the MICs and HICs. Some of these LICs' unique hindrances to FDI have been identified by Fry (1983) and include a relatively unpredictable political environment, low aggregate demand and negative attitude of the indigenous citizens, among other factors.

Tables 4.9 and 4.11 show that the cost (percentage of income per capita) for starting a domestic SME Granger-cause inbound FDI in only the MICs, but not in the LICs and HICs whereas Tables 4.10 and 4.11 show that the minimum paid-up capital (percentage of income per capita) for starting a business Granger-causes inbound FDI in only MICs and HICs, but not in the LICs.

In conclusion, the results from the Granger causality tests presented in Tables 4.7, 4.8, 4.9, 4.10 and 4.11 show that all the explanatory variables of deregulation of starting a business Granger-cause inbound FDI in the middle income countries. For the sampled HICs, only the procedures, time (days) and minimum capital for starting businesses Granger-cause inbound FDI, but the cost of starting a business does not. In the sampled LICs, however, none of the four explanatory variables of starting a business Granger-causes inbound FDI. The reason for this variation of results among the three country groupings may be attributed to the observation that factors that lead to FDI inflows tend to be country-specific (Dunning &

Narula, 1996). Dunning and Narula also observe that LICs generally have extraordinary deterrents to FDI inflows, as explained above, which possibly explain the failure of any of the four variables to Granger-cause FDI in the LICs, as shown by the results above. Hence, if all countries are to realise FDI inflows resulting from deregulation of starting domestic SME businesses, as proved for the MICs, there is a need for each country to mitigate its exclusive disincentives to FDI inflows. Examples of such FDI disincentives include various magnitudes and impacts of corruption, limited markets/demand, nepotism, armed conflicts and political upheavals, which characterise several LICs of especially sub-Saharan Africa (Chakrabarti, 2001).

### 4.4.5 Empirical substantiation

This sub-section contains a presentation and discussion of the empirical facts on deregulation of starting a business, cross-border M&As and inbound FDI, as given by the World Bank (2010) and UNCTAD (2010), which substantiate and corroborate the results presented in sub-sections 4.4.1, 4.4.2, 4.4.3 and 4.4.4 above.

Empirical data from the Ease of Doing Business database (2010) and the World Investment Report of 2010 indicate that countries that rank high in the deregulation of starting a business do realise greater cross-border M&As and more inbound FDI than their counterparts. This evidence is shown in Table 4.12 below.

**Table 4.12: Cross-border M&As and FDI realized by countries with the highest and lowest deregulation of starting a business in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| *Countries with the highest deregulation of starting a business* | | | | *Countries with the lowest deregulation of starting a business* | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) | **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) |
| New Zealand | 1 | 126 | 348 | Cameroon | 174 | 0 | 337 |
| Canada | 2 | 11 389 | 18 657 | Iraq | 175 | 0 | 1 070 |
| Australia | 3 | 22 206 | 22 572 | Palestine | 176 | 0 | 33 |
| Singapore | 4 | 9 693 | 16 809 | Djibouti | 177 | 0 | 0 |
| Georgia | 5 | 14 | 764 | Equatorial Guinea | 178 | 0 | 0 |
| Macedonia, FYR | 6 | 0 | 248 | Guinea | 179 | 0 | 141 |
| Belarus | 7 | 0 | 1 863 | Haiti | 180 | 1 | 38 |
| USA | 8 | 40 085 | 129 883 | Eritrea | 181 | 0 | 0 |
| Ireland | 9 | 1 712 | 24 971 | Chad | 182 | 0 | 462 |
| Mauritius | 10 | 24 | 27 | Guinea-Bissau | 183 | 0 | 0 |
| **Average/Mean** | | **8 525** | **21 614** | **Average/Mean** | | **0** | **208** |

Notes: M&A = Cross-border mergers and acquisitions; Global rank refers to a country's global position regarding deregulation of starting a business as given by the World Bank in 2009

Table 4.12 above shows that, in year 2009, the FDI attained by the 10 best-ranked countries on deregulation of starting a business was, on average, much greater (US$21 614 million) than that attained by the 10 worst-ranked countries (US$208 million). The table also shows that the best-ranked countries realised a much higher average monetary value of cross-border M&As (US$8 525 million) than that realised by 10 worst-ranked countries. These empirical facts considerably uphold the study's postulation that deregulation of starting domestic SMEs has a significant relationship with greater FDI inflows, especially through cross-border

M&As. Hence, countries are likely to realise greater inbound FDI, especially through cross-border M&As, if they competitively deregulate the starting of their ordinary domestic SMEs.

### 4.5 Relationships between deregulation of paying taxes and FDI

This section covers the presentation and discussion of the results from the investigation of the relationship between inbound FDI and the deregulation of paying taxes by the domestic SMEs.

#### 4.5.1 Descriptive statistics

This sub-section presents a summary of the descriptive statistics (means/averages) of the variables for deregulation of paying taxes, FDI and cross-border M&As for the sampled LICs, MICs and HICs derived from the study's panel data. Table 4.13 below shows the summary of these descriptive statistics.

The results of the descriptive statistics shown in Table 4.13 below indicate that countries with greater deregulation of paying taxes realise more monetary values of cross-border M&As and FDI inflows on average. The table also shows that the sampled LICs (i.e. the most heavily regulated countries) have the highest average number (forms) of taxes, time (hours) for paying taxes and total tax rates payable by domestic SMEs. The sampled HICs (i.e. the most deregulated countries) have the lowest averages of number (forms) of taxes, time (hours) spent paying taxes and total tax rate payable by domestic SMEs.

**Table 4.13: Descriptive statistics (mean) of variables for deregulation of paying taxes, M&As and inbound FDI for the various country groupings (author's analysis of data from the World Bank and UNCTAD)**

| Variables | Country groupings | Mean |
|---|---|---|
| Forms (number) of taxes paid per year | LICs | 40.25294 |
| | MICs | 37.69412 |
| | HICs | 15.66857 |
| Time (hours) spent on payment of taxes | LICs | 289.7206 |
| | MICs | 407.0188 |
| | HICs | 204.2229 |
| The total tax rate (% of profits) payable by each business per year | LICs | 67.37647 |
| | MICs | 46.46729 |
| | HICs | 42.02486 |
| M&As attained (US$ millions) in 2009 | LICs | 168.9 |
| | MICs | 293.5 |
| | HICs | 6 154.0 |
| FDI inflows (US$ millions) in 2009 | LICs | 1 337.4 |
| | MICs | 3 979.6 |
| | HICs | 17 340.0 |

Table 4.13 above shows that the average monetary value of cross-border M&As and FDI attained by the LICs is the lowest compared to that attained by the MICs and the HICs. These results support the conceptual premises of the study that highly deregulated countries, represented by the group of the sampled HICs in this study, ostensibly attain higher levels of FDI inflows than their counterparts. Thus the results from the descriptive statistics shown in

Table 4.13 are preliminary indications of a statistically significant relationship between inbound FDI and the deregulation of paying taxes by the domestic SMEs of any country. The descriptive statistics presented in Table 4.13 are substantiated by the graphical illustrations of the variance in number of taxes, time for paying taxes and the total rates in the sampled LICs, MICs and HICs, shown in Figures: 4.8, 4.9 and 4.10 respectively.

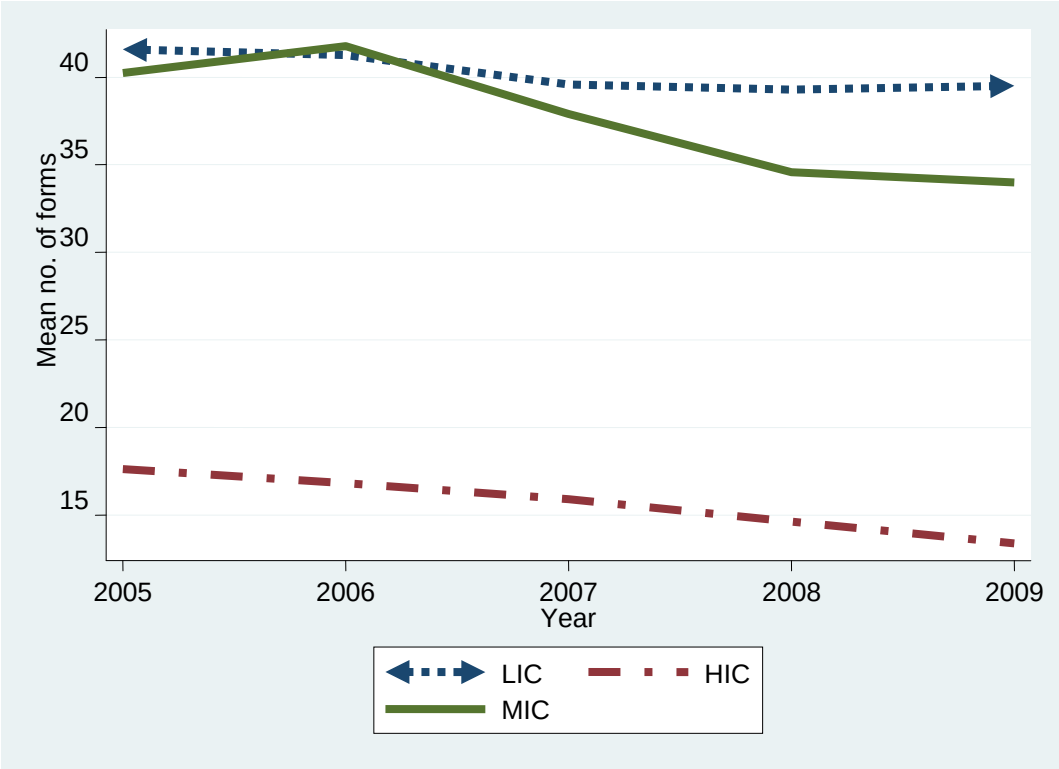


**Figure 4.8: Comparison of forms of taxes paid in the LICs, MICs and HICs (author's analysis of panel data from the World Bank's Ease of Doing Business database)**

Figure 4.8 clearly shows that the number (forms) of taxes paid by domestic SMEs of the sampled HICs has distinctly been considerably less than that imposed in the groups of the sampled MICs and LICs since 2005. Furthermore, between 2005 and 2009, the number of taxes payable in the sampled MICs and LICs was almost equally high, although that of the LICs was higher. According to Figure 4.8, the trend of the number of taxes payable in the

sampled LICs unfortunately appears to be rising since 2007, while that of the MICs and HICs is lowering. This implies that the LICs ought to seriously embark on deregulation of paying taxes if they are to competitively realise greater FDI inflows, particularly through cross-border mergers and acquisitions.

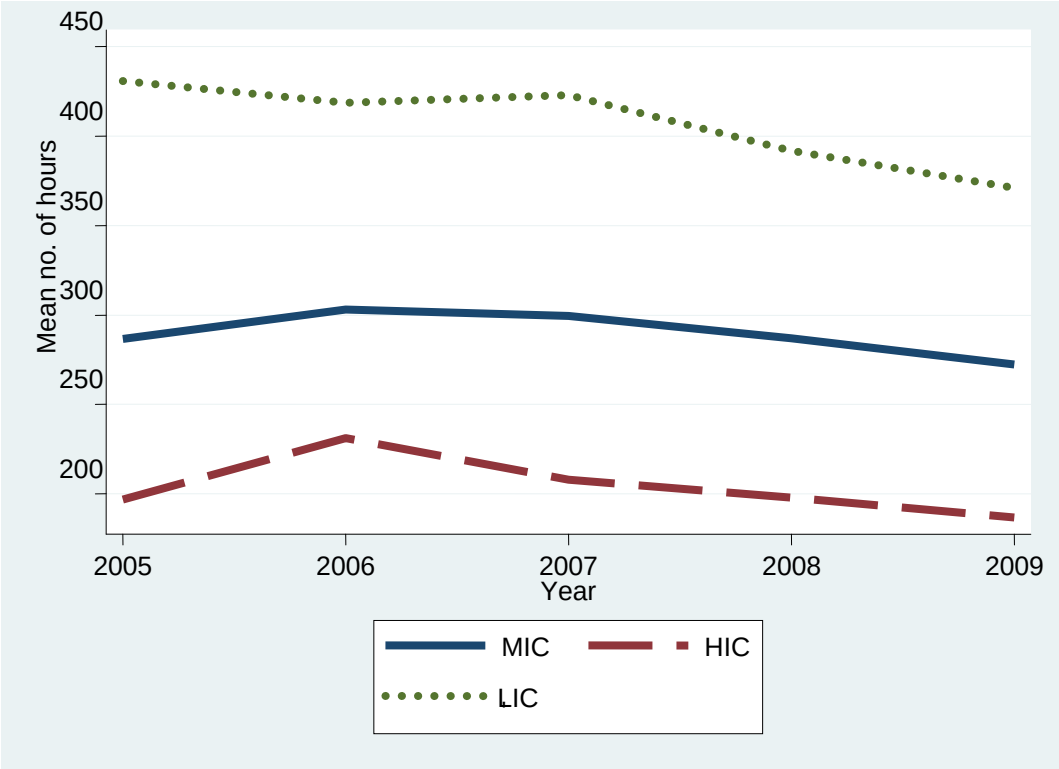


**Figure 4.9: Comparison of time (hours) spent paying taxes in the LICs, MICs and HICs (author's analysis of panel data from the World Bank's Ease of Doing Business database)**

From Figure 4.9 it is evident that the time (hours) spent on paying taxes is the longest (slowest) in the sampled LICs, followed by that in the sampled MICs, and the shortest (fastest/least) in the sampled HICs. The figure also shows a considerable variance between the time spent on paying taxes in the sampled LICs and HICs. However, the time for paying taxes has been decreasing since 2006 in all the sampled groups of the LICs, MICs and HICs.

Figure 4.10 below shows that the sampled LICs have the highest levels of total tax rates, followed by the MICs, while the sampled HICs have the lowest levels. This probably explains why most domestic SMEs in the LICs are stunted and consequently unable to spur FDI inflows through cross-border mergers and acquisitions.

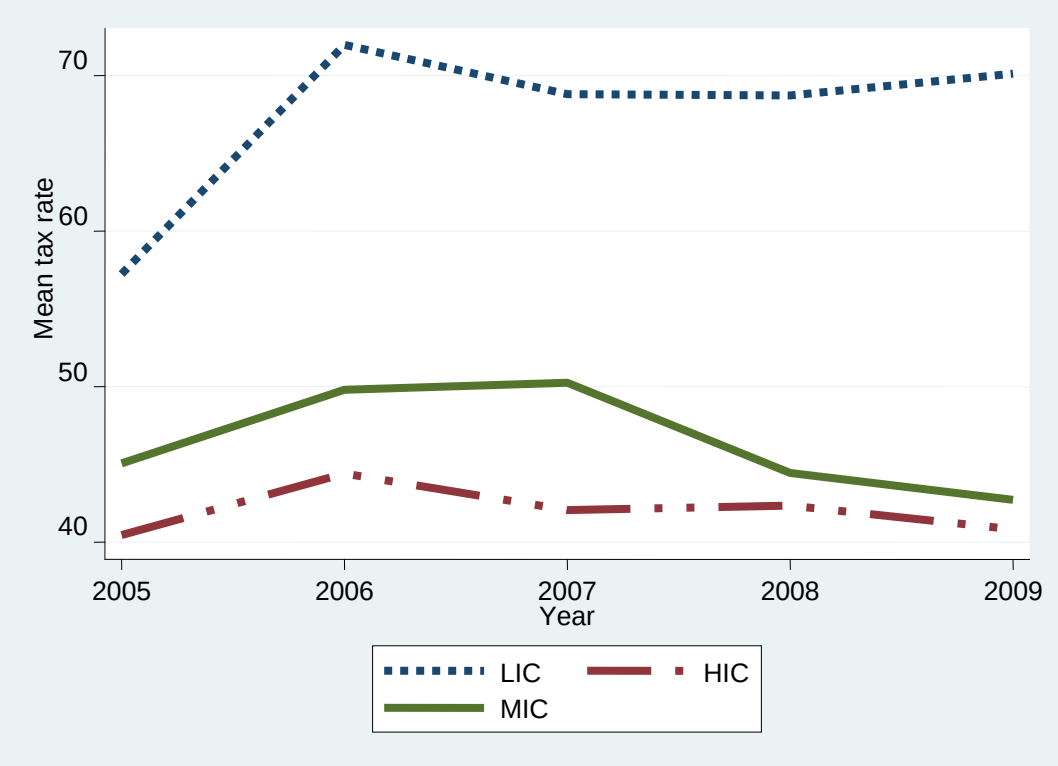


**Figure 4.10: Comparison of the total tax rates for the LICs, MICs and HICs (author's analysis of panel data from the World Bank's Ease of Doing Business database)**

Figure 4.10 clearly shows that whereas the tax rates have been declining in the sampled MICs and HICs, the sampled LICs experience rising total tax rates, which further inhibits opportunities for increased M&As and accompanying FDI inflows. Hence, there is a need for concerted measures to deregulate (reduce) the total tax rate imposed on the domestic SMEs of especially the LICs to enhance their prospects for attracting substantial M&As and consequently increasing FDI inflows.

### 4.5.2 Pair-wise correlation results

Pair-wise correlations based on the panel data for the sampled 154 countries were done to substantiate the results from the descriptive statistics stated in sub-section 4.5.1. Table 4.14 below shows the coefficients obtained from the pair-wise correlation between inbound FDI and the number (forms) of taxes, time (hours) spent paying taxes and the total tax rate faced by domestic SMEs of the sampled countries.

**Table 4.14: Pair-wise coefficients for the correlations between FDI inflows and the sub-variables of deregulation of paying taxes (author's analysis of panel data provided by the World Bank and UNCTAD)**

| | Inbound FDI | Number (forms) of taxes paid per year | Time (hours) spent paying taxes | Total tax rate (% of profit) |
|---|---|---|---|---|
| Inbound FDI | 1 | | | |
| Number (forms) of taxes paid per year | **-0.2182**** (0.0000) | 1 | | |
| Time (hours) spent paying taxes | -0.0233 (0.5179) | 0.2317** (0.0000) | 1 | |
| Total tax rate (% of profit) | -0.0139 (0.6992) | 0.2095** (0.0000) | 0.1617** (0.0000) | 1 |
| Number of observations = 770<br>Checking for multicollinearity = 0 collinearity | | | | |

*Notes:* ** denotes significance at the level = 0.01; bracketed values = p-values

From Table 4.14 it is clear that the number (forms) of taxes paid per year is the only explanatory sub-variable of deregulation of paying taxes that statistically proves significantly correlated to inbound FDI at a 0.01 level of significance with a negative coefficient = -0.2182. Hence, statistically, the number (forms) of taxes payable by domestic SMEs per year

is significantly inversely proportional to inbound FDI (Sekaran, 2003). That implies that as a country deregulates (eases/reduces) the number of taxes payable by its domestic SMEs, it is likely to realise greater FDI inflows, and vice versa. However, it is important to observe that correlation coefficients indicate associations rather than causal relationships between the variables correlated (Wooldridge, 2009).

Pair-wise correlation between FDI and the time (hours) spent paying taxes and the total tax rate imposed on domestic SMEs are not statistically significant at a 0.05 level of significance. However the pair-wise coefficients resulting from this correlation were negative ($r$ = -0.0233 for the time spent paying taxes and $r$ = -0.0139 for the total tax rate), which implies a converse proportionality between FDI and these two sub-variables of deregulation of paying taxes. The statistical insignificance of the pair-wise correlation between FDI and the total tax rate is substantiated by the findings of a study by Davies (2004) that total tax rates have never empirically proven to deter FDI inflows.

In conclusion, the only explanatory sub-variable of deregulation of paying taxes that has a statistically significant relationship with inbound FDI is the number (forms) of taxes payable per year by domestic SMEs. However, the negative coefficients from the pair-wise correlation between FDI and all the three explanatory sub-variables of deregulation of paying taxes for the countries sampled imply that FDI inflow is expected to increase as each of these explanatory variables decreases. These results generally uphold the study's conceptual observation that deregulation of paying taxes apparently leads to increased FDI inflows.

### 4.5.3 Regression results

Inbound FDI was regressed against the sub-variables of deregulation of paying taxes considered for this study using an estimated cross-sectional time series FGLS of the REM represented by equation (2') below:

**Estimated REM of FDI regressed on deregulation of paying taxes**

$$\ln(\hat{Y}_{it}) = \hat{\beta}_0 + \hat{\beta}_e \chi_{e_{it}} + \hat{\beta}_f \chi_{f_{it}} + \hat{\beta}_g \chi_{g_{it}} \quad (2')$$

Where:

$\ln(\hat{Y}_{it})$ = Estimated natural log of FDI inflows

$\hat{\beta}_e$ = Estimated regression coefficients for the number of tax payments per year

$\hat{\beta}_f$ = Estimated regression coefficient for time (hours) spent paying taxes per year

$\hat{\beta}_g$ = Estimated regression coefficient for the total tax rate (percentage of profit)

$\chi_e$ = Number of tax payments per year

$\chi_f$ = Time (hours) spent on paying taxes per year

$\chi_g$ = Total tax rate (percentage of profit)

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

The cross-sectional time series FGLS regressions done were based on the percentiles of the respective units of measurements for the variables considered, as given by the sources of the panel data. Percentiles of variables were chosen for this regression because it is prudent and recommendable to apply uniform units of measurements while modelling panel data (Greene, 2003). However, for the sake of triangulating the approach used and corroborating the results attained, regressions based on the respective levels the variables was also done. The results of the cross-sectional time series FGLS regressions using percentiles of the studied variables are presented in Table 4.15 below.

**Table 4.15: Output of the cross-sectional time series of FGLS regression of FDI against variables of deregulation of paying taxes using percentiles of observations (author's analysis of panel data provided by the World Bank and UNCTAD)**

| LnFDI | Coefficient | Standard error | Z | P > /Z/ |
|---|---|---|---|---|
| Number (forms) of taxes | -0.0038249 | 0.0012342 | -3.10 | 0.002 |
| Time (hours) for paying taxes | 0.0038836 | 0.001244 | 3.12 | 0.002 |
| Total tax rate | 0.0001031 | 0.0012403 | 0.08 | 0.934 |
| Constant | 3.611214 | 0.0852901 | 42.34 | 0.000 |

| | |
|---|---|
| Prob > chi2 = 0.0013 | Number of observations = 770 |
| Wald chi2(3) = 15.71 | Number of groups = 154 |
| Log likelihood = -1032.904 | Time periods = 5 |
| Estimated autocorrelations = 0 | |

Table 4.15 above shows that the overall model for the cross-sectional time series FGLS regression based on the percentiles of variables is statistically significant with a p-value (Prob > chi2) = 0.0013. The table also shows that there is no autocorrelation in deriving the regression results and hence the results presented are reliable.

From Table 4.15 it can be noted that the number (forms) of taxes is the only explanatory component/sub-variable of deregulation of paying taxes that has a negative coefficient (i.e. -0.0038249) that is statistically significant at a 0.01 level of significance. Thus, the number (forms) of taxes is the only sub-variable of deregulation of paying taxes that is inversely proportional to FDI inflows and statistically significant in explaining the variance in inbound FDI. It is however important to note that, given the miniature magnitude of its coefficient (-0.0038249), the number (forms) of taxes, as a predictor variable, has a very small variation impact on inbound FDI. This is possibly due to the fact that inbound FDI is often caused by interplay of a numerous factors (UNCTAD, 2007). Nevertheless, this outcome serves as yet another basis for rejecting the corresponding null hypothesis of the study (i.e. $H0_{\mathbf{b1}}$: There is no significant relationship between the number of tax payments and inbound FDI).

Table 4.15 shows that the time (hours) for paying taxes is statistically significant at a 0.01 level of significance, but has a positive coefficient (0.0038836), which contradicts the study's basic conception of this variable as a predictor of FDI inflows.

In order to corroborate the regression results presented in Table 4.15 above, another regression based on cross-sectional time series FGLS of the REM, using the respective units of measurements (levels) of the variables, was done. The results are presented in Table 4.16.

**Table 4.16: Output of FGLS regression of FDI against deregulation of paying taxes based on the respective units of measurements (levels) of variables (author's analysis of panel data provided by the World Bank and UNCTAD)**

| LnFDI | Coefficient | Standard error | Z | P > /Z/ |
|---|---|---|---|---|
| Number (forms) of taxes | -0.0225184 | 0.0041658 | -5.41 | 0.000 |
| Time (hours) for paying taxes | 0.0012262 | 0.000284 | 4.32 | 0.000 |
| Total tax rate | -0.0050911 | 0.0024967 | -2.04 | 0.041 |
| Constant | 7.532744 | 0.192861 | 39.06 | 0.000 |

| | |
|---|---|
| Prob > chi2 = 0.0000 | Number of observations = 770 |
| Wald chi2(3) = 46.81 | Number of groups = 154 |
| Log likelihood = -1678.32 | Time periods = 5 |
| Estimated autocorrelations = 0 | |

Table 4.16 shows that results from regressions based on the levels of variables are more reliable and supportive of the study's postulations than those from regressions based on percentiles of observations. For instance, the results for the overall model shown in Table 4.16 is significant with a p-value (Prob > chi2) = 0.0000 compared to the model presented in Table 4.15, of which the p-value (Prob > chi2) = 0.0013. Table 4.16 also shows that where FGLS regressions are based on the levels of the variables, both the number (forms) of taxes and the total tax rate are statistically significant and have negative regression coefficients of -0.0225184 and -0.0050911, respectively. This implies that where regressions are based on the levels of the variables, the number of taxes and total tax rate are inversely proportional to FDI, which concurs with the conceptual background of the study. Under the same regression

approach, time (hours) for paying taxes is statistically significant but has a positive regression coefficient (0.0012262).

In conclusion, the results from the regressions where variables are estimated in both percentiles and levels show that the number of taxes paid by domestic SMEs of the sampled countries per year is statistically significant and inversely proportional to inbound FDI. Both time (hours) for paying taxes and the total tax rate are statistically significant where regressions where based on levels of the variables, but only the total tax rate emerges as inversely proportional to inbound FDI. Hence, there is a statistically reliable relationship between the number (forms) of taxes and the total tax rate payable by the domestic SMEs of the sampled countries per year, which buttresses the study's primary conception regarding this relationship. However, this relationship does not necessarily mean that the explanatory variables here do cause inbound FDI, as regressions indicate more of associations than causal relationships (Sekaran, 2003).

### 4.5.4 Granger causality tests results

Granger causality tests for the panel data of the sampled LICs, MICs and HICs for the period 2006–2009 are carried out to investigate the causal relationships between FDI and the sub-variables of deregulation of paying taxes. The null hypotheses upon which the Granger causality tests are based are the following:

**$H0_a$**: Number of taxes paid per year by domestic SMEs does not Granger-cause inbound FDI

**$H0_b$**: Time (hours) spent paying taxes by domestic SMEs does not Granger-cause inbound FDI

**$H0_c$**: The total tax rate (percentage of profit) imposed on domestic SMEs does

not Granger-cause inbound FDI

The null hypotheses stated above are equivalent to interpreting asymptotic F-test of joint significance. In all cases, the null hypothesis can be accepted only where the asymptotic p-value (Prob > chi2) is greater than 0.05 (asymptotic $p > 0.05$) and rejected where the p-value (Prob > chi2) is less than 0.05 (asymptotic $p < 0.05$).

The results of the Granger causality tests based on the null hypotheses $H0_a$, $H0_b$, and $H0_c$ stated above for the sampled groups of low, middle and high income countries are as detailed in Tables: 4.17, 4.18 and 4.19 and as summarised in Table 4.20 below.

**Table 4.17: Granger causality test results for the number (forms) of taxes paid per year and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.28 | 0.6880 | 1.14 | 0.2859 |
| MICs | 1.59 | 0.4266 | 6.37 | 0.0116** |
| HICs | 1.21 | 0.4698 | 4.84 | 0.0279** |

Number of observations = 4

Sample: 2006 to 2009

Note: ** denotes rejection of the null hypothesis of non-causality

Table 4.17 shows that the number of taxes payable by a country's domestic SMEs per year Granger-causes inbound FDI in the sampled MICs and HICs.

**Table 4.18: Granger causality test results for the time (hours) spent paying taxes and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 8.52 | 0.2102 | 34.07 | 0.0000** |
| MICs | 38.03 | 0.1023 | 152.11 | 0.0000** |
| HICs | 5.29 | 0.2611 | 21.16 | 0.0000** |
| | Number of observations = 4 | | | |
| | Sample: 2006 to 2009 | | | |

Note: ** denotes rejection of the null hypothesis of non-causality

From Table 4.18 it is evident that time (hours) spent paying taxes by domestic SMEs per year Granger-causes inbound FDI in all the sampled groups of the LICs, MICs and HICs.

**Table 4.19: Granger causality test results for the total tax rate and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.03 | 0.8895 | 0.12 | 0.7259 |
| MICs | 6.84 | 0.2325 | 27.37 | 0.0000** |
| HICs | 5.48 | 0.2570 | 21.92 | 0.0000** |
| | Number of observations = 4 | | | |
| | Sample: 2006 to 2009 | | | |

Note: ** denotes rejection of the null hypothesis of non-causality

Table 4.19 shows that the total tax rate imposed on domestic SMEs per year Granger-causes inbound FDI in only the sampled middle and high income countries.

**Table 4.20: Summary of results (p-values) from the Granger causality tests for the deregulation of paying taxes and FDI for LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD, 2006–2009)**

| Variable | Sub-variable | LICs | MICs | HICs |
|---|---|---|---|---|
| Deregulation of paying Taxes | Number (forms) | 0.2859 | 0.0116** | 0.0279** |
| | Time (hours) | 0.0000** | 0.0000** | 0.0000** |
| | Total tax rate | 0.7259 | 0.0000** | 0.0000** |
| | | Number of observations = 4<br>Sample: 2006 to 2009 | | |

Note: ** denotes rejection of the null hypothesis of non-causality;

Tables: 4.17 and 4.20 show the results from the Granger causality tests, indicating that the number of taxes paid per year by domestic SMEs Granger-causes inbound FDI in only the sampled middle and high income countries but not in the sampled LICs. These results therefore imply that the null hypothesis $H0_a$ (i.e. number of taxes paid per year by domestic SMEs does not Granger- cause inbound FDI) was rejected for the sampled groups of the middle and high income countries but accepted for the sampled low income countries.

Tables: 4.18 and 4.20 show that the time (hours) spent paying taxes by domestic SMEs Granger-causes inbound FDI in all the three groups of the sampled low, middle and high income countries. This means that the null hypothesis $H0_b$ (i.e. time (hours) spent while

paying taxes by domestic SMEs does not Granger-cause inbound FDI) was rejected for all the three economic groupings of the sampled countries.

Tables 4.19 and 4.20 show the results from the Granger causality tests indicating that the total tax rate (percentage of profit) imposed on domestic SMEs Granger-causes inbound FDI in only the sampled MICs and HICs but not in the LICs. Hence, the corresponding null hypothesis $H0_c$ (i.e. the total tax rate (percentage of profit) imposed on domestic SMEs does not Granger-cause inbound FDI) is accepted for only the sampled LICs but rejected for the sampled MICs and HICs.

The failure to reject the null hypotheses $H0_a$ and $H0_c$ for the sampled LICs is possibly because such countries have exceptional characteristics that cause them to fail to attract FDI inflows through conventional measures that prove effective in the middle and high income countries (UNCTAD, 2007). In summary, the results from the Granger causality tests generally show that all the components (sub-variables) of deregulation of paying taxes Granger-cause inbound FDI in the sampled LICs, MICs and HICs except for the number (forms) of taxes and total tax rate applied in the sampled LICs.

### 4.5.5 Empirical substantiation

This sub-section covers a comparative analysis of empirical data on deregulation of paying taxes, cross-border M&As and inbound FDI, as presented by the World Bank (2010) and UNCTAD (2010) that substantiate the results presented in sub-sections: 4.5.1, 4.5.2, 4.5.3 and 4.5.4.

Empirical data from the Ease of Doing Business database (2010) and the World Investment Report of 2010 show that countries that rank high in the deregulation of paying taxes do

attain more cross-border M&As and greater inbound FDI than their counterparts. This empirical evidence is illustrated in Table 4.21 below.

**Table 4.21: Cross-border M&As and FDI realised by countries with the highest and lowest deregulation of paying taxes in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| Countries with the highest deregulation of paying taxes | | | | Countries with the lowest deregulation of paying taxes | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) | **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) |
| Maldives | 1 | 3 | 10 | Jamaica | 174 | 0 | 1 062 |
| Qatar | 2 | 298 | 8722 | Mauritania | 175 | 0 | -36 |
| Hong Kong China | 3 | 3 028 | 48449 | Gambia | 176 | 0 | 47 |
| United Arab Emirates | 4 | 300 | 4003 | Bolivia | 177 | 24 | 423 |
| Singapore | 5 | 9 693 | 16809 | Uzbekistan | 178 | 4 | 750 |
| Ireland | 6 | 1 712 | 24971 | Central African Rep. | 179 | 0 | 42 |
| Saudi Arabia | 7 | 42 | 35514 | Congo, Rep. | 180 | 0 | 2 083 |
| Oman | 8 | 10 | 2211 | Ukraine | 181 | 147 | 4 816 |
| New Zealand | 9 | 126 | 348 | Venezuela | 182 | 0 | -3105 |
| Kiribati | 10 | 0 | 2 | Belarus | 183 | 0 | 1 863 |
| **Average** | | **1 521.2** | **14 103.9** | **Average** | | **17.5** | **794.5** |

Table 4.21 shows that in year 2009, the 10 countries that ranked highest/best on deregulation of paying taxes attained much higher averages of M&As and FDI (US$1 521.2 million and US$14 103.9 million, respectively) than those attained by the 10 lowest/worst-ranked countries (US$17.5 million for M&As and US$1 794.5 million for FDI). These empirical facts significantly corroborate and substantiate the basic presupposition of the study that deregulation of paying taxes by the domestic SMEs is significantly related to inbound FDI and cross-border mergers and acquisitions. Hence, countries are likely to realise greater

inbound FDI, especially through cross-border M&As, if they deregulate the payment of taxes by their respective domestic SMEs.

### 4.6 Relationships between deregulation of export trading and FDI

This section contains a presentation and discussion of the results from the investigation of the relationship between inbound FDI and the deregulation of export trading by the domestic SMEs of the sampled countries.

#### 4.6.1 Descriptive statistics

This sub-section presents a summary of the descriptive statistics (means/averages) of the variables for deregulation of export trading by domestic SMEs, inbound FDI and cross-border M&As for the sampled 154 countries. The statistics are derived from the panel data devised for the study and presented according to the LIC, MIC and HIC groupings. Table 4.22 below shows the summary of the descriptive statistics.

The results of the descriptive statistics shown in Table 4.22 show that countries with higher levels of deregulation of export trading attain greater monetary values of cross-border M&As and FDI inflows on average. According to Table 4.22, the sampled LICs have the highest averages of export documents, time (days) for exporting and cost (US$) of exporting a 20-feet container of goods by the domestic SMEs. Further, the sampled HICs have the lowest averages of export documents, time (days) for exporting and cost of exporting experienced by the domestic SMEs.

**Table 4.22: Descriptive statistics of variables for deregulation of exporting, M&As and inbound FDI for the various country groupings (author's analysis of data from the World Bank and UNCTAD)**

| Variables | Country groupings | Mean | Standard error |
|---|---|---|---|
| Number of official documents for exporting | | | |
| | LICs | 8.6 | 0.2 |
| | MICs | 7.4 | 0.1 |
| | HICs | 5.1 | 0.3 |
| Time (days) taken to export a container of goods | | | |
| | LICs | 44.9 | 1.6 |
| | MICs | 28.2 | 0.8 |
| | HICs | 11.9 | 0.5 |
| Cost (US$) of exporting a container of goods | | | |
| | LICs | 1879.2 | 82.1 |
| | MICs | 1224.0 | 38.0 |
| | HICs | 876.5 | 24.4 |
| M&As attained (US$ millions) for only 2009 | | | |
| | LICs | 168.9 | |
| | MICs | 293.5 | |
| | HICs | 6154.0 | |
| FDI inflows (US$ millions) for only 2009 | | | |
| | LICs | 1337.4 | |
| | MICs | 3979.6 | |
| | HICs | 17340.0 | |
| *Number of observations = 770* | | | |

Table 4.22 shows that the sampled LICs have the lowest averages of monetary value of cross-border M&As and FDI. These are followed by the sampled MICs, while the sampled HICs bear the highest averages. These results support the conceptual presupposition of the study that highly deregulated countries, represented by the group of the sampled HICs in this study,

ostensibly attain higher levels of FDI inflows than their counterparts. Hence, the results from the descriptive statistics shown in Table 4.22 serve as a preliminary indication of statistical significance and inverse proportionality between inbound FDI and the deregulation of export trading by the domestic SMEs of any country. Other findings to corroborate this fact are presented in the sub-sections below.

Figures: 4.11, 4.12 and 4.13 illustrate the variations in the number of documents, time and cost of exporting a standard container of goods by the domestic SMEs of the sampled LICs, MICs and HICs, respectively.

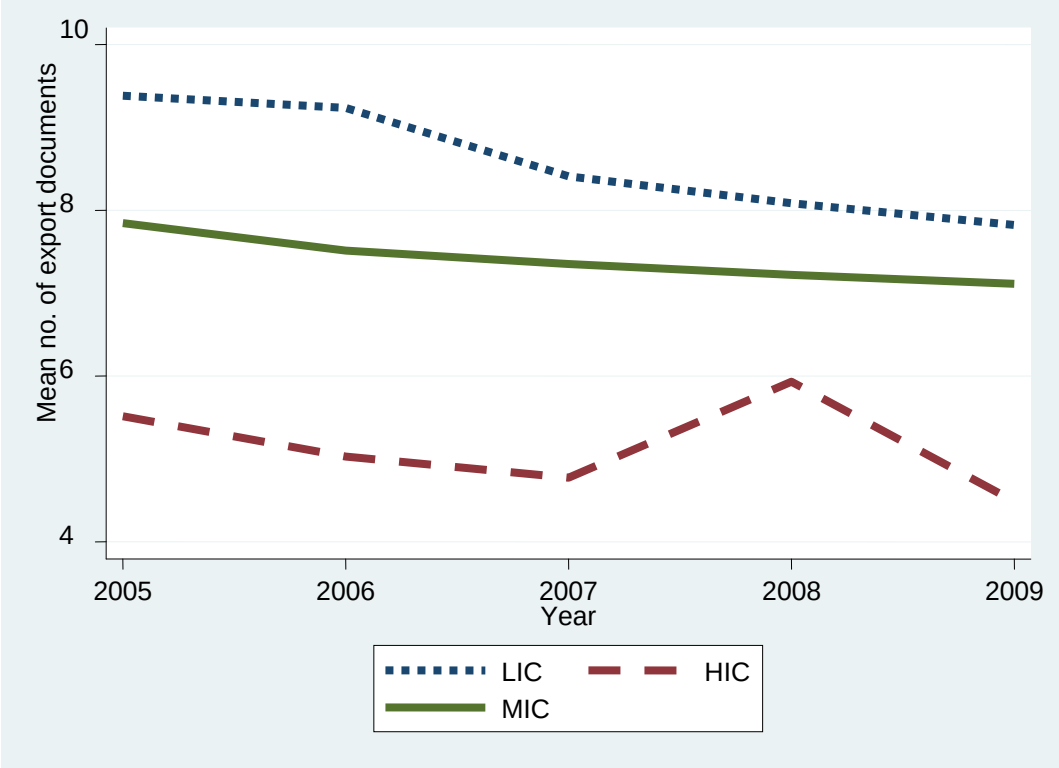


**Figure 4.11: Comparison of export documents completed in the LICs, MICs and HICs (author's analysis of the panel data from the World Bank's Ease of Doing Business database)**

Figure 4.11 shows that the sampled HICs have the lowest levels (number) of documents to be completed by SME exporters. This group is followed by the sampled MICs, while the LICs have the highest levels (number) of such documents. However, it is evident from Figure 4.11 that in all three groups of the sampled countries, the numbers of documents for exporting are steadily reducing, although this reduction is most pronounced in the sampled HICs.

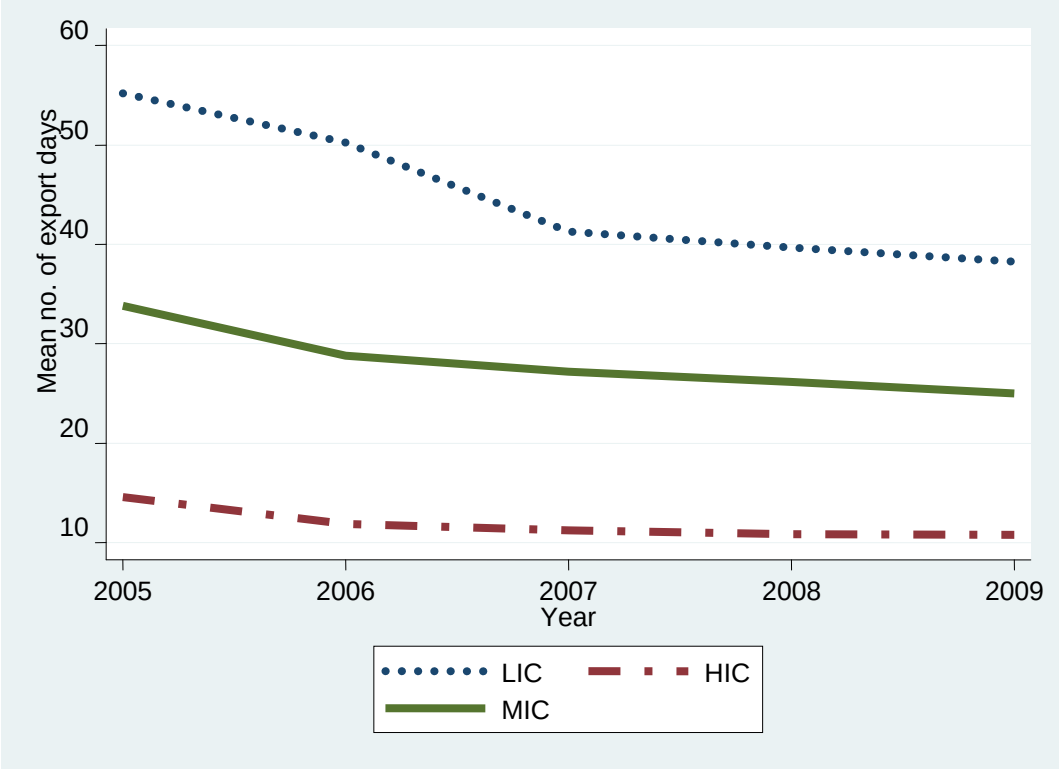


**Figure 4.12: Comparison of time (days) for exporting in the LICs, MICs and HICs (author's analysis of the panel data from the World Bank**'s Ease of **Doing Business database)**

Figure 4.12 shows that the time (days) spent exporting a standard container of goods is the longest (slowest) in the sampled LICs, followed by that of the MICs, while that of the sampled HICs is the shortest. This illustration supports the respective descriptive statistics presented in Table 4.22 above.

However, Figure 4.12 shows that the time (days) spent on exporting has since 2005 been on a steady and impressive down-ward trend in all the sampled low, middle and high income countries. This implies that each country needs to aggressively compete in the deregulation (reduction) of such time (days) to gain advantage over others in respect of attracting more cross-border M&As and FDI inflows.

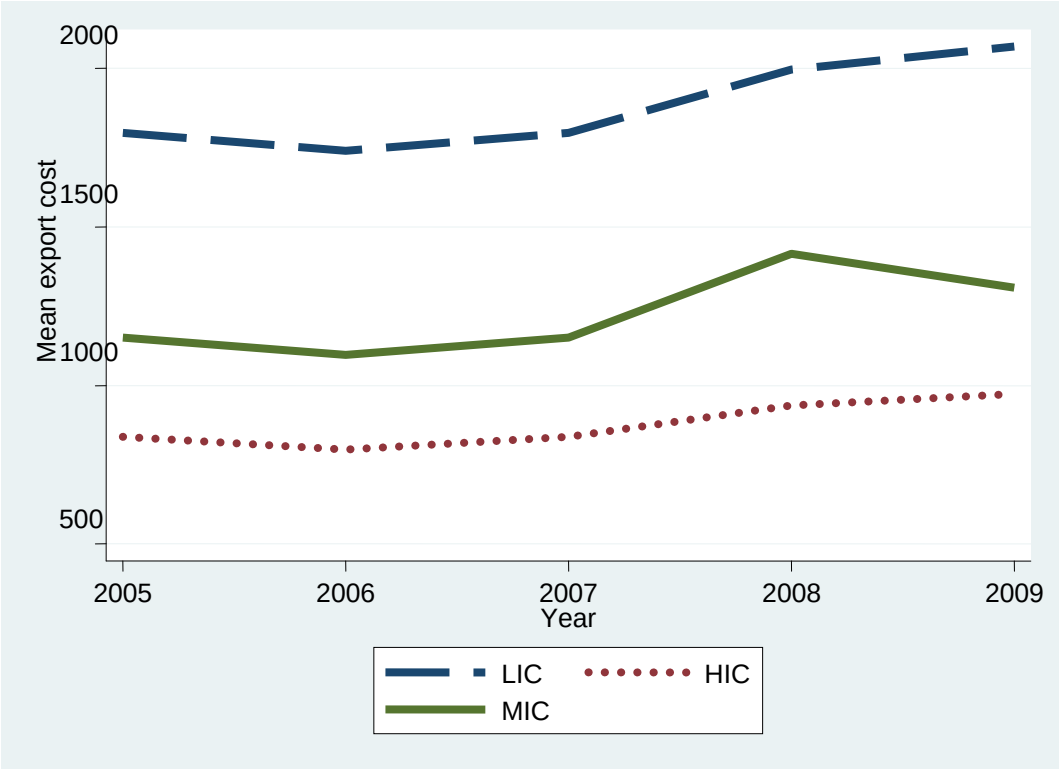


**Figure 4.13: Comparison of cost of exporting incurred in the LICs, MICs and HICs (author's analysis of the panel data from the World Bank's Ease of Doing Business database)**

Figure 4.13 shows that the cost of exporting a standard container of goods is highest in the sampled LICs, followed by that of the MICs, while the HICs have the least cost. These findings bolster the descriptive statistics shown in Table 4.22 above. Unfortunately, Figure 4.13 also shows that this exporting cost has been generally rising in all groups of the sampled

countries since 2006. This is probably due to the general inflation and economic crisis that have been experienced by most countries since 2006 (World Bank, 2009).

### 4.6.2 Correlation results

Correlations are important in so far as they facilitate the detection of a significant degree of dependence among the study variables. Such correlations are carried out to substantiate the implications of the descriptive statistics regarding the relationship between FDI and deregulation of export trading, as discussed in Section 4.6.1. Table 4.23 below shows the coefficients obtained from the pair-wise correlation between inbound FDI and the number (forms) of export documents, time (days) for exporting and the cost of exporting a container of goods by domestic SMEs. The correlation results shown in Table 4.23 are derived from the panel data for the 154 countries sampled for this study.

**Table 4.23: Pair-wise coefficients for the correlations between FDI inflows and deregulation of export trading variables (author's analysis of panel data provided by the World Bank and UNCTAD)**

| | Inbound FDI | Documents (number) for exporting | Time (days) for exporting | Cost of exporting |
|---|---|---|---|---|
| Inbound FDI | 1 | | | |
| Documents (number) for exporting | -0.2187** (0.0000) | 1 | | |
| Time (days) for exporting | -0.2343** (0.0000) | 0.5184** (0.0000) | 1 | |
| Cost of exporting | -0.1153** (0.0014) | 0.2739** (0.0000) | 0.6085** (0.0000) | 1 |
| Number of observations = 770<br>Checking for multicollinearity = 0 (zero collinearity) | | | | |

Notes: ** denotes significance at the 0.01 level; bracketed values = p-values

According to Table 4.23 there are statistically significant negative correlations between FDI and all the components (sub-variables) of deregulation of export trading (i.e. the documents: -0.2187, time: -0.2343 and cost: -0.1153) for the sampled countries. This implies that inbound FDI is reliably inversely proportional to the documents (number), time (days) and cost (US$) of exporting a container of goods by the domestic SMEs of a country, as postulated in the conceptual framework of this study.

In order to corroborate the pair-wise correlation results presented above, a two-tailed Pearson product-moment correlation was done basing on the 2009 annual/cross-sectional data for the sampled 154 countries. The results of the Pearson product-moment correlation are presented in Table 4.24 below.

**Table 4.24: Pearson product-moment correlation coefficients for the variables of deregulation of export trading, cross-border M&As and FDI (author's analysis of cross-sectional data provided by the World Bank 2010 and UNCTAD 2010 for year 2009)**

| | M&As (US$ millions) | Inbound FDI (US$ millions) | Documents (number) for exporting | Time (days) for exporting | Cost (US$ per container) of exporting |
|---|---|---|---|---|---|
| M&As (US$ millions) | 1 | | | | |
| Inbound FDI (US$ millions) | **0.650**** (0.000) | 1 | | | |
| Documents (number) for exporting | **-0.251**** (0.002) | **-0.262**** (0.001) | 1 | | |
| Time (days) for exporting | **-0.258**** (0.001) | **-0.229**** (0.004) | 0.554** (0.000) | 1 | |
| Cost (US$ per container) of exporting | -0.111 (0.171) | -0.151 (0.061) | 0.346** (0.000) | 0.772** (0.000) | 1 |
| Number of observations = 154 | | | | | |

Notes: ** denotes significance at the 0.01 level; bracketed values = p-values

Table 4.24 above shows that, at a 0.1 level of significance, the number of export documents and the time (days) for exporting are negatively correlated to both cross-border M&As and inbound FDI, while M&As are positively correlated to FDI for the sampled countries. This outcome buttresses the conceptual postulation of the study that deregulation (reduction) of the documents (number) and the time (days) for exporting leads to increased cross-border M&As and consequently higher inbound FDI.

From the correlation results shown in Tables: 4.23 and 4.24 above, it is evident that the time (days) for exporting has the greatest negative correlation with inbound FDI (-0.2343 and -0.258, respectively) among the three components (sub-variables) of deregulation of export trading. This is followed by the number of exporting documents (with coefficient = -0.2187 and -0.251, respectively). The cost for exporting has the least correlation with FDI and this is probably because of the statistically insignificant correlation between this variable and cross-border M&As (with a p-value = 0.171).

In summary, the correlation results show that in general, inbound FDI is negatively correlated to the documents, time and cost of exporting a standard container of goods by the domestic SMEs of the sampled countries. The pair-wise correlation results substantiate the study's basic presupposition that there is a statistically significant relationship between inbound FDI and the deregulation of export trading by the domestic SMEs of a country.

### 4.6.3 Regression results

Inbound FDI is regressed against the sub-variables of deregulation of export trading considered for this study basing on the panel data for the sampled countries using an

estimated cross-sectional time series FGLS of the Random Effects Model. The regression model applied is represented by equation (3') below:

**Estimated model of FDI regressed on deregulation of export trading**

$$\ln \widehat{FDI}_{it} = \hat{\beta}_0 + \hat{\beta}_h \chi_{h_{it}} + \hat{\beta}_i \chi_{i_{it}} + \hat{\beta}_j \chi_{j_{it}} \qquad (3')$$

Where:

$\ln \widehat{FDI}_{it}$ = Estimated natural log of FDI inflows

$\hat{\beta}_h$ = Estimated regression coefficient for the number of documents for export

$\hat{\beta}_i$ = Estimated regression coefficient for the time (days) for exporting a 20-feet container of goods

$\hat{\beta}_j$ = Estimated regression coefficient for the cost (US$ per container) for exporting

$\chi_h$ = Number of official documents used to export a 20-feet container of goods

$\chi_i$ = Time (days) spent on exporting a 20-feet container of goods

$\chi_j$ = Cost (US$) to export a 20-feet container of goods

i = The cross-sectional unit identifier (i.e. individual dimension/countries analysed)

t = The time period identifier (i.e. the time dimension/years covered)

The cross-sectional time series FGLS regressions executed were based on the percentiles of the respective units of measurements for variables considered, as given by the sources of the panel data. Percentiles of variables were chosen for this regression because it is advisable to

estimate panel data models using identical units of measurements (Greene, 2003). The results from the cross-sectional time series FGLS regressions using percentiles of observations are presented in Table 4.25 below.

**Table 4.25: Output of the cross-sectional time series of FGLS regression of FDI against the variables for deregulation of export trading using percentiles of observations (author's analysis of panel data provided by the World Bank and UNCTAD)**

| **LnFDI** | **Coefficient** | **Standard error** | **Z** | **P > /Z/** |
|---|---|---|---|---|
| Documents for exporting | 0.0008258 | 0.0013476 | 0.61 | 0.540 |
| Time (days) for exporting | -0.0109587 | 0.0015066 | -7.27 | 0.000 |
| Cost of exporting | -0.0015847 | 0.0013013 | -1.22 | 0.223 |
| Constant | 4.205811 | 0.0709982 | 59.24 | 0.000 |
| Prob > chi2 = 0.0000 | | Number of observations = 770 | | |
| Wald chi2(3) = 110.87 | | Number of groups = 154 | | |
| Log likelihood = -988.8881 | | Time periods = 5 | | |
| Estimated autocorrelations = 0 | | | | |

Note: LnFDI= Natural log of FDI

Table 4.25 shows that the overall model for the cross-sectional time series FGLS regression based on the percentiles of variables is statistically significant with a p-value (Prob > chi2) = 0.0000. The table also shows that there is no autocorrelation in deriving the regression results, and the panel dataset is balanced (770 observations, 154 groups and 5 time periods). The regression results, as presented in Table 4.25, are therefore valid and reliable.

From Table 4.25 it can be noted the that time (days) for exporting is the only explanatory component (sub-variable) of deregulation of export trading that is statistically significant at a

0.01 level of significance and with a negative coefficient (-0.0109587). This implies that the time (days) for exporting is the only statistically reliable component (sub-variable) of deregulation of export trading that is inversely proportional to inbound FDI and thus statistically significant in explaining the variance in inbound FDI.

From Table 4.25 it is evident that the regression coefficient for the cost of exporting is negative (-0.0015847). This implies some inverse proportionality between FDI and the cost of exporting, although this association was statistically insignificant and the regression coefficient was meagre. The cause for the statistical insignificance of the regression coefficient for the cost of exporting is possibly the fact that some countries are landlocked while others face various export logistical and structural bottlenecks, which should however not deter FDI choices (UNCTAD, 2008).

In précis, the results from the regressions of inbound FDI against the three components (sub-variables) of deregulation of export trading show that statistically, only the time (days) for exporting is significantly and conversely proportional to FDI inflows. Hence, a country is likely to realise increased FDI inflows as it deregulates (reduces) the time (days) it takes its domestic SMEs to export a standard container of goods. This outcome supports the study's hypothesis that there is a statistically significant relationship between inbound FDI and the time (days) it takes a domestic SME to export a 20-feet container of goods.

### 4.6.4 Granger causality tests results

Granger causality tests are executed basing on the panel data for the various income (economic) groupings of the sampled 154 countries for the period 2006–2009 to investigate

the causal relationships between FDI and the variables of deregulation of export trading. The null hypotheses upon which the Granger causality tests are based are:

**$H0_i$**: Number (forms) of official documents for exporting a standard container of goods by domestic SMEs does not Granger-cause inbound FDI

**$H0_{ii}$**: Time (days) it takes to export a standard container of goods by domestic SMEs does not Granger-cause inbound FDI

**$H0_{iii}$**: Cost (US$) of exporting a standard container of goods by domestic SMEs does not Granger-cause inbound FDI

The null hypotheses stated above are equivalent to interpreting asymptotic F-test of joint significance. In all cases, the null hypothesis can be accepted only where the asymptotic p-value (Prob > chi2) is greater than 0.05 (asymptotic $p > 0.05$) and rejected where the p-value (Prob>chi2) is less than 0.05 (asymptotic $p < 0.05$).

The results of the Granger causality tests based on the null hypotheses $H0_i$, $H0_{ii}$, and $H0_{iii}$ stated above for the sampled LICs, MICs, and HICs are as detailed in Tables: 4.26, 4.27 and 4.28 and as summarised in Table 4.29 below.

**Table 4.26: Granger causality test results for the number (forms) of documents for exporting and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.19 | 0.7414 | 0.74 | 0.3896 |
| MICs | 231.78 | 0.0418 | 927.13 | **0.0000**** |
| HICs | 0.63 | 0.5727 | 2.52 | 0.1122 |
| | Number of observations = 4 | | | |
| | Sample: 2006 to 2009 | | | |

Note: **** denotes the rejection of the null hypothesis of non-causality

Table 4.26 shows that the number (forms) of documents to be completed by domestic SMEs while exporting a standard container of goods Granger-cause inbounds FDI in only the sampled middle income countries.

**Table 4.27: Granger causality test results for the time (days) for exporting and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.61 | 0.5775 | 2.45 | 0.1179 |
| MICs | 1.70 | 0.4161 | 6.82 | **0.0090**** |
| HICs | 0.26 | 0.6981 | 1.05 | 0.3047 |
| | Number of observations = 4 | | | |
| | Sample: 2006 to 2009 | | | |

Note: **** denotes the rejection of the null hypothesis of non-causality

Table 4.27 shows that time (days) spent by domestic SMEs on exporting a standard container of goods Granger-causes inbound FDI in only the sampled group of middle income countries.

**Table 4.28: Granger causality test results for the cost of exporting and inbound FDI for the LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Country grouping | F (1, 1) | Prob > F | Chi2(1) | Prob > chi2 |
|---|---|---|---|---|
| LICs | 0.10 | 0.8029 | 0.41 | 0.5222 |
| MICs | 4556.25 | 0.0094 | 18224.99 | **0.0000**** |
| HICs | 20.64 | 0.1379 | 82.57 | **0.0000**** |
| | Number of observations = 4 | | | |
| | Sample: 2006 to 2009 | | | |

Note: **** denotes the rejection of the null hypothesis of non-causality

Table 4.28 shows that the cost (US$) of exporting a standard (20-feet) container of goods by domestic SMEs Granger-causes inbound FDI in only the sampled MICs.

**Table 4.29: Summary of results (p-values) from the Granger causality test for the deregulation of export trading and FDI for the sampled LICs, MICs and HICs (author's analysis of panel data from the World Bank and UNCTAD 2006–2009)**

| Variable | Sub-variable | LICs | MICs | HICs |
|---|---|---|---|---|
| Deregulation of export trading: | Documents (number): | 0.3896 | **0.0000**** | 0.1122 |
| | Time (days): | 0.1179 | **0.0090**** | 0.3047 |
| | Cost (US$ per container): | 0.5222 | **0.0000**** | **0.0000**** |
| Number of observations = 4 | | | | |
| Sample: 2006 to 2009 | | | | |

Note: **** denotes the rejection of the null hypothesis of non-causality;

Tables: 4.26 and 4.29 show that the numbers of documents for exporting Granger-causes inbound FDI in only the sampled MICs. Hence, the null hypothesis $H0_i$ (number (forms) of official documents for exporting a standard container of goods by domestic SMEs does not Granger-cause inbound FDI) is rejected for only the sampled MICs, but accepted for the sampled low and high income countries.

Tables: 4.27 and 4.29 show that the time (days) spent exporting a 20-feet container by domestic SMEs Granger-causes inbound FDI in only the sampled MICs. Thus, the null hypothesis $H0_{ii}$ (time (days) it takes to export a standard container of goods by domestic SMEs does not Granger-cause inbound FDI) is rejected for only the case of the sampled middle income countries but accepted for the sampled low and high income countries.

Tables: 4.28 and 4.29 show that the cost (US$) of exporting a standard (20-feet) container of goods by domestic SMEs Granger-causes inbound FDI in the sampled groups of the middle and high income countries but not in that of the low income countries. Thus, the null analogous hypothesis ($H0_{iii}$: cost (US$) of exporting a standard container of goods by domestic SMEs does not Granger-cause inbound FDI) is accepted for only the sampled low income countries but rejected for the sampled middle and high income countries.

The null hypotheses of non-causality ($H0_i$ $H0_{ii}$ and $H0_{iii}$) are not rejected for the sampled group of the low income countries probably because such countries have exceptional characteristics that cause them to fail to attract FDI inflows through conventional measures that prove effective in the MICs and HICs (UNCTAD, 2008).

In précis, the results from the Granger causality tests show that all the components (sub-variables) of deregulation of export trading Granger-cause inbound FDI in the sampled middle income countries. For the sampled group of high income countries, the only component (sub-variable) of deregulation export trading that Granger-causes inbound FDI is the cost (US$) of exporting a standard (20-feet) container of goods.

### 4.6.5 Empirical corroboration of results

This sub-section contains results from a comparative analysis of deregulation of export trading, cross-border M&As and inbound FDI based on empirical data from the World Bank (2010) and UNCTAD (2010) to corroborate the results presented in sub-sections 4.5.1, 4.5.2, 4.5.3 and 4.5.4.

Empirical data from the Ease of Doing Business database (2010) and the World Investment Report of 2010 show that countries that have high levels of deregulation of export trading do realise more cross-border M&As and inbound FDI than their counterparts. This empirical observation is illustrated in by Tables: 4.30, 4.31 and 4.32 below.

**Table 4.30: Cross-border M&As and FDI realised by countries with the highest and lowest deregulation of cross-border (export/import) trading in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| Countries with the highest deregulation of cross-border (export/import) trading | | | | Countries with the lowest deregulation of cross-border (export/import) trading | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) | **Country** | **Global rank** | **M&A** (US$ millions) | **FDI** (US$ millions) |
| Singapore | 1 | 9 693 | 16 809 | Uzbekistan | 174 | 4 | 750 |
| Hong Kong | 2 | 3 028 | 48 449 | Burundi | 175 | - | 10 |
| Estonia | 3 | 28 | 1 680 | Burkina Faso | 176 | - | 171 |
| Finland | 4 | 508 | 2 551 | Azerbaijan | 177 | - | 473 |
| United Arab Emirates | 5 | 300 | 4 003 | Congo, Rep. | 178 | - | 2 083 |
| Denmark | 6 | 1 651 | 7 800 | Tajikistan | 179 | - | 8 |
| Sweden | 7 | 1 098 | 10 851 | Iraq | 180 | - | 1 070 |
| Korea, Rep | 8 | 1 956 | 5 844 | Central African Rep. | 181 | - | 42 |
| Norway | 9 | 1 630 | 6 657 | Kazakhstan | 182 | 1 322 | 12 649 |
| Panama | 10 | 20 | 1 773 | Afghanistan | 183 | - | 185 |
| | **Average** | **1 991.2** | **10 641.7** | | **Average** | **132.6** | **1 744.1** |

Note: - denotes unknown figure, which has been equated to zero in this study

Table 4.30 shows that, in 2009, the average value of M&As (US$1 991.2 million) attained by the 10 countries with the highest deregulation of cross-border (export and import) trade was much higher than that attained by the 10 countries with the lowest levels of the same form of deregulation (US$132.6 million). Likewise, the 10 countries with the highest levels of deregulation realised an average of inbound FDI (US$10 641.7 million) that was much more than that attained by the 10 countries with the lowest levels of deregulation (US$1 744.1). This empirical observation buttresses the study's conceptual premise that deregulation of export trading by domestic SMEs is likely to enhance FDI inflows, especially through cross-border mergers and acquisitions.

The analysis and observations made above were bolstered by further comparative analysis of the empirical data pertaining to the documents, time and cost of exporting and how they relate to cross-border M&As and FDI inflows, as shown in Tables 4.31, 4.32 and 4.33 below.

**Table 4.31: Cross-border M&As and FDI attained by countries with the fewest and most number of documents for export trading in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| **Countries with the fewest export documents** | | | | **Countries with the most export documents** | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Doc. No.** | **M&A** (US$ millions) | **FDI** (US$ millions) | **Country** | **Doc. No.** | **M&A** (US$ millions) | **FDI** (US$ millions) |
| France | 2 | 724 | 59 628 | Cambodia | 11 | - | 533 |
| Estonia | 3 | 28 | 1 680 | Namibia | 11 | 59 | 516 |
| Korea, Rep. | 3 | 1 956 | 5 844 | Mauritania | 11 | - | -38 |
| Panama | 3 | 20 | 1 773 | Angola | 11 | -471 | 13 101 |
| Canada | 3 | 11 389 | 18 657 | Malawi | 11 | 0 | 60 |
| Micronesia | 3 | 0 | 8 | Burkina Faso | 11 | - | 171 |
| Singapore | 4 | 9 693 | 16 809 | Congo, Rep. | 11 | 0 | 2 083 |
| Hong Kong | 4 | 3 028 | 48 449 | Kazakhstan | 11 | 1 322 | 12 649 |
| Finland | 4 | 508 | 2 551 | Afghanistan | 12 | - | 185 |
| United Arab Emirates | 4 | 300 | 4 003 | Fiji | 13 | - | 238 |
| **Average/Mean** | **3** | **2 764.6** | **15 940.2** | **Average/Mean** | **11** | **91.0** | **2 949.8** |

Notes: Doc. no. = the number of official documents for export trading domestic SMEs had to deal with; - denotes unknown figure, which has been equated to zero in this study

Table 4.31 shows that, in 2009, the ten countries with the fewest export documents (i.e. with an average of three export documents) registered an average value of M&As (US$2 764.6 million) that is much higher than that attained by the ten countries with the most export documents (i.e. with an average of eleven export documents) (US$91 million). Similarly, it is evident from Table 4.31 that countries with the fewest export documents attracted a much higher average of FDI inflows (US$15 940.2 million) than that attracted by the ten countries with the most/highest number of export documents (US$2 949.8 million). Inference from this empirical observation fortifies the hypothetical foundation of the study that deregulation

(reduction) of the export documents apparently boosts FDI inflows, markedly through cross-border mergers and acquisitions.

**Table 4.32: Cross-border M&As and FDI achieved by countries with the fastest and slowest time (days) for exporting goods in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| **Countries with the fastest/shortest time (fewest days) for exporting** | | | | **Countries with the slowest/longest time (days) for exporting** | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **Days** | **M&A** (US$ millions) | **FDI** (US$ millions) | **Country** | **Days** | **M&A** (US$ millions) | **FDI** (US$ millions) |
| Singapore | 5 | 9 693 | 16 809 | Central African Rep. | 54 | - | 42 |
| Estonia | 5 | 28 | 1 680 | Niger | 59 | - | 739 |
| Denmark | 5 | 1 651 | 7 800 | Kyrgyz Rep. | 63 | - | 60 |
| Hong Kong | 6 | 3 028 | 48 449 | Angola | 65 | -471 | 13 101 |
| Netherlands | 6 | 17 988 | 26 949 | Uzbekistan | 71 | 4 | 750 |
| United States | 6 | 40 085 | 129 883 | Afghanistan | 74 | - | 185 |
| Luxembourg | 6 | 444 | 27 273 | Chad | 75 | - | 462 |
| Norway | 7 | 1 630 | 6 657 | Tajikistan | 82 | - | 8 |
| Germany | 7 | 12 790 | 35 606 | Kazakhstan | 89 | 1 322 | 12 649 |
| Cyprus | 7 | 52 | 5 797 | Iraq | 102 | - | 1 070 |
| **Average** | **6** | **8 738.9** | **30 690.3** | **Average** | **73** | **85.5** | **2 906.6** |

Note: - denotes unknown figure, which has been equated to zero in this study

Looking at Table 4.32, it is evident that in 2009, the ten countries with the fastest/shortest time (fewest days) for exporting (i.e. with an average of six days) registered an average value of M&As (US$8 738.9 million) that is much higher than that attained by the ten countries with the slowest/longest time (i.e. with an average of 73 export documents) (US$85.5 million). Likewise, Table 4.32 also shows that the ten countries with the fastest/shortest export time attained a much greater average of FDI inflows (US$30 690.3 million) than that attained by the ten countries with the slowest/longest time (most days) for exporting (US$2 906.6 million). This empirical inference sustains the study's hypothetical observation

that deregulation (reduction) of the time (days) for exporting a standard (20-feet) container of goods by domestic SMEs ostensibly increases inbound FDI, noticeably through cross-border mergers and acquisitions. Hence, the heavily regulated LICs, the majority of which have the slowest/longest time (most days) for exporting, are likely to realise greater FDI inflows manifestly through increased cross-border M&As as they deregulate (reduce) the time their respective domestic SMEs take to export a standard container of goods.

**Table 4.33: Cross-border M&As and FDI attained by countries with the least and most cost (US$) of export trading in 2009 (empirical data from the World Bank 2010 and UNCTAD 2010)**

| **Countries with the least/lowest cost (US$ per container) of exporting** | | | | **Countries with the most/highest cost (US$ per container) of exporting** | | | |
|---|---|---|---|---|---|---|---|
| Country | Cost (US$ per container) | M&A (US$ millions) | FDI (US$ millions) | Country | Cost (US$ per container) | M&A (US$ millions) | FDI (US$ millions) |
| Malaysia | 450 | 354 | 1 381 | Uzbekistan | 3 100 | 4 | 750 |
| Singapore | 456 | 9 693 | 16 809 | Tajikistan | 3 150 | - | 8 |
| China | 500 | 10 898 | 95 000 | Uganda | **3 190** | - | **799** |
| Finland | 540 | 508 | 2 551 | Rwanda | 3 275 | - | 119 |
| United Arab Emirates | 593 | 300 | 4 003 | Zimbabwe | 3 280 | 6 | 60 |
| Latvia | 600 | 109 | 72 | Afghanistan | 3 350 | - | 185 |
| Pakistan | 611 | - | 2 387 | Niger | 3 545 | - | 739 |
| Hong Kong | 625 | 3 028 | 48 449 | Iraq | 3 900 | - | 1 070 |
| Thailand | 625 | 346 | 5 949 | Central African Rep. | 5 491 | - | 42 |
| Brunei Darussalam | 630 | - | 311 | Chad | 5 497 | - | 462 |
| **Average/Mean** | **563** | **2 523.6** | **17 691.2** | **Average/Mean** | **3 778** | **1.0** | **423.4** |

Note: - denotes unknown figure, which has been equated to zero in this study

Table 4.33 shows that, in 2009, the ten countries with the least/lowest cost for exporting (i.e. with an average of US$563) registered an average value of M&A (US$2 523.6 million) that is much more than that attained by the ten countries with the most/highest cost (i.e. with an average of US$3 778) (US$1 million). Similarly, from Table 4.33 it is apparent that the ten

countries with the lowest cost of exporting attracted a much higher average of inbound FDI (US$17 691.2 million) than that attracted by the 10 countries with the highest cost of exporting (US$423.4 million). This empirical proof upholds the conceptual presupposition of the study that deregulation (reduction) of the cost (US$) of exporting a standard (20-feet) container of goods by domestic SMEs apparently intensifies FDI inflows, perceptibly through cross-border mergers and acquisitions. Thus, the heavily regulated countries, most of which have a high cost of exporting (World Bank, 2010), are likely to attract more inbound FDI, especially through increased cross-border M&As, as they deregulate (reduce) the cost their respective domestic SMEs incur to export a standard container of goods.

# CHAPTER FIVE:

# CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter contains the conclusions of the study based on the summaries of results presented and discussed in Chapter Four and the recommendations deduced from the study. The chapter is thus structured into the following sections: 5.2 presents the conclusions based on the summaries of the results from the study. The section is split into four sub-sections arranged in respect to the specific objectives and key explanatory and intervening variables of the study. Section 5.3 covers the recommendations regarding the relationship between the investigated explanatory and criterion variables; 5.4 presents the limitations of the study; and 5.5 covers recommendations for further research studies to bridge some of the identified research gaps.

## 5.2 Summary of conclusions of the study

This section presents the conclusions of the study's findings according to the conceptual framework, hypotheses and the specific objectives that guided the study. The section has four subsections, as presented below.

### 5.2.1 Conclusions on deregulation, M&As and FDI correlations

Pearson product-moment correlations of the aggregate variables of business deregulation, cross-border M&As and inbound FDI using reveal statistically significant and negative correlations between: business regulation and cross-border M&As; and between business regulation and inbound FDI, while the correlation between cross-border M&As and inbound FDI is positive and also statistically significant. Hence, each pair of variables reliably proves

to be inversely proportional, save for the correlation between cross-border M&As and inbound FDI. Thus, as a country deregulates the business environment for its domestic SMEs, it is likely to realise increased cross-border M&As and consequently realize more FDI inflows. However, these results are derived from correlations that do not necessarily indicate causal relationships thus this necessitates more investigations to be conducted using various other statistical methodologies and focusing on a few specific explanatory variables so as emerge with thorough and reliable results. Sub-sections 5.2.2, 5.2.3, 5.2.4 and 5.2.5 present more specific conclusions of the study that corroborate and substantiate the inferences stated in this sub-section.

### 5.2.2 Conclusions on deregulation of starting a business and FDI

Data analysed generally show statistically significant relationships between inbound FDI and the deregulation of starting a business as summarised and concluded below.

Descriptive statistics indicate that HICs have the lowest while the LICs have average and absolute procedures, time, cost and minimum capital for starting businesses. Descriptive statistics also show that, on average, the HICs register the highest levels of M&As and inbound FDI, while the LICs attract the least. Hence, these findings uphold the conceptual presupposition that there is a statistically significant relationship between inbound FDI and the deregulation of starting a business by the domestic SMEs.

Pair-wise correlation coefficients for the relationship between FDI and the variables (i.e. procedures, time and cost) of starting a business generally indicate that a country is bound to realize increased FDI inflows as it deregulates (reduces) the procedures, time and cost of starting SME businesses.

Regression of FDI against the time and cost for starting businesses results into statistically significant relationships. Hence, a country is likely to realise greater FDI inflows as it deregulates the time and cost for starting domestic SMEs.

Granger causality tests show that reduction (deregulation) of procedures, time, cost and minimum capital for starting domestic SMEs causes increased inbound FDI in the middle income countries. For the high income countries, however, Granger causality tests reveal that only the deregulation of procedures, time and minimum capital for starting domestic SMEs cause FDI inflows. Hence, deregulation of starting domestic SMEs generally proves to cause increased FDI inflows in at least the high and middle income countries.

In conclusion, findings generally proves that there is a statistically significant relationship between inbound FDI and deregulation of starting domestic SMEs and this considerably corroborates one the basic premises of the study. Thus, by and large a country is bound to realise greater FDI inflows, especially through cross-border M&As, as it deregulates the procedures, time, cost and minimum capital for starting businesses by its domestic SMEs.

### 5.2.3 Conclusions on deregulation of paying taxes and FDI

Analysis of the relationship between FDI inflows and deregulation leads to the following summarize d results and conclusions.

Descriptive statistics indicate that the HICs, with the lowest average number of taxes, time spent paying taxes and the total tax rate imposed on their domestic SMEs, register the highest mean cross border M&As as well as FDI inflows. In a similar order, the HICs are closely followed by the MICs while the LICs emerge with the most wanting averages. Hence, results from the descriptive statistics considerably sustain the conceptual inference of the study that

there is a statistically significant positive relationship between inbound FDI and the deregulation of paying taxes by the domestic SMEs of a country.

Pair-wise correlation coefficient for the relationship between FDI and the number of taxes paid per year is negative and statistically significant. This implies that a country is likely to attain increased FDI inflows as it deregulates the number of taxes imposed on domestic SMEs.

Regressions of FDI against the total tax rate and the number of taxes paid per year result into negative and statistically significant coefficients. Hence, statistically, the number of taxes and the total tax rate paid by a country's domestic SMEs are reliably inversely proportional to the FDI inflows attained. Such results considerably concur with the conceptual premises of the study in respect to the relationship between FDI and regulation of taxes paid by businesses any given country.

Granger causality tests prove that reducing the time spent paying taxes by domestic SMEs increases FDI inflows in all the low, middle and high income countries. These causality tests also reveal that deregulating the number of taxes and the total tax increases rate inbound FDI in the middle and high income countries.

A simple comparative analysis of the empirical datasets compiled by the World Bank (2010) and UNCTAD (2010) indicates that countries that rank high in the deregulation of paying taxes register higher averages of cross-border M&As and inbound FDI than their counterparts.

In conclusion, the analysis done generally shows that there is a statistically significant and inverse relationship between inbound FDI and deregulation of paying taxes by the domestic SMEs of any country. Hence, a country is expected to realise more FDI inflows, especially through increased cross-border M&As, as it deregulates the number of taxes, the time spent paying taxes and the total tax rate formally imposed on its domestic SMEs. This finding significantly substantiates the conceptual premises of the study in respect to the relationship between FDI and the deregulation of paying taxes.

### 5.2.4 Conclusions on deregulation of export trading and FDI

Findings and conclusions regarding the relationship between FDI and the deregulation of export trading are as summarized below.

Descriptive statistics indicate that - the lowest and highest averages of: documents, time and cost of exporting a standard container of goods are in the HICs and LICs respectively. The same statistics also show that the highest and lowest averages of cross-border M&As and inbound FDI are in the HICs and LICs respectively. These findings thus, considerably affirm the conceptual inference of the study that there is a statistically significant relationship between inbound FDI and deregulation of export trading by the domestic SMEs of any given country.

Pair-wise correlations show that FDI is significantly and negatively correlated to the number of documents, time and cost of exporting a standard container of goods. Thus, FDI is reliably bound to increase as a country reduces the number of documents, time and cost of exporting a standard container of goods by her domestic SMEs. These correlation results corroborate the

basic hypothesis of the study that there is a statistically significant relationship between inbound FDI and the deregulation of export trading.

Regression results show that the time and cost of exporting a container of goods are statistically significant and inversely proportional to FDI inflows. These results, too, considerably substantiate the conceptual inferences of the study that there are statistically significant relationships between inbound FDI and the deregulation of export trading by the domestic SMEs of a country.

Granger causality tests show that deregulation /reduction of the documents, time and the cost of exporting increases inbound FDI in the sampled middle income countries. The tests also indicate that reducing costs of exporting increases FDI inflows in the HICs. Hence, the results there is a statistically significant causal relationship between inbound FDI and the deregulation of export trading by the domestic SMEs.

Comparative analysis of empirical datasets by the World Bank (2010) and UNCTAD (2010) show that countries that rank high in the deregulation of export trading do register high averages of cross-border M&As and consequently attain greater inbound FDI than their counterparts.

In conclusion, findings show that generally, there is a statistically significant and inverse relationship between inbound FDI and deregulation of export trading by the domestic SMEs. Thus, a country is likely to attract more inbound FDI, notably through increased cross-border M&As, as it reduces the documents, time and cost of export trade.

These revelations uphold the basic hypotheses of the study in respect to the relationship between FDI and the deregulation of export trading.

## 5.3 Recommendations

This section contains recommendations based on the results and conclusions of the study stated above. The recommendations made are in respect to each of the explanatory variables analysed in the study. Hence, this section is structured into the following sub-sections: 5.3.1 presents the recommendations regarding the deregulation of starting a business by domestic SMEs; 5.3.2 covers recommendations pertaining to the deregulation of paying taxes by a country's domestic SMEs; and 5.3.3 presents recommendations regarding the deregulation of export trading by a country's domestic SMEs.

### 5.3.1 Recommendations for deregulation of starting a business

Based on the results and conclusions of the study presented above, it is recommendable for all countries, especially the heavily regulated LICs, to effectively deregulate the starting of businesses by both foreign and domestic entrepreneurs in order to realise more cross-border M&As and FDI inflows. The recommendable deregulation involves a country's competitive but considered reduction of the number of procedures, time (days), cost (percentage of income per capita) and the minimum paid-up capital (percentage of income per capita) for starting a business by especially its domestic SMEs. Specific measures recommendable for deregulating the starting of businesses are explained below.

Full-fledged one-stop shops (or offices/desks/points/spots) for registering business entities should be established to provide all the necessary information and guidance and to handle all the documentation for starting a business. The one-stop shops/spots should merge and reduce the business start-up procedures into as few as one procedure, just as in Senegal in 2008. This

is likely to reduce the number of documents, prospects of corruption and time spent moving from one office to another to have the necessary information and/or documents certified by those intending to start/register domestic SMEs in most countries, and particularly those that are heavily regulated.

The decentralisation of company registration offices (authorities) ought to be observed so as to enable whoever wishes to start a business to easily access the concerned authorities from any part of the country. Currently, many countries, especially the heavily regulated LICs such as Uganda, as well as many MICs, have centralised company registration systems/offices that are usually located in only their capital cities, which makes it cumbersome for SMEs located upcountry or in remote locations to formally register and start their respective businesses.

Courts of law and costly legal services should be eliminated from the processes of starting any business. The use of lawyers to provide legal assistance in starting businesses should be made optional. This recommendation is likely to drastically reduce the cost, procedures and time for starting domestic businesses, especially where legal services and court proceedings are generally tedious, costly, laborious and lengthy, such as in the heavily regulated LICs.

Electronic (i.e., online/digital) registration of businesses in a countrywide database should be established to ease and expedite the process of registering and starting new businesses. It is advisable for all countries, especially the heavily regulated LICs and MICs, to establish paperless registration and filing systems that will not only expedite the starting of businesses but also reduce annual administrative costs. Both domestic and foreign entrepreneurs should be enabled to benefit from computerised business registration systems. It is recommendable for all countries to strive to enable entrepreneurs to start businesses with as few as a single online procedure, because such electronic registration can expedite company formation. However, it should be noted that electronic registration is more complicated than it appears.

For example, in Sweden, applications for company, tax and labour registrations can be completed online, but most forms must still be printed and signed by hand. Hence, electronic registration should be assumed cautiously, although it has recommendable advantages in deregulating the starting of businesses.

The costs of starting a business ought to be eliminated or at least reduced to only a fixed registration fee regardless of company size or other form of business entity being established by domestic as well as foreign investors.

The obligation to publish a notice in a journal, gazette or any other publication before starting a business should be repealed wherever it is being practiced or avoided in all countries pursuing deregulation as a strategy to enhance FDI inflows.

Standardised business registration forms ought to be developed and equally utilised by both domestic and foreign investors who are seeking to start businesses in all the countries that intend to resort to business deregulation as a means of realising greater FDI inflows.

The minimum paid-up capital requirement for starting a business ought to be kept nominal or zero. It is advisable for countries to strive to abolish the minimum capital requirement for starting a business and to allow domestic and foreign investors to determine what is appropriate for the business based on its type and capital structure.

The recommended measures stated above should equally apply and benefit both domestic and foreign investors striving to start businesses (i.e. without any discrimination or bias) in all the countries that choose business deregulation as a strategy for attracting inbound FDI. The measures recommended above can serve as a potent strategy for enhancing FDI inflows, notably through cross-border M&As, while mitigating negative socio-economic experiences

such as corruption, extensive informal business sectors and bureaucratic red-tape, which are often a result of heavy business regulations.

### 5.3.2 Recommendations for deregulation of paying taxes

The empirical findings of the study necessitate the recommendation of competitive deregulation of the payment of taxes by both foreign and domestic investors as a viable strategy for boosting FDI inflows. Such recommendable deregulation specifically emphasises relentless competition in deregulating the number (forms) of taxes payable per year, the time (hours) spent paying taxes and the total tax rates imposed on all investors (domestic or foreign).

The recommendable ways of deregulating the payment of taxes include consolidating the number of taxes, cutting back special exemptions and privileges, simplifying filing requirements and broadening the tax base by keeping rates moderate in especially the heavily regulated LICs and MICs. The rationale and practical approaches for realising these deregulatory recommendations are explained below.

It is advisable to simplify tax filing requirements by going electronic. Introducing electronic filing makes paying taxes easier. For instance, businesses can enter financial information online and file it with one click – and with no calculations. Errors can be identified instantly and returns can be processed quickly. It is also advisable to enable businesses to file an electronic corporate tax return and pay corporate income tax annually. Complying with tax requirements should take as few hours as possible per year.

It is also advisable to cut/lower tax rates imposed on all domestic and foreign investors as yet another measure of deregulating the paying of taxes. By lowering tax rates, countries can increase tax revenue through persuading more businesses to comply with the more favourable

rules. Hence, cutting tax rates leads to greater compliance, which leads to greater revenue collected that can be used to improve the investment climate, which in turn attracts more foreign investors and consequently leads to greater FDI inflows. Therefore, it is strongly recommendable to broaden the tax base by keeping rates low in all countries seeking to attract substantial FDI inflows through business deregulation. However, it is important to note that tax reforms inspire political debate and can be hotly contested, although both businesses and governments benefit when taxes are simple, fair and can set incentives for growth.

### 5.3.3 Recommendations for deregulation of export trading

Basing on the findings and conclusions of the study, it is recommendable for all heavily regulated countries to competitively deregulate export trading by reducing the number of documents, time (days) and costs of exporting goods. In order for countries to effectively implement such recommendable deregulations, it is advisable that they make document filing electronic, use risk-assessment policies for inspections of exports and go regional with reforms of customs and transport rules. The justification and details of these recommendable measures are explained below.

It is advisable to use risk-assessment policies for inspections of exports as a way of deregulating export trading, because it reduces the unnecessary delays and inconveniences that are often encountered by enterprises in the absence of such policies. The recommended risk-assessment policies work as follows: When a customs officer receives the cargo documents, he/she runs them through the computer. A software program calculates the probability that the shipment should be inspected. The probability is based on the profiles of the business and the freight forwarders and on the nature of the goods and their destination.

In some countries, the containers may be scanned for weight and the shapes of objects inside. If nothing suspicious arises, the container gets a green light and sails through customs. Above a certain risk threshold, a yellow light comes on and the documentation is thoroughly checked while the container remains sealed. At a still-higher threshold, a red light blinks and the container is opened for inspection. In brief, the policy allows for opening and inspecting only a small percentage of containers rather than each and every container being exported. The benefits accruing from the recommended risk-assessment policies/system are several. For example, the system allows for the limiting of inspections to only a reasonably small percentage of shipments and it also increases the detection of smuggled goods. Furthermore, risk analysis can reduce delays and makes exporting less cumbersome. However, it is vital to note that the recommended risk analysis is only as useful as the data on which it is based. Even the most sophisticated risk-analysis software may not help if there is no information from which to develop the necessary profiles of traders, freight forwarders and the like. Reforms to introduce risk assessment require patience and diligence.

Another recommendable measure for deregulating export trading is to go regional with reforms of customs and transport. This is because several countries are landlocked and have limited regional trade cooperation. Being landlocked with limited or no regional economic cooperation with non-landlocked neighbouring countries can prove debilitating to export trading. It is therefore advisable for countries, especially the heavily regulated LICs such as Uganda, to share customs forms so as to ensure that export trade paperwork and costs are considerably reduced. The recommendable steps for neighbouring countries are to remove border checks altogether and introduce harmonised transport rules.

Electronic data-interchange systems ought to be established to expedite export trade clearance as yet another recommendable measure for effecting deregulation of export trading.

This is because electronic transmission of documents not only speeds the clearance of goods, but also often reduces the possibilities for paying bribes. However, to avoid a dual electronic and manual customs clearance process, the new systems must be complemented by supporting legislation authorising electronic transactions. Using electronic data-interchange systems also helps to increase predictability in clearance times and makes it easier to apply risk management to customs clearance. Countries observing this recommendation can introduce risk-based inspections alongside electronic transmission of documents, which enable expedited inspection of containers being exported.

Looking beyond customs is also another advisable approach to implementing the recommended deregulation of export trading. This is because while customs reforms remain very important to trading across borders (i.e. exporting/importing), several other measures (deregulations) also play a part. For instance, customs clearance reduces the time during which the export contract is concluded and the time it takes for the goods to leave the port. It is important to note that approvals from authorities such as ministries, health authorities, security agencies, inspection agencies, port authorities, banks and immigration authorities account for most export delays. Countries therefore ought to increasingly recognise the importance of a comprehensive approach to export trade facilitation. For example, several government agencies as well as private export participants/agencies may be merged through a single window system.

More publicity, training and regular meetings with exporters on how to expedite the clearance processes are also recommendable for ensuring viable deregulation of export trading. For instance, customs brokers with low error rates are rewarded with access to fast-track clearance procedures, while those with high error rates face more scrutiny. The payment of customs duties need not delay the release of cargo. Instead, export authorities can always

introduce a bond or financial guarantee, allowing goods to be released pending completion of the paperwork.

The synchronisation of export documents and procedures is another recommendable measure for deregulating export trading, which eventually leads to increased inward FDI. This is because countries save costs by synchronising such documents and procedures at the border.

The removal of bureaucratic bottlenecks is yet another advisable strategy for implementing the recommendable deregulation of export trading to enhance FDI inflows. This is because in most heavily regulated countries, export trade is hindered by bureaucratic hurdles at borders. For example, in Africa and Central Asia, border crossings account for significant delays in export trade. However, this can be overcome through a one-stop border post to serve several countries in a particular region. Regional approaches to trade facilitation may yield benefits for export traders.

In order for the recommendations stated above to cause substantial FDI inflows to the countries that may implement them, it is vital to ensure that they are established to facilitate and benefit both the domestic SMEs and the foreign direct investors equally.

## 5.4 Limitations of the study

A major limitation of the study is the limited availability of time series (longitudinal) data for many of the explanatory variables that restricted the time (longitudinal or "t") dimension of the panel data analysed to only five years. The World Bank's Ease of Doing Business database that served as a source for the explanatory variables used for panel data analysis provides the required/relevant and usable data for only five calendar years (2005–2009). This limitation compromised the results of the empirical models based on the panel data that could

possibly be generated. Richer time series data that covers a span of 10 or more years would have produced better estimations and results, but such data could not be accessed.

The major sources of the panel data for the study (i.e. the Ease of Doing Business database and the World Investment reports) were compiled with some methodological limitations and weaknesses, as explained in Chapter Three, which may have compromised the results of this study. For instance, the Doing Business project does not measure all aspects of the business environment that matter to firms or investors, or all factors that affect competitiveness. It does not, for example, measure security, macroeconomic stability and corruption. The methodology applied in compiling the Doing Business reports and Ease of Doing Business database has limitations that were considered when interpreting the data. First, the collected data refer to businesses in the economy's largest business cities and may not be representative of regulation in other parts of the economy. Second, the methodology assumes that the business has full information on what is required and does not waste time when completing procedures, which is not always the case in the real world (World Bank, 2010).

The above stated limitations were, however, addressed by applying a triangulation of research methodologies and techniques for this study.

## 5.5 Recommendations for further research

In order to complement and/or augment this study, it is recommendable to investigate the relationship between inbound FDI and the other variables and sub-variables of business deregulation, such as procedures, time and costs of dealing with licences, registering property, closing a business, protecting investors and employing workers, among other factors, as identified by the World Bank (2010).

It is also advisable to further investigate the factors that influence cross-border mergers and acquisitions as a strategy for enhancing FDI inflows.

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## Appendices

### Lists of the Low, Middle and High Income Countries Sampled for the Study

**Low Income countries sampled for the Study**

1. Afghanistan
2. Bangladesh
3. Benin
4. Burkina Faso
5. Burundi
6. Cambodia
7. Central African Republic
8. Chad
9. Congo, Dem. Rep.
10. Eritrea
11. Ethiopia
12. Ghana
13. Guinea
14. Haiti
15. India
16. Kenya
17. Kyrgyz Republic
18. Lao PDR
19. Madagascar
20. Malawi
21. Mali
22. Mauritania
23. Mozambique
24. Nepal
25. Niger
26. Rwanda
27. Senegal
28. Sierra Leone
29. Solomon Islands
30. Tanzania
31. Togo
32. Uganda
33. Zambia
34. Zimbabwe

**Middle Income Countries sampled for the Study**

1. Albania
2. Algeria
3. Angola
4. Argentina
5. Armenia
6. Azerbaijan
7. Belarus
8. Bhutan
9. Bolivia
10. Bosnia & Herzegovina
11. Botswana
12. Brazil
13. Bulgaria
14. Cameroon
15. Chile
16. China
17. Colombia
18. Congo, Rep.
19. Costa Rica
20. Cote d'voire
21. Croatia
22. Dominican Republic
23. Ecuador
24. Egypt
25. El Salvador
26. Fiji
27. Georgia
28. Guatemala
29. Guyana
30. Honduras
31. Indonesia
32. Iran
33. Iraq
34. Jamaica
35. Jordan
36. Kazakhstan
37. Kiribati
38. Latvia
39. Lebanon
40. Lesotho
41. Lithuania
42. Macedonia
43. Malaysia
44. Maldives
45. Marshall Islands
46. Mauritius
47. Mexico
48. Micronesia
49. Moldova
50. Mongolia
51. Morocco
52. Namibia
53. Nicaragua
54. Nigeria
55. Oman
56. Pakistan
57. Palau
58. Palestine
59. Panama
60. Papua New Guine
61. Paraguay
62. Peru
63. Philippines
64. Romania
65. Russia
66. Samoa
67. Sao Tome & Principe
68. Serbia
69. Slovakia
70. South Africa
71. Sri Lanka
72. Sudan
73. Syria
74. Thailand
75. Timor-Leste
76. Tonga
77. Tunisia
78. Turkey
79. Ukraine
80. Uruguay
81. Uzbekistan
82. Vanuatu
83. Venezuela
84. Vietnam
85. Yemen

**High Income Countries sampled for the Study**

1. Australia
2. Austria
3. Belgium
4. Canada
5. Czech Republic
6. Denmark
7. Estonia
8. Finland
9. France
10. Germany
11. Greece
12. Hong Kong
13. Hungary
14. Iceland
15. Ireland
16. Israel
17. Italy
18. Japan
19. Korea South
20. Kuwait
21. Netherlands
22. New Zealand
23. Norway
24. Poland
25. Portugal
26. Saudi Arabia
27. Singapore
28. Slovenia
29. Spain
30. Sweden
31. Switzerland
32. Taiwan
33. United Arab Emirates
34. United Kingdom
35. United States