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THE IMPACT OF LEGAL AND FINANCIAL CORPORATE LOCATION CHOICES ON COMPANY PERFORMANCE ACROSS DEVELOPING AND DEVELOPED MARKETS

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ABSTRACT

This report examines the effect that the legal and financial corporate location choices made by corporations have on company performance. These corporate location choices are investigated for stand-alone companies, and for companies that form part of Multinational Enterprises (MNEs). A further distinction is drawn between companies that hail from developed and developing markets. The study examines data from the perspective of the company, and uses 4,308 listed companies found in the following sectors on Bloomberg, namely: Mining, General Retailers, Telecommunications, and Pharmaceuticals, and finds evidence that both the legal and financial home chosen by a company has a significant impact on company performance, and that distributing legal and financial homes opportunistically amongst developed and developing markets lead to markedly improved company performance. The research finds that generally MNEs outperform national companies; companies with a corporate function located in a developed market outperform companies with corporate functions located in developing markets, and lastly that increased corporate function dispersion is associated with increased performance, with the bulk of the benefit delivered by opportunistically location the legal home in a developed market.

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Jade Eloff

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1. Introduction

1.1 Research Title

The impact of legal and financial corporate location choices on company performance across developing and developed markets.

1.2 Context

Firms are no longer compelled to stay in the country they grew up in. Advances in technology and communication mean that firms do not automatically establish a legal identity, locate their headquarters and list their shares in a single country (Desai, 2009, p. 1272, 1273). A firm that trades in only one country might have raised capital for operations in another country, and be managed from yet a third country (Desai, 2009, p. 1272, 1273, 1281). International firms with operations across multiple countries, referred to as Multinational Enterprises (MNEs), have the opportunity to exploit locational advantages offered by different countries, and as such improve company performance (Desai, 2009, p. 1282).

The recent proposed shift of 'the geopolitical centre of gravity' (Limin, 2010) from somewhere in the Atlantic (between the UK and the USA) to the centre of the Pacific (between India, China and Brazil) has prompted researchers and business alike to take note of the increased importance of developed markets. With this increased awareness of developed markets, has come an appreciation that the environments these Enterprises 'grow up' in, function, and expand out of are different to companies from developed markets, and that these firms have some acquired Firm Specific Advantages (FSAs) unique to companies hailing from developing markets (Klein, S., & Wöcke, A. 2007, p. 322).

In a globalized world, countries compete with each other to house companies within their borders, and to have these companies contribute to their economies. Country policymakers have tailored taxes, the focus of educational systems (resource pools), and legal institutions to attract and retain businesses (Desai, 2009, p. 1284).

The 80's were characterized by large conglomerate corporations that sought the benefits of centralization, common corporate structures and centralized administration. These conglomerates regularly diversified into numerous unrelated fields. This trend has since reversed throughout the 90's and 2000's with companies

coming to appreciate the value of agility, responsiveness, and customer focus (Williams, J.R., Paez, B.L., Sanders, L., 1988). It seems that companies are taking this trend one step further and decentralizing functions within a single organization to disparate geographical locations (Desai, 2009, p. 1272, 1273).

From Desai's work, all companies (national and international) need to make three decisions, namely: where to locate the legal functions of the company, where to locate the financial functions of the company, and where to locate the managerial home of the company. Multinational Enterprises (MNEs) have to make these same choices, albeit on several different levels, for each of the companies that make up the MNE and for the corporate headquarters of the MNE.

Desai (2009, p. 1272, 1273) identifies the increasingly inaccurate classification of MNEs as national actors based on country of origin as problematic and a hindrance in understanding company behaviour, and suggests: "More granular, empirical work on the ways firms are unbundling these homes will help inform new empirical, large-sample methods for capturing these developments." Desai discusses the motivation for companies from developing markets to migrate some or all of their corporate functions to developed markets. This research will build on Desai's work by explicitly differentiating between developed and developing markets when conducting the granular analysis of firm unbundling.

1.3 Research Problem

The numerous different alternatives MNEs have when choosing to enter foreign markets (target country), in conjunction with the different modes of entry (Greenfields, Joint Venture, Wholly Owned Subsidiary) provides a bewildering array of possible foreign direct investment (FDI) options. In addition to mode of entry, MNEs have to make decisions regarding the location of the legal, financial and management homes of the MNE Enterprises (Desai, 2009, p. 1282). The effect of different levels of MNE corporate function dispersion across developed/developing markets on company performance needs to be investigated at a granular level, as suggested by Desai (2009, p. 1284). To meaningfully analyse the corporate configurations at a granular level, a structural classification schema was developed.

1.4 Research Motivation

Desai (2009, p. 1277) visualized the corporate headquarters as a collection of thee divisible functions: Financial, Legal and Managerial. This research compares the effect that the decision regarding financial and legal homes for the MNE corporate functions have on company performance, with particular focus on the effect of location choices across developed/developing markets.

2. Theory and Literature

2.1 Foreign Direct Investment (FDI)

Dunning & Lundan (2008, p. 63-67) described four general motivations for the foreign investment of MNEs. These are: natural resource seeking, market seeking, efficiency seeking or strategic asset seeking.

Natural resource seekers look for resources abundant to a region (Dunning & Lundan, 2008, p.68, 69). These resources may be physical such as mineral deposits, or human resources abundant to that location. Natural (commodities) and human resources (inexpensive labour or skills – technical, managerial or marketing skills) abundant to a location, drive companies from a country where the resource is scarce to invest into a country where the resource is abundant.

Market seekers invest in foreign countries to expand their market. Normally a progression occurs where the level of commitment to FDI increases - "In most cases, part or all of these markets have been serviced previously by exports from the investing country" (Dunning & Lundan, 2008, p.69), which also noted that these investments are heavily related to incentivisation by host governments. Other drivers that influence market seekers when entering a new market are:

- The relocation of production of suppliers or customers;
- The need for local adaption of their products;
- Reduced transportation costs;
- Competitive strategy.

Efficiency seekers are generally more mature MNEs (Dunning & Lundan, 2008, p. 72, 74) and look to structure their businesses (resource and market seeking) optimally, to maximize the economies of scale, scope, and risk diversification.

Strategic asset seekers invest in assets that promote long-term competitiveness. These investments might not be profitable in the short term, but rather augments previous commitments and existing asset bases, or excludes ownership advantages to other firms (Dunning & Lundan, 2008, p. 72, 74).

Three other types of investment are identified by Dunning & Lundan (2008, p74, 75):

- Escape Investment seeks to avoid disadvantageous conditions in the home country. These conditions may be heavy taxation, poor institutions, a lack of economic dynamism or the unacceptability of the business type in question. Companies attempting to move operations abroad to mitigate political risk would also fall under this category.
- Support Investment seeks to augment the capabilities or activities of the firm.
- Passive Investment is akin to portfolio investing. Here, a minority stake may be purchased in an existing firm or asset and the emphasis is not necessarily on the management of the investee.

2.2 Multinational Enterprise

"A multinational or transnational enterprise is an enterprise that engages in foreign direct investment (FDI) and owns or, in some way, controls value-added activities in more than one country." (Dunning & Lundan, 2008, p. 3). This definition helps us understand the difference between a firm that conducts business internationally, and a Multinational Enterprise.

When a firm decides to expand internationally, it engages in some form of FDI. Klein and Wocke (2007) provide a good review of the MNE literature, and explain how Buckley and Casson (1976) is a useful starting point for looking at theories of

internationalization with their transaction-cost-related work, which Bartlett and Ghoshal (1987) extended in their work on transaction cost theory. Klein and Wocke (2007) also explain how Dunning (1988) built on the work by Buckley and Casson (1976), and proposed the eclectic OLI (described below) paradigm.

2.3 The Eclectic Paradigm of Production

Dunning (1988, p12, 13) offered a general explanation of MNE activity referred to as the eclectic OLI paradigm. This paradigm describes three motivational factors for internationalization, namely Ownership advantages, Location advantages and Internalization advantages. This research focusses on the location choices made by MNEs, and as such will not discuss the Organisational and Internalization components of the paradigm further, but rather focus on the Location component.

2.3.1 Location Advantages

Location Advantages are beneficial qualities inherent to a given location and available to all firms at that location. These can be physical, economic, political or social. For example: natural resources, good infrastructure, beneficial government policies, and good institutions.

Rugman (2008, p. 8, 18) contended that MNE headquarter locations are geographically concentrated, while Deschryvere (2009, p.10) argued that production is more dispersed. Dunning (1998, p. 11) showed that spatial clusters form when intangible assets become increasingly mobile, specifically when distance-related transactions and coordination costs are high. Examples include the Square Mile of the City of London, and technology firms in Silicon Valley. Dunning (1998, p. 57) goes on to say that the location choices a firm makes can in itself become an organisational advantage, and affect the way the firm exploits other ownership advantages. Emerging firms will have compelling reasons to locate themselves closer to these spatial clusters where infrastructure and support networks are established, meaning that spatial clusters will gain importance and increase in size.

Rugman and Verbeke (1992) extended Bartlett and Ghoshal's (1987) transaction cost theory, which translates the components of the OLI paradigm into the following

elements : Ownership advantages are translated into Firm Specific Advantages (FSA's), Location specific Advantages are translated into Country Specific Advantages (CSA's).

2.3.2 CSAs AND FSAs

According to Hymer (1976, p. 43), Zaheer (1995, p. 360, 361) and Ramamurti (2009, p. 402-410) Multinational Enterprises leverage Firm Specific Advantages (FSAs) in conjunction with Country Specific Advantages (CSAs) to derive competitive advantage.

Country Specific Advantages (CSA) refers to advantages a firm has access to in a specific country or region that can used to supply markets abroad. Acknowledged CSAs are: Natural resource endowment, Human capital (Technical, Managerial, Entrepreneurial, Social networks), Market size and growth, Per-capita income, and Wage levels (Ramamurti, 2009, p. 402-404)

2.3.3 MARKET CLASSIFICATION

A market generally refers to a place where trade happens between producers and consumers, trading partners, or investors. Trade happens across a myriad of factors - geographies, products, and sectors to name but a few. The market can be arbitrarily defined, but a classification that has garnered a lot of interest in recent times is dividing the global market into developed and developing (emerging) markets.

MSCI (www.msci.com) annually evaluates each country's economic development, size, liquidity and market accessibility in order to be classified in a given investment universe, the two categorizations we are interested in are Developed and Emerging/Developing. Emerging/Developing market countries refers to nations with social or business activity in the process of rapid growth and industrialization, while Developed Market countries are thought to be the most developed and therefore less risky (www.msci.com).

The corporate functions of a company (legal and financial) can be housed in either a developed or developing country. The following attributes are used to classify a company's legal and financial home into developed or developing markets:

- Company country of incorporation market
- Company country of listing market

- Parent Company country of incorporation market
- Parent Company exchange country market

The attributes mentioned above were used to classify each of the company's corporate functions according to the MSCI (www.msci.com) developed/developing market classification.

2.3.4 MNE Origination theory

Ramamurti (2009, p. 404) studied MNE origination theory and proposed: "the importance of home-country CSAs may decline as an MNE evolves, regardless of nationality". That is, as an MNE progresses from "Infant", to "Adolescent", to "Mature", the consequence of home-country CSAs wanes. As such, the country of origin may have obsolescing relevance to the MNE in terms of value chain elements; supply of senior management; capital supply; or relative revenue. Following this logic maturing global MNEs will choose to relocate its head office to a developed country in order to take advantage of economies of agglomeration such as access to physical and human capital (Dunning, 1998, p. 13) as well as due to increasing accountability to international stakeholders (Birkinshaw et al., 2006, p. 688).

Hughes (2010, p. 5), building on Desai (2009, p. 1284, 1285) conceptualized "The Corporate Emigrant" as "the firm that relocates it some of its legal, financial and management functions to obtain location specific advantages for MNE". Hughes (2010, p. 14) also conceptualized "The National Firm" as the firm that "does not relocate any of its legal, financial or management functions and bears the costs, and benefits, of this decision"

2.3.5 Headquarter Location choices

Until the 1990's location research was based on the presupposition that management and production functions were co-located (Deschryvere, 2009, p.10), with no distinction being made between headquarter and production relocations. Advances in

communication and service technologies have changed the way corporates structure their headquarters.

Desai (2009, p. 1282) visualised the corporate headquarters as a collection of thee divisible functions: Financial, Legal and Managerial. Here, the processes and products are distinct to that of individual business units and production centres. Each of these functions has distinct motivations for its location choice, as illustrated in *figure 1: Reconceptualising the global firm - Desai (2009).*

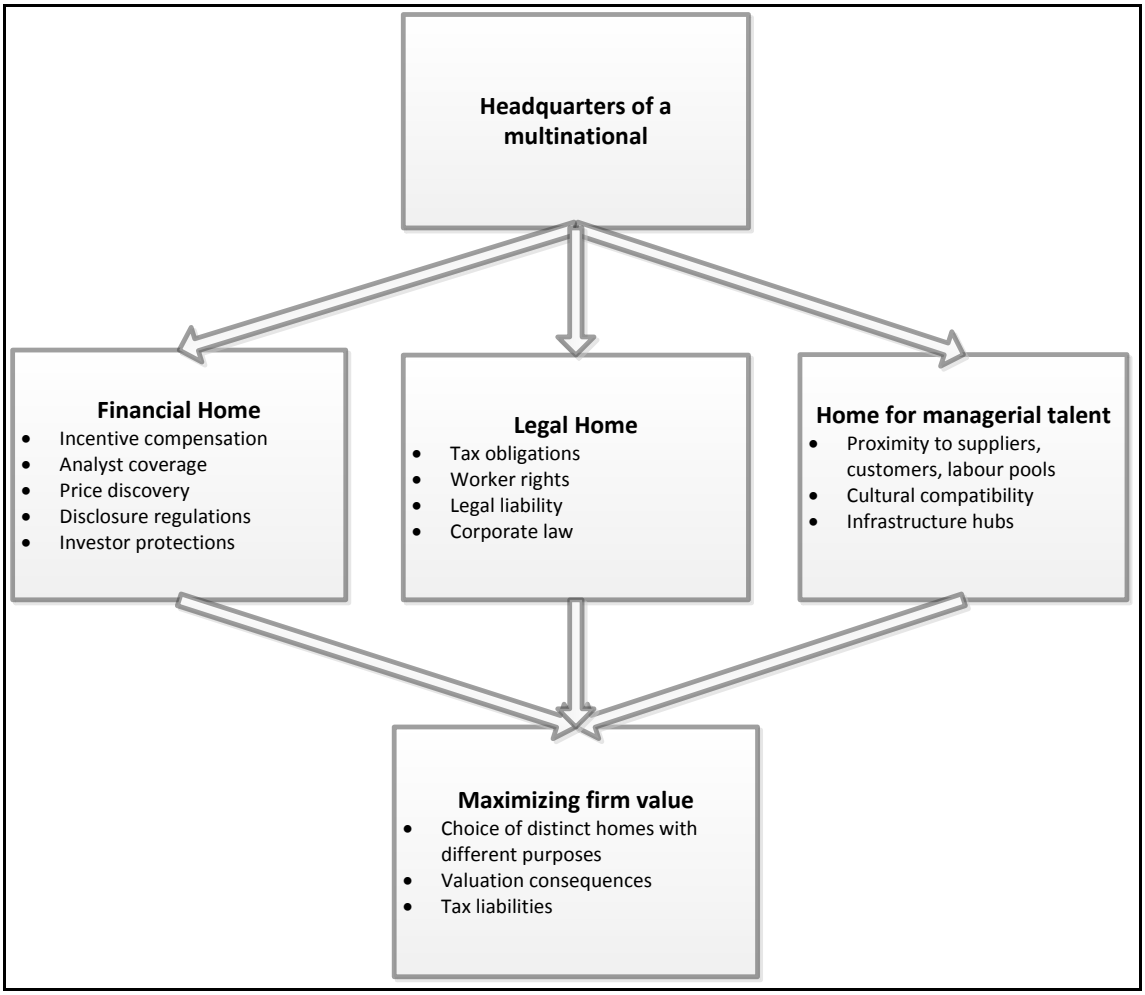

FIGURE 1: RECONCEPTUALISING THE GLOBAL FIRM - DESAI (2009)

Thus, given the role and needs of each of the three homes, different drivers for competitiveness push and pull for headquarter relocation. Similarly, there are

constraints that resist the drive to relocation. Known predictors of MNE behaviour, as described in the literature, are discussed below.

2.3.5.1 HEADQUARTER LOCATION CHOICE DRIVERS

MNEs look to exploit resources and gain efficiencies from the location choices they make. The resource pools available in a location, the infrastructure provided and institutions that support business activities play a significant role in the headquarter location choices made by MNEs. These factors are described in detail below:

Infrastructure: Bel and Fageda (2008, p. 492), and Strauss-Kahn and Vives (2009, p. 179) studied European and American companies and found that transport infrastructure and tacit information exchanges were important factors for companies to take into account when considering headquarter location decisions.

Services: Ono (2003, p. 392,393) demonstrated the link between location and the inexpensive procurement of services such as advertising, accounting, and legal services**.** Strauss-Kahn and Vives (2009, p. 169), found that headquarters location decisions are largely driven by the presence of large and varied local supply of business services rather than by the presence of a large number of headquarters.

Size of the product market: Many studies have shown that proximity to customers and the size of the product market in a host country are significant predictors of location choice (Birkinshaw et al., 2006; Head & Mayer, 2004; Pennings & Sleuwaegen, 2000; Strauss-Kahn & Vives, 2009). Birkinshaw *et al.* (2006: p. 682) states that "it is now accepted that proximity to specialised labour, complementary suppliers and customers, and access to knowledge spillovers are all important benefits to the firm" and finds that this remains true for business unit headquarter location but not for corporate headquarter location.

Country-of-origin: Country-of-origin effects relate to consumer perceptions about the quality of a product based on the perceived national strength of an industry in the host country. Examples of country-of-origin effects would be French perfume, Swiss watches and Italian fashion items. Multinationals seeking legitimacy for their products

would look to locate their headquarters close to a region known for the production of the specific product.

Shareholder relationship: Companies need to manage shareholder perceptions about performance, disclosure, and governance. Birkinshaw *et al.* (2006, p. 698) show that MNEs improve their shareholder relationships in a progressive pattern. International companies eventually list on a foreign exchange, and ultimately locate their corporate headquarters close to global financial centre. The rewards may be in terms of borrowing costs, stock liquidity and the value of corporate governance (Birkinshaw *et al.,* 2006, p. 698). Birkinshaw *et al.* also suggest that the relocation is significant, as a signal of commitment to capital markets. Desai (2009, p. 1282) notes other important factors to be analyst coverage, price discovery, disclosure regulations and investor protections.

Access to capital: It has been shown that MNEs list in the developed world to access investor capital Birkinshaw *et al.* (2006, p. 698). Enterprises from emerging markets typically list on foreign exchanges due to better capital endowments, or to access investors that have a greater appreciation for their product offerings. Desai (2009: p. 1273) noted that News Corporation relocated from Australia to the United States in 2004 “to access more readily American investors that might better appreciate media companies”.

Proximity to influencers: Birkinshaw *et al.* (2006, p.698) states: “corporate HQs move to get closer to important external influencers, primarily shareholders and financial markets”. Birkinshaw *et al.* (2006, p. 698) shows that an increase in foreign share ownership often results in a corporate headquarter relocation. Brouwer et al. (2004, p. 345) show a similar effect in the case of mergers of takeovers. Baaij, Van Den Bosch and Volberda (2004) found that in most incidents, the location of the acquirer was chosen as the location for the united firm.

Tax considerations: Brouwer and Mariotti (2004, p. 345), and Birkinshaw *et al.* (2006, p. 698) found that the institutional drivers of location are tax incentives and labour institutions. Mooij and Ederveen (2001, p. 690) found that a 1% increase in host-

country tax rate decreases FDI in that country by 3.3%. Devereux & Maffini (2006, p.40-42), Egger (2009, p. 1270) and Voget (2008, p.19, 20) found that firm taxation has a significant impact on the choice of corporate location. Braunerhjelm (2004, p. 143) found that the taxation of individual employees influences location choice, and increasingly so as a firm internationalises. Desai and Hines (2002, p. 24, 25) found that firms relocated their nominal legal location away from the United States to escape taxation. Barrios, Huizinga, Laeven and Nicodème (2008, p. 25-27) found that parent-country taxation is a predictor of the *pattern* of MNE expansion.

Host country institutional power: Countries engage in unilateral or multilateral trade agreement negotiations, and optionally belong to institutional bodies that lobby for legislation to promote and discourage trade in certain areas and products - Ramamurti (2001, p. 37). Governments that negotiate advantageous terms for their indigenous firms endow these locations with CSAs.

Negotiations through multilateral institutions such as the World Bank, the IMF and the WTO produce the macro rules on FDI that frame micro negotiations between the MNE and potential subsidiary host countries. Countries with a bigger say in these institutions can garner advantages for themselves, and make their countries more attractive for FDI.

Better institutions: Desai (2009, p. 1281, 1282) proposes that the legal protection offered to MNEs also drives corporates to seek locations that offer this advantage. Emerging Markets have a mixed record in legal enforcement and transparency (Transparency International, 2009).

2.3.5.2 HEADQUARTER LOCATION CHOICE INHIBITORS

Agency concerns: Actions by individual corporate managers that raise personal concerns over that of the company has an effect on the location choices made by MNEs. Braunerhjelm (2004, p.143) found that the effects of personal, rather than corporate taxes may determine the location choice.

Dominant private shareholders may push for relocation to a nation seen to be more desirable. Private shareholder perceptions regarding country risk, suitability of

institutions or other concerns might come into play. These location choices are termed Capital flight, and are identified as "escape investment" by Dunning & Lundan (2008, p. 74). Where managers seek personal relocation to a country with a higher quality of life, a concentration in private shareholding may motivate relocation.

Industry characteristics: Industries vary along the level of technology, the stage in the industry life cycle, the extent of global product and process standardisation, human capital requirements and capital demand Ramamurti (2009, p. 33). Ramamurti also argues that the suitability of the location for production should not necessarily have an impact of the location of the corporate headquarters.

Geographical constraints: A firm's revenue, assets or employment may be concentrated geographically, even if these reach a global scale. Rugman (2008, p. 102) contended that firms that only conduct business in the "triad" – North America, Western Europe or Japan were not truly transnational. In the case of regional MNEs it will make little sense to relocate the headquarters outside of that region, due to distance related transaction costs.

From the discussion above it becomes clear that the following points require empirical verification:

- Companies legally headquartered in Developed countries perform better than companies legally headquartered in developing countries.
- Companies financially headquartered in Developed countries perform better than companies financially headquartered in developing countries.
- Companies that opportunistically locate their corporate functions in developed markets perform better than companies with corporate functions located in developing markets.

2.3.5.3 COMPANY STRUCTURE CLASSIFICATION

Desai argues that due to reduced communication and travel costs "Firms are redefining their homes by unbundling their headquarters functions and reallocating them opportunistically across nations. …and, consequently, the idea of firms as national actors rooted in their home countries is rapidly becoming outdated" (Desai, 2009, p. 1271).

Following Desai's suggestion, a classification schema to granularly categorize company configurations based on corporate function dispersion was derived, as explained below.

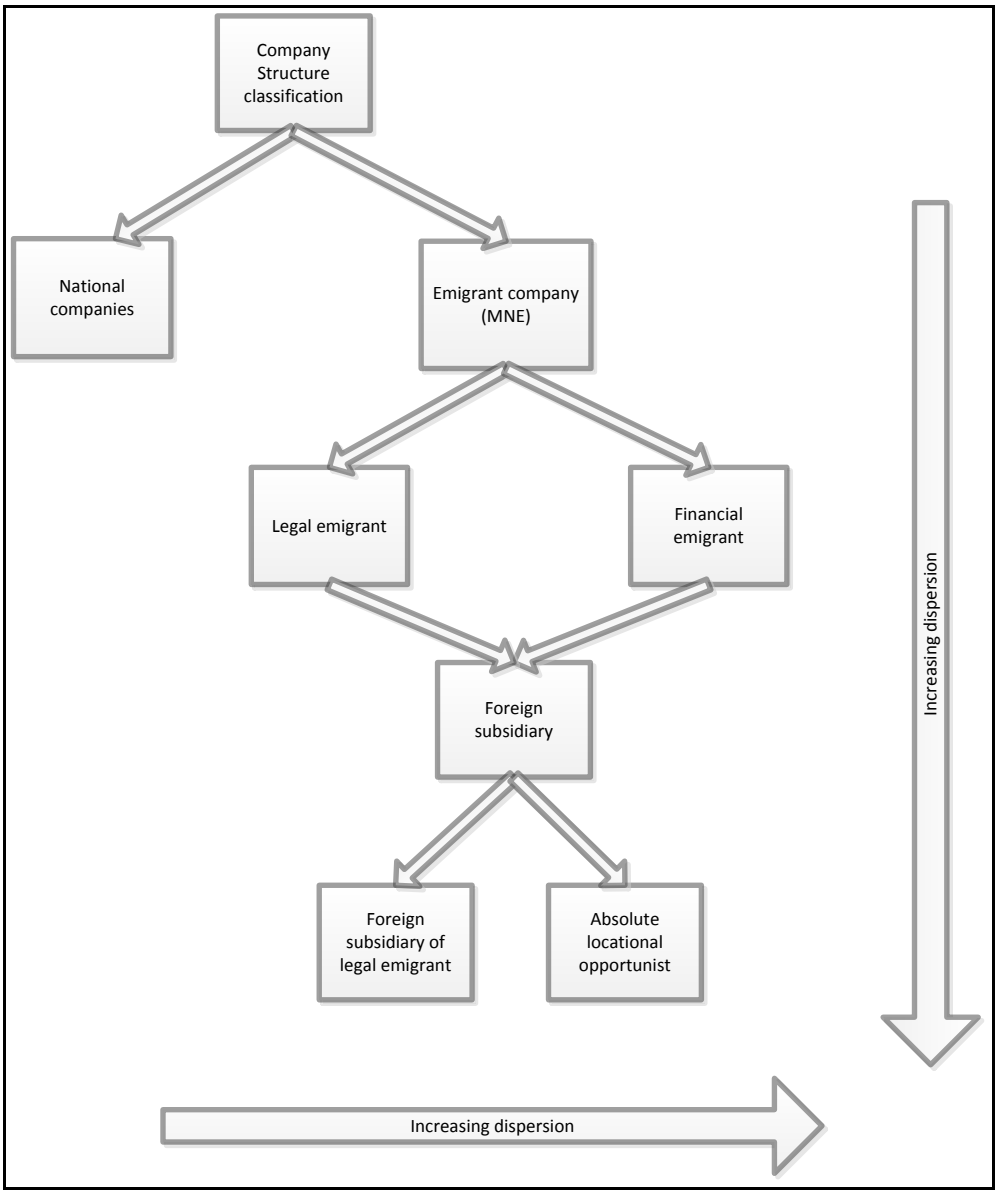

FIGURE 2: CORPORATE STRUCTURE AND CLASSIFICATION SCHEMA

"A multinational or transnational enterprise is an enterprise that engages in foreign direct investment (FDI) and owns or, in some way, controls value-added activities in more than one country." (Dunning & Lundan, 2008, p.3)

For the aims of this study MNEs are defined as Enterprises that conduct business (has a subsidiary or corporate function – legal or financial) located in more than one country.

The following company structures were identified in the data:

National Company: A company that is incorporated in the same country its parent company is incorporated in, and is listed in the same country its parent company is listed in. For example:

Legal emigrant: Companies that have a different country of incorporation to its parent company, but is listed on an exchange in the same country as its parent company. For example:

Financial emigrant: Companies that are listed on exchanges foreign to their country of incorporation. It is noted that the argument could be that these companies are legal emigrants, but the country of incorporation is seen as the 'base' of the company, since incorporation needs to happen before listing can occur. For example:

Foreign Subsidiary: Companies that are listed and incorporated in the same country, with said company being foreign to their parent company's country of incorporation and listing. For example:

Foreign subsidiary with Parent company classified as legal emigrant: The company does not share incorporation country and exchange country attributes with the parent company, but the subsidiary does share the exchange country with the parent, making the parent company a legal emigrant. For example:

Absolute locational opportunist: The parent and child companies are incorporated in different countries, and neither of these countries are the same as the parent companies country of incorporation. For example:

Company classification	Parent company name	Company Short Name	Country of incorporation	Exchange country	Parent company country of incorporation	Parent company exchange country
National Company	Pelican Resources Ltd	PELICAN RESOURCE	AUSTRALIA	AUSTRALIA	AUSTRALIA	AUSTRALIA
Legal Emigrant	Messaging International PLC	MESSAGING INTER	ISRAEL	UK	UK	UK
Financial Emigrant	Ovoca Gold PLC	OVOCA GOLD PLC	IRELAND	UK	IRELAND	UK
Foreign Subsidiary	Warburg Pincus LLC	ZENTIVA AS	SLOVAKIA	SLOVAKIA	UNITED STATES	UNITED STATES
Foreign Subsidiary of Legal emigrant	Forefront Group Ltd	FOREFRONT GROUP	HONG KONG	HONG KONG	CAYMAN ISLANDS	HONG KONG
Absolute locational opportunist	EastPharma Ltd	EASTPHARMA S-GDR	TURKEY	UK	BERMUDA	UK

TABLE 1: COMPANY STRUCTURE EXAMPLES

From the discussion above it becomes clear that it needs to be empirically verified that companies with increased levels of corporate function dispersion perform better than companies that have lower levels of corporate dispersion.

2.3.6 Measuring MNE Performance

Measuring the performance of a company can be done in several ways. The literature around MNEs, subsidiaries and performance generally break the performance measures into subjective and objective classifications.

Subjective measures are used when objective measures are not available, and normally include ratings of performance such as loss, breakeven and gain, or alternatively entity survival/exit is taken as a measure of performance.

Objective measures are accounting and/or market based, and measures the financial performance of the MNE (Return on Equity, Return on Assets, Tobin Q ratios, and other ratios that reflect relative performance measures).

The Tobin–Brainard's *q*, well known in the literature as Tobin's *q*, is the ratio of the market valuation of reproducible real capital assets to the current replacement cost of those assets (Tobin and Brainard, 1977).

According to Ntim (2009): "Tobin's q has extensively been used, as a proxy for financial performance not only in the corporate governance literature (e.g., Morck *et al*., 1988; Yermack, 1996; Agrawal and Knoeber, 1996; Gompers *et al*., 2003; and Henry, 2008, amongst others), but also within the larger corporate finance literature (e.g., Chung and Pruitt, 1994; Perfect and Wiles, 1994; and Lewellen and Badrinath, 1997, amongst others). This makes it a very advantageous performance proxy because its empirical validity is grounded in a rigorously established empirical literature. However, and like any other performance proxy, it has received a barrage of criticisms. Unlike other performance proxies like the ROA, however, most of its criticisms concern how it is constructed and potential measurement errors (e.g., Klock *et al*., 1991; Chung and Pruitt, 1994)."

3. HYPOTHESES

The previous section investigated the academic background to FDI theory, the concept of the Multinational Enterprise, and Dunning's eclectic OLI paradigm. The Location choices made my MNEs were subsequently investigated in more detail. Desai (2009, p. 1278 - 1284) postulated that MNEs have compelling reasons to distribute the headquarter functions globally to beneficial locations. The literature offered some points that needed illumination – to what degree do MNEs distribute their corporate

functions, and if so, what are the benefits to companies that do distribute their headquarter functions?

The following hypotheses were identified:

3.1 Hypothesis 1

MNEs locate their legal headquarters in developed markets to gain a performance advantage over national firms.

3.2 Hypothesis 2

MNEs locate their financial headquarters in developed markets to gain a performance advantage over national firms.

3.3 Hypothesis 3

MNEs that locate their legal and financial homes in developed markets enjoy a performance advantage over firms that have any of their corporate functions in a developing market

3.4 Hypothesis 4

Higher levels of opportunistic corporate dispersion enjoy increasing performance benefits over corporations that employ less distributed corporate configurations

4. Methodology

4.1 Choice of Methodology

Research designs can be divided into two categories, namely descriptive and explanatory research. Descriptive research seeks to explain what is going on, while explanatory research seeks to explain why things happen.

Whilst descriptive research cannot determine why a certain event occurs, it is the necessary precursor to explanatory research.

Desai (2009, p. 1277 - 1284) postulates that MNEs will increasingly choose different locations for the legal, financial and management functions of the organization. The literature review identifies Infrastructure, Services, Labour rigidity, Size of the product

market, Country-of-origin, Shareholder relationship, Access to capital, Proximity to influencers, Tax considerations, Host country institutional power, and Better institutions as attributes of developed markets that would prompt MNEs to locate their corporate functions in developed markets.

This study aims to understanding the prevalence of MNEs that have dispersed corporate functions, and to investigate the performance difference between the different modes of corporate function dispersion and traditional MNEs.

As such, a descriptive quantitative methodology was chosen.

4.2 Population and sampling

Companies list on local and international exchanges to access investor capital, while financial markets rely on information to make investment decisions. The industry that brings companies and investors together is known as the global financial data market.

Bloomberg is a financial data intermediary that provides investors with information about companies, markets and other financial events. Bloomberg has a third of the global financial data market (Clifford, S; Creswell, J., 2009), and provides an array of business services to consumers. The data used in this study was retrieved from Bloomberg. Currently Bloomberg actively tracks and monitors in excess of 65 000 equity securities (Bloomberg, 2011). Bloomberg can apply several classifications to the data contained in the database, one of the classification schemas is ICB (www.ftse.com/Indices/Industry_Classification_Benchmark), an industry standard used to classify businesses in an effort to facilitate analysis and classification.

Due to the vast size of the Bloomberg equity universe, and the cost constraints involved in sourcing all the data points on Bloomberg, it was not possible to retrieve the entire population; rather four of the ICB sectors were selected, and all the equity securities for the selected sectors were retrieved. The four ICB sectors selected were: Mining, General Retailers, Telecommunications, and Pharmaceuticals

Measuring the performance of a company can be done in several ways. The literature around MNEs, subsidiaries and performance generally break the performance measures into subjective and objective classifications.

The Tobin–Brainard's *q*, well known in the literature as Tobin's *q*, is the ratio of the market valuation of reproducible real capital assets to the current replacement cost of those assets (Tobin and Brainard, 1977, p. 245, 246).

4.2.1 TARGET POPULATION

The target population was all companies listed in the following four ICB sectors:

- Mining
- General Retailers
- Telecommunications
- Pharmaceuticals

With Tobin's q ratios provided by Bloomberg

4.2.2 SAMPLING FRAME

No sampling framework was required; the analysis was done on the entire population.

4.2.3 PROBABILITY/NON-PROBABILITY

All firms in the sampling frame were analyzed. As such, there was no sampling required within the sampling frame

4.2.4 PROCEDURE FOR SAMPLING UNITS

The sampling unit was each individual listed company. The raw data source for firm specific data was the Bloomberg database (Bloomberg, 2011)

4.2.5 DATA GATHERING PROCESS

As described above, the sample was taken from the latest available data in the Bloomberg database. All equities for the four sectors (Mining, General Retailers, Telecommunications, and Pharmaceuticals) were selected from Bloomberg (2011). This dataset comprised 6489 data points. Of these 6489 data points entries without

Tobin q ratios were removed from the selection, leaving 4411 entries for analysis. Furthermore data points that do not have all the locational information required (exchange country, country of incorporation, parent company exchange country, parent company country of incorporation) were removed from the dataset. There were 102 data points that did not have enough locational information, leaving 4308 data points. As such the population study was revised to be entries that are in one of the identified sectors (Mining, General Retailers, Telecommunications, and Pharmaceuticals), with a Tobin's q ratio, and enough locational information(exchange country, country of incorporation, parent company exchange country, parent company country of incorporation) to conduct the analysis.

The variables used as proxies for the concepts to be investigated, as well as the data sources are tabulated below.

4.3 Method of Analysis

This study aims to understanding the prevalence of MNEs that have dispersed corporate functions (legal and financial), and to investigate the performance difference between the different modes of corporate function dispersion and traditional MNEs.

The research objectives called for the classification of a population according to the previously described criteria. The data classification was done using a combination of Xcel mappings and Java6. Xcel was used to classify the country into Market sectors for each of the headquarter locations (legal and financial home for company and parent), and Java6 was used to do the granular data classification as outlined in section 2.3.5.3. The java program used for the classification is included in Appendix D. The study followed a purely descriptive statistical analysis due to the nature of the data at hand. SPSS 19 was utilized by the researcher in attaining the findings.

- The **Mean** is calculated by summing the values of a variable for all observations and then dividing by the number of observations (Norusis, 2005, *SPSS 14.0 Statistical Procedures Companion*). This describes the central tendency of the data.

- The **Median** is considered another measure of central tendency. It is the middle value when observations are ordered from the smallest to the largest (Norusis, 2005, *SPSS 14.0 Statistical Procedures Companion*).
- The **Variance** is calculated by finding the squared difference between an observation and the mean, summing for all cases and then dividing by the number of observations minus 1 (Norusis, 2005, *SPSS 14.0 Statistical Procedures Companion*). It shows the relation that a set of scores has to the mean of the sample. This describes the dispersion of the data.
- The **Standard Deviation** is calculated as the square root of the variance (Norusis, 2005, *SPSS 14.0 Statistical Procedures Companion*). This describes the dispersion of the data. Since Standard Deviation is a direct form of Variance, it will be used in place of the latter when reporting.
- **Skewness** is a measure of symmetry of a distribution; in most instances the comparison is made to a normal distribution (Hair et al., 2006). Schepers (undated) emphasizes those variables with a skewness higher than 2 should be avoided.
- **Kurtosis** is a measure of the peakedness or flatness of a distribution when compared with the normal distribution (Hair et al., 2006). Leptokurtosis is normally associated with low reliabilities and should be avoided at all costs. Indices as high as 7 are rather extreme and signify very low reliabilities (Schepers, undated).

4.4 Research Limitations

The limitations of the proposed research, following the intended scope and design, were recognized as the following:

- The selection criteria used implies that no inferences can be drawn to companies that are not in the analysed population.
- The analysis does not account for the third managerial HQ function identified by Desai (2009, p. 1277) – there is no proxy for the companies managerial home

- The analysis assumes that the country that hosts the exchange the company security is listed on hosts the financial function of the company.
- The analysis assumes the country the company is incorporated in hosts the legal function of the company.
- The data analysis is conducted on a snapshot of the data, retrieved from Bloomberg on the 31st August 2011.
- Only Bloomberg was used as a data source. Other data providers, e.g. Reuters or MacGregor BFA would have provided different data sets.

5. RESULTS

The results of data collection and analysis are presented below in turn, following the research objectives. No inferential statistics were required for the analysis, since the data set used is not representative of anything but itself.

The analysis for legal and financial home choices for MNEs was conducted on several levels of corporate structure granularity, and across developed and developing markets for legal and financial home choices. The first level of analysis is at the level of MNE vs. National company performance, providing context for further comparisons of corporate function dispersion performance. The second level of analysis is at the more granular company structure level.

MNE VS. NATIONAL COMPANY PERFORMANCE RESULTS

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the prevalence of MNEs amongst all companies, and the performance of MNEs relative to national firms.

Company type	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
MNE	489	11.4%	1.773724	231.667559	4141.9008390	475.658	21.683
Normal company	3819	88.6%	1.529536	37.762303	1157.2139682	2153.735	44.395
Total	4308	100.0%	1.548887	59.772440	1770.4956643	1964.370	42.495

TABLE 2: NATIONAL COMPANY AND MNE PREVALENCE WITH RELATIVE PERFORMANCE

From table it is clear that MNEs account for 11.4 % of all companies in the dataset, with National companies accounting for the rest. The Skewness measure indicates that the distribution is heavily skewed towards the right for both MNEs and National companies. The kurtosis measure indicates that both data sets are very "peaked". The Standard Deviation measure indicates that both data sets are dispersed.

The very high Skewness and Kurtosis measures for the two data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of "average" performance, both measures are shown for completeness.

The analysis shows that for both the mean and median analysis MNE's perform better than National companies, with the median statistic – 1.774 for MNEs vs. 1.530 for National companies quantifying the performance benefit (15.9%) MNEs enjoy over National companies.

COMPANY STRUCTURE PERFORMANCE RESULTS

MNEs have a bewildering array of options to choose from when choosing where to locate their respective corporate functions. The locational choices also need to be evaluated within the context of their parent companies' location choices. The companies in the data set each have a legal and financial home. Furthermore, each company's parent company faces similar locational choices. The classification schema in figure x was used to classify the company configurations.

This research objective aims to compare the performance of identified corporate structures.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the prevalence of the different company configurations, and to compare the performance of the possible configurations to each other.

COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
Absolute locational opportunist	57	1.3%	2.040855	3.179247	4.3653312	32.704	5.287
Financial Emigrant	80	1.9%	1.731205	23.425997	181.9585535	79.807	8.929
Foreign Subsidiary	141	3.3%	1.676387	2.691748	5.5108600	108.666	9.899
Foreign Subsidiary of Legal emigrant	85	2.0%	1.494937	2.132190	1.9563224	14.260	3.227
Legal Emigrant	126	2.9%	2.037150	878.328311	8147.7263384	122.612	11.011
National Company	3819	88.6%	1.529536	37.762303	1157.2139682	2153.735	44.395
Total	4308	100.0%	1.548887	59.772440	1770.4956643	1964.370	42.495

FIGURE 3: COMPANY STRUCTURE PREVALENCE WITH RELATIVE PERFORMANCE

From table it is clear that 88.6 % of all companies in the dataset are National companies, with the remaining 11.4% of the companies fairly evenly distributed across the other possible configurations, with Foreign subsidiaries accounting for the second biggest categorization. A Foreign subsidiary of a Foreign emigrant is still a subsidiary, so foreign subsidiaries account for 5.3 % (3.3% + 2%) of the total dataset.

The Skewness measure indicates that the distribution is skewed towards the right for all the company configurations. The kurtosis measure indicates that both data sets are very “peaked”. The Standard Deviation measure varies widely across the company structures indicating that the data sets range from not being dispersed to being very dispersed.

The very high Skewness and Kurtosis measures for the two data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of

central tendency – median will give us a better indication of "average" performance, both measures are shown for completeness.

National companies comprise 88% of the data set, and as such provide a meaningful benchmark to measure the other configurations against. Figure x below shows the ranked performance of the different company configurations, and shows that the company configuration that disperses the legal and financial corporate functions to whichever country provides the best resources performs the best (33.4% better than National companies), closely followed by Legal emigrants (33.14% better than National companies). Financial emigrants outperform National companies by 13.14%, but underperform Legal emigrants by 20%. Foreign subsidiaries, the second most prevalent company configuration outperforms National companies by 9.54%, but Legal emigrants by 23.59%. Foreign subsidiaries that are children of a Legal emigrants is the only company configuration that underperforms National companies, and does so by 2.29%, while underperforming relative to Legal emigrants by 35.42%.

5.1 Hypothesis 1: Companies locate their legal headquarters in developed markets to gain a performance advantage over national firms.

The analysis was conducted on several levels of granularity, namely comparing company performance from the perspective of MNE vs. National Company, Legal home choice (developed vs. developing market), MNE/National Company vs. Legal home choice (developed/developing), and lastly Differentiated MNE structure/National Company vs. Legal home market classification.

5.1.1 Legal home choice (developed/developing market)

The previous level of comparison aimed to understand the performance benefits enjoyed by MNEs over National companies. This research objective aims to establish whether companies that seek a legal home (country of incorporation) in a developed

market enjoys a performance benefit relative to companies choosing a legal home in a developing market.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the prevalence of companies that has a legal home in a developed market, and to compare the performance of companies incorporated (legal home) in developed markets relative to firms incorporated in developing markets.

Incorporation Market classification	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	2907	67.5%	1.587639	87.320749	2154.8742766	1324.895	34.902
DEVELOPING	1401	32.5%	1.457803	2.611173	12.3294961	889.904	28.020
Total	4308	100.0%	1.548887	59.772440	1770.4956643	1964.370	42.495

TABLE 3: DEVELOPED AND DEVELOPING MARKET INCORPORATION PREVALENCE AND RELATIVE PERFORMANCE

From table it is clear that 67.5 % of all companies in the dataset are incorporated in developed markets, with companies incorporated in developing markets accounting for the rest. The Skewness measure indicates that the distribution is heavily skewed towards the right for both companies incorporated in developed and developing markets. The kurtosis measure indicates that both data sets are very “peaked”. The Standard Deviation measure indicates that both data sets are dispersed.

The very high Skewness and Kurtosis measures for the two data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of “average” performance, both measures are shown for completeness.

The analysis shows that for both the mean and median analysis companies with legal homes in developed markets perform better than companies with legal homes in developing markets. The median statistic – 1.588 for developed markets vs. 1.458 for developing markets quantify the performance benefit (8.9%) companies incorporated in developed markets enjoy over companies incorporated in developing markets.

5.1.2 MNE/National Company vs. Legal home choice (developed/developing)

This research objective aims to compare the benefits MNEs realize when seeking a legal home in a developed market, rather than choosing a legal home in a developing market.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the performance of MNEs relative to National companies, comparing the performance of companies with a legal home in developed markets relative to firms with a legal home in developing markets.

Incorporation classification	Market	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	MNE	262	6.1%	1.96	430.31	5656.01	254.842	15.872
	National company	2645	61.4%	1.57	53.34	1390.28	1491.285	36.944
	Total	2907	67.5%	1.58	87.32	2154.87	1324.895	34.902
DEVELOPING	MNE	227	5.3%	1.63	2.39	3.39	120.298	9.693
	National company	1174	27.3%	1.40	2.65	13.38	764.071	26.097
	Total	1401	32.5%	1.45	2.61	12.32	889.904	28.020

TABLE 4: NATIONAL COMPANY/MNE INCORPORATION LOCATION PREVALENCE AND RELATIVE PERFORMANCE

From table it is clear that 62 % of all companies in the dataset are National companies listed in developed markets, with 27% of the companies accounted for by National companies listed in developing markets. Of the remaining MNEs (11%) the MNEs incorporated in developed markets account for 6% of the data, with the remaining 5% incorporated in developing markets.

The Skewness measure indicates that the distribution is skewed towards the right for all the incorporation/company configurations. The kurtosis measure indicates that both data sets are very "peaked". The Standard Deviation measure varies widely across the incorporation/company configurations indicating that the data sets range from not being dispersed to being very dispersed.

The high Skewness and Kurtosis measures for the four data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of "average" performance, both measures are shown for completeness.

National companies in developed markets comprise 62% of the data set, and as such provide a meaningful benchmark to measure the other configurations against. Figure x above shows the ranked performance of the different incorporation/company configurations, and shows that the MNEs incorporated in developed markets outperform National companies incorporated in developed markets by 24.89%. The second best performing exchange/country configuration is MNEs listed on exchanges in developing markets, outperforming National companies incorporated in developed markets by 4.2%. National companies listed in developed markets outperform National companies listed in developing markets by 10.57%.

5.1.3 Differentiated MNE structure/National Company vs. Legal home market classification

This comparison aims to quantify the benefit the different corporate configurations realize relative to National companies when seeking a legal home (incorporation country) in a developed market, rather than choosing a legal home in a developing market.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the performance of the corporate configurations relative to National companies, comparing the performance of companies with a legal home in developed markets relative to firms with a legal home in developing markets.

Incorporation Market classification	COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	Financial Emigrant	31	.7%	2.14	56.09	292.09	30.97	5.56
	Foreign Subsidiary	61	1.4%	1.58	3.21	8.13	52.96	7.09
	Foreign Subsidiary of Legal emigrant	82	1.9%	1.48	2.13	1.97	14.13	3.23
	Legal Emigrant	77	1.8%	4.30	1435.93	10410.40	74.91	8.60
	National Company	2645	61.4%	1.57	53.34	1390.28	1491.28	36.94
	Subsidiary and Parent company legal/financial emigrants	11	.3%	1.96	5.90	9.21	6.87	2.58
	Total	2907	67.5%	1.58	87.32	2154.87	1324.89	34.90
DEVELOPING	Financial Emigrant	49	1.1%	1.61	2.76	6.36	46.46	6.73
	Foreign Subsidiary	80	1.9%	1.71	2.29	1.78	6.81	2.41
	Foreign Subsidiary of Legal emigrant	3	.1%	1.65	2.12	1.47	.	1.29
	Legal Emigrant	49	1.1%	1.19	2.08	2.37	5.68	2.48
	National Company	1174	27.3%	1.40	2.65	13.38	764.07	26.09
	Subsidiary and Parent company legal/financial emigrants	46	1.1%	2.05	2.52	1.60	1.59	1.42
	Total	1401	32.5%	1.45	2.61	12.32	889.90	28.02

TABLE 5: INCORPORATION LOCATION VS. COMPANY STRUCTURE AND RELATIVE PERFORMANCE

From table x it is clear that 61 % of all companies in the dataset are National companies listed in developed markets, with 27% of the companies accounted for by National companies listed in developing markets. Of the remaining MNEs (11%) 4% are Foreign subsidiaries (Normal subsidiaries and Foreign subsidiaries of legal emigrants, 2% and 2% respectively) incorporated in developed markets, with the remainder (7%) distributed across the company configurations across developed/developing markets.

The Skewness measures indicates that the distribution are skewed towards the right to varying degrees for the incorporation/company configurations. The kurtosis measure indicates that both data sets are “peaked” to varying degrees. The Standard Deviation measure varies widely across the incorporation/company configurations indicating that the data sets range from not being dispersed to being very dispersed.

The varying Skewness and Kurtosis measures for the four data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of “average” performance, both measures are shown for completeness.

National companies incorporated in developed markets comprise 61% (2645) of the data set, and as such provide a meaningful benchmark to measure the other configurations against. Figure x above shows the ranked performance of the different exchange/company configurations, and shows that Legal emigrants incorporated in developed markets have outperform all other configurations by a significant margin.

Legal emigrants incorporated in developing markets outperform National companies incorporated in developed countries by 173.71%. There are 77 companies that employ this configuration, and as such the data set is large enough to be meaningful. The list companies employing this configuration is included in *Appendix B*.

The second best performing exchange/country configuration is Financial emigrants incorporated in developed markets. Financial emigrants incorporated in developed markets outperform National companies incorporated in developed markets by 36.2%. There are 31 companies that employ this configuration, making the dataset too small to be meaningful, but singling it out as a potential area of future research.

The third best performing exchange/country configuration is companies that disperse company and parent company legal and financial locations opportunistically whilst being incorporated in developing markets. These company configurations outperform National companies incorporated in developed markets by 30.49%, there are 46 data points in this set, making the set large enough to be meaningful.

The fourth best performing exchange/country configuration is companies that disperse company and parent company legal and financial locations opportunistically whilst being incorporated in developed markets. These company configurations outperform National companies incorporated in developed markets by 25.4%, but there are only 11 data points in this set, making the set too small to be meaningful.

Foreign subsidiaries incorporated in developing markets outperform National companies incorporated in developing companies by 9.48%. The data set contains 80 entries, making it large enough to be meaningful.

National companies incorporated in developing markets comprise 27% (1174) of the total data set, but has the second worst performance, underperforming national companies incorporated in developed markets by 10.25%.

The worst performing configuration is Legal emigrants incorporated in developing countries, underperforming National companies in developed markets by 23.62%. This data set contains 49 entries, which is large enough to make it meaningful.

5.1.4 SUMMARY FOR HYPOTHESIS 1

Incorporation Market classification	MNE	COMPANY_TYPE	N	% of Total N	Median	Std. Deviation
DEVELOPED	MNE	Absolute locational opportunist	11	.3%	1.96	9.21
		Financial Emigrant	31	.7%	2.14	292.09
		Foreign Subsidiary	61	1.4%	1.58	8.13
		Foreign Subsidiary of Legal emigrant	82	1.9%	1.48	1.97
		Legal Emigrant	**77**	**1.8%**	**4.30**	**10410.40**
		Total	262	6.1%	1.96	5656.01
	National company	National Company	2645	61.4%	1.57	1390.28
		Total	2645	61.4%	1.57	1390.28
	Total	Absolute locational opportunist	11	.3%	1.96	9.21
		Financial Emigrant	31	.7%	2.14	292.09
		Foreign Subsidiary	61	1.4%	1.58	8.13
		Foreign Subsidiary of Legal emigrant	82	1.9%	1.48	1.97
		Legal Emigrant	77	1.8%	4.30	10410.40
		National Company	2645	61.4%	1.57	1390.28
		Total	2907	67.5%	1.58	2154.87
DEVELOPING	MNE	Absolute locational opportunist	46	1.1%	2.05	1.60
		Financial Emigrant	49	1.1%	1.61	6.36
		Foreign Subsidiary	80	1.9%	1.71	1.78
		Foreign Subsidiary of Legal emigrant	3	.1%	1.65	1.47

	Legal Emigrant	49	1.1%	1.19	2.37
	Total	227	5.3%	1.63	3.39
National company	National Company	1174	27.3%	1.40	13.38
	Total	1174	27.3%	1.40	13.38
Total	Absolute locational opportunist	46	1.1%	2.05	1.60
	Financial Emigrant	49	1.1%	1.61	6.36
	Foreign Subsidiary	80	1.9%	1.71	1.78
	Foreign Subsidiary of Legal emigrant	3	.1%	1.65	1.47
	Legal Emigrant	49	1.1%	1.19	2.37
	National Company	1174	27.3%	1.40	13.38
	Total	1401	32.5%	1.45	12.32

TABLE 6: COMPANY STRUCTURE PERFORMANCE SUMMARY (LEGAL HOME CHOICE)

5.2 Hypothesis 2: Companies locate their financial headquarters in developed markets to gain a performance advantage over national firms

The analysis was conducted on several levels of granularity, namely comparing company performance from the perspective of MNE vs. National Company, Financial home choice (developed vs. developing market), MNE/National Company vs. Financial home choice (developed/developing), and lastly Differentiated MNE structure/National company vs. Financial home market classification.

5.2.1 Financial home choice (developed/developing market)

This comparison aims to establish whether companies that seek a financial home (exchange country) in a developed market enjoy a performance benefit relative to companies choosing a financial home in a developing market.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the prevalence of companies that has a financial home in a developed market, and to compare the performance of companies with a financial home in developed markets relative to firms with a financial home in developing markets.

Exchange Market classification	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	3039	70.5%	1.60	83.64	2107.61	1385.15	35.68
DEVELOPING	1269	29.5%	1.43	2.61	12.88	823.87	27.08
Total	4308	100.0%	1.54	59.77	1770.49	1964.37	42.49

TABLE 7: DEVELOPED AND DEVELOPING MARKET LISTING PREVALENCE WITH RELATIVE PERFORMANCE

From table it is clear that 70.5 % of all companies in the dataset are listed in developed markets, with companies listed in developing markets accounting for the rest. The Skewness measure indicates that the distribution is heavily skewed towards the right for companies listed on exchanges in developed and developing markets. The kurtosis measure indicates that both samples are very “peaked”. The Standard Deviation measure indicates that both data sets are dispersed.

The very high Skewness and Kurtosis measures for the two data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of “average” performance, both measures are shown for completeness.

The analysis shows that for both the mean and median analysis companies with financial homes in developed markets perform better than companies with financial homes in developing markets. The median statistic – 1.601 for developed markets vs. 1.435 for developing markets quantify the performance benefit (11.6%) companies listed in developed markets enjoy over companies listed in developing markets.

5.2.2 MNE/National Company vs. financial home choice (developed/developing)

This comparison establishes the benefit MNEs realize relative to National companies when seeking a financial home (exchange country) in a developed market, rather than choosing a financial home in a developing market.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the performance of MNEs relative to National companies, comparing the performance of companies with a financial home in developed markets relative to firms with a financial home in developing markets.

Exchange Market classification	MNE	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	MNE	394	9.10%	1.86	287.02	4613.73	383.25	19.46
	National company	2645	61.40%	1.57	53.35	1390.28	1491.29	36.94
	Total	3039	70.50%	1.60	83.64	2107.61	1385.15	35.69
DEVELOPING	MNE	95	2.20%	1.58	2.10	1.70	8.12	2.62
	National company	1174	27.30%	1.41	2.65	13.39	764.07	26.10
	Total	1269	29.50%	1.43	2.61	12.88	823.88	27.08
Total	MNE	489	11.40%	1.77	231.67	4141.90	475.66	21.68
	National company	3819	88.60%	1.53	37.76	1157.21	2153.74	44.40
	Total	4308	100.00%	1.55	59.77	1770.50	1964.37	42.50

Table 8: National company/MNE exchange location prevalence and relative performance

From table it is clear that 62 % of all companies in the dataset are National companies listed in developed markets, with 27% of the companies accounted for by National companies listed in developing markets. Of the remaining MNEs (11%) the bulk (9%) is listed in developed market, with the remaining 2% listed on developing exchanges.

The Skewness measure indicates that the distribution is skewed towards the right for all the exchange/company configurations. The kurtosis measure indicates that both

data sets are very "peaked". The Standard Deviation measure varies widely across the exchange/company configurations indicating that the data sets range from not being dispersed to being very dispersed.

The high Skewness and Kurtosis measures for the four data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of "average" performance, both measures are shown for completeness.

National companies in developed markets comprise 62% of the data set, and as such provide a meaningful benchmark to measure the other configurations against. Figure x above shows the ranked performance of the different exchange/company configurations, and shows that the MNEs listed on developed exchanges outperform National companies on developed exchanges by 18.2%. The second best performing exchange/country configuration (by a mere 0.5%) is MNEs listed on exchanges in developing markets. National companies listed in developed markets and MNEs listed in developing markets outperform National companies listed in developing markets by 11%.

5.2.3 Differentiated MNE structure/National Company vs. financial home market classification

This research objective aims to understand the benefit the different corporate configurations realize relative to National companies when seeking a financial home (exchange country) in a developed market, rather than choosing a legal home in a developing market. A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the performance of the corporate configurations relative to National companies, comparing the performance of companies with a financial home in developed markets relative to firms with a financial home in developing markets.

Exchange Market classification	COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	Absolute locational opportunist	56	1.30 %	2.03	3.20	4.40	32.11	5.24
	Financial Emigrant	66	1.50 %	2.03	28.15	200.28	65.84	8.11
	Foreign Subsidiary	67	1.60 %	1.68	3.10	7.77	58.05	7.42
	Foreign Subsidiary of Legal emigrant	82	1.90 %	1.49	2.13	1.98	14.14	3.23
	Legal Emigrant	123	2.90 %	2.11	899.73	8246.12	119.69	10.88
	National Company	2645	61.40 %	1.57	53.35	1390.28	1491.29	36.94
	Total	3039	70.50 %	1.60	83.64	2107.61	1385.15	35.69
DEVELOPING	Absolute locational opportunist	1	0.00 %	2.04	2.04	.	.	.
	Financial Emigrant	14	0.30 %	1.02	1.15	0.40	-0.21	0.76
	Foreign Subsidiary	74	1.70 %	1.68	2.32	1.83	6.42	2.38
	Foreign Subsidiary of Legal emigrant	3	0.10 %	1.65	2.13	1.48	.	1.30
	Legal Emigrant	3	0.10 %	0.81	1.02	0.52	.	1.56
	National Company	1174	27.30 %	1.41	2.65	13.39	764.07	26.10
	Total	1269	29.50 %	1.43	2.61	12.88	823.88	27.08

TABLE 9: EXCHANGE LOCATION VS. COMPANY STRUCTURE AND RELATIVE PERFORMANCE

From table 9 it is clear that 61 % of all companies in the dataset are National companies listed in developed markets, with 27% of the companies accounted for by National companies with a legal home in developing markets. Of the remaining MNEs (11%) 3% are Legal emigrants listed in developed markets. Foreign subsidiaries make

up the bulk of the rest of the MNE corporate configurations across developed/developing markets.

The Skewness measures indicate that the distribution are skewed towards the right to varying degrees for the exchange/company configurations. The kurtosis measure indicates that both data sets are “peaked” to varying degrees. The Standard Deviation measure varies widely across the exchange/company configurations indicating that the data sets range from not being dispersed to being very dispersed.

The varying Skewness and Kurtosis measures for the four data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of “average” performance, both measures are shown for completeness.

National companies incorporated in developed markets comprise 61% (2645) of the data set, and as such provide a meaningful benchmark to measure the other configurations against. Figure x above shows the ranked performance of the different exchange/company configurations, and shows that Legal emigrants listed in developed markets have outperformed all other configurations by a significant margin.

Legal emigrants listed in developed markets outperform National companies incorporated in developed countries by 34.31%. There are 123 companies that employ this configuration, and as such the data set is large enough to be meaningful.

The second best performing exchange/ company configuration is companies that disperse company and parent company legal and financial locations opportunistically whilst being listed in developing markets. These company configurations outperform National companies incorporated in developed markets by 29.85%, but only one company employs this configuration, making the data set too small to be meaningful.

Financial emigrants listed in developed markets outperform National companies listed in developed markets by 29.22%. There are 66 companies that employ this configuration, making the dataset large enough to be meaningful.

Companies that disperse company and parent company legal and financial locations opportunistically whilst being listed in developed markets outperform National companies listed in developed markets by 29.22%, with 56 companies using this configuration, making the data set large enough to be meaningful.

Foreign subsidiaries listed in developed and developing markets have the same measure of performance, outperforming National companies listed in developed markets by 6.94%, with 74 and 67 companies employing this configuration respectively, making both data sets large enough to be meaningful.

The worst performing configuration is Legal emigrants listed in developing markets, underperforming National companies in developed markets by 48.44%. This data set contains only 3 entries, which is not large enough to make it meaningful.

5.2.4 Summary for Hypothesis 2

Exchange Market classification	MNE	COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation
DEVELOPED	MNE	Absolute locational opportunist	56	1.30 %	2.03	3.20	4.40
		Financial Emigrant	66	1.50 %	2.03	28.15	200.28
		Foreign Subsidiary	67	1.60 %	1.68	3.10	7.77
		Foreign Subsidiary of Legal emigrant	82	1.90 %	1.49	2.13	1.98
		Legal Emigrant	**123**	**2.90 %**	**2.11**	**899.73**	**8246.12**
		Total	394	9.10 %	1.86	287.02	4613.73

	National company	National Company	2645	61.40%	1.57	53.35	1390.28
		Total	2645	61.40%	1.57	53.35	1390.28
	Total	Absolute locational opportunist	56	1.30%	2.03	3.20	4.40
		Financial Emigrant	66	1.50%	2.03	28.15	200.28
		Foreign Subsidiary	67	1.60%	1.68	3.10	7.77
		Foreign Subsidiary of Legal emigrant	82	1.90%	1.49	2.13	1.98
		Legal Emigrant	123	2.90%	2.11	899.73	8246.12
		National Company	2645	61.40%	1.57	53.35	1390.28
		Total	3039	70.50%	1.60	83.64	2107.61
DEVELOPING	MNE	Absolute locational opportunist	1	0.00%	2.04	2.04	.
		Financial Emigrant	14	0.30%	1.02	1.15	0.40
		Foreign Subsidiary	74	1.70%	1.68	2.32	1.83
		Foreign Subsidiary of Legal emigrant	3	0.10%	1.65	2.13	1.48
		Legal Emigrant	3	0.10%	0.81	1.02	0.52
		Total	95	2.20%	1.58	2.10	1.70
	National company	National Company	1174	27.30%	1.41	2.65	13.39
		Total	1174	27.30%	1.41	2.65	13.39

Total	Absolute locational opportunist	1	0.00 %	2.04	2.04	.
	Financial Emigrant	14	0.30 %	1.02	1.15	0.40
	Foreign Subsidiary	74	1.70 %	1.68	2.32	1.83
	Foreign Subsidiary of Legal emigrant	3	0.10 %	1.65	2.13	1.48
	Legal Emigrant	3	0.10 %	0.81	1.02	0.52
	National Company	1174	27.30%	1.41	2.65	13.39
	Total	1269	29.50%	1.43	2.61	12.88

TABLE 10: COMPANY STRUCTURE PERFORMANCE SUMMARY (FINANCIAL HOME CHOICE)

5.3 HYPOTHESIS 3: COMPANIES THAT LOCATE THEIR LEGAL AND FINANCIAL HOMES IN DEVELOPED MARKETS ENJOY PERFORMANCE ADVANTAGES OVER FIRMS THAT HAVE ANY OF THEIR CORPORATE FUNCTIONS IN A DEVELOPING MARKET

This research objective aims to establish whether there are specific combinations of legal/financial location choices companies prefer, and to compare the performance benefits of certain configurations over others.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to quantify the prevalence of the different company legal/financial location choice configurations across developed and developing markets, and to compare the performance of the possible configurations to each other.

Incorporation Market classification	Exchange Market classification	N	% of Total N	Median	Mean	Std. Deviation	Kurtosis	Skewness
DEVELOPED	DEVELOPED	2906	67.50%	1.59	87.35	2155.24	1324.44	34.90
	DEVELOPING	1	0.00%	1.55	1.55	.	.	.
	Total	2907	67.50%	1.59	87.32	2154.87	1324.90	34.90
DEVELOPING	DEVELOPED	133	3.10%	1.72	2.60	4.19	87.55	8.62
	DEVELOPING	1268	29.40%	1.43	2.61	12.89	823.23	27.07
	Total	1401	32.50%	1.46	2.61	12.33	889.90	28.02
Total	DEVELOPED	3039	70.50%	1.60	83.64	2107.61	1385.15	35.69
	DEVELOPING	1269	29.50%	1.43	2.61	12.88	823.88	27.08
	Total	4308	100.00%	1.55	59.77	1770.50	1964.37	42.50

TABLE 11: COMPANY INCORPORATION/EXCHANGE CONFIGURATIONS ACROSS DEVELOPED/DEVELOPING MARKETS

From table it is clear that 67.5 % of all companies in the dataset are listed and incorporated in developed markets, with the bulk of other configurations (29.4%) listed and incorporated in developing markets. The 133 companies (3.1%) that are incorporated in developing markets and listed in developed markets are the entries that are of particular interest, and conceptually represent one of the possible two kinds of financial emigrants. The other kind of financial emigrant would be companies that are incorporated in developed markets, and listed on exchanges in developing markets. There is only one entry like this.

The Skewness measure (where there is more than one data point) indicates that the distribution is heavily skewed towards the right for companies listed and incorporated

in developed and developing markets. The kurtosis measure indicates that all the applicable samples are very "peaked". The Standard Deviation measure indicates that both data sets are dispersed.

The high Skewness and Kurtosis measures for the data sets mean that the mean values for the data sets will be inflated, and that an alternative measure of central tendency – median will give us a better indication of "average" performance, both measures are shown for completeness. There is only one company that is incorporated in a developed market whilst being listed in a developing market, and as such no more will be said about it. The other three configurations have enough entries to make an average analysis meaningful.

Since there are only three configurations that can meaningfully be compared the configuration with the lowest median will be used as a comparative base. Companies that are incorporated in developing markets and listed on exchanges in developed markets have the highest median performance, namely 1.724, followed by companies incorporated and listed in developed markets (1.588), and lastly companies that are incorporated and listed in developing markets fare the worst (1.431). The companies incorporated in developing markets and listed in developed markets are financial emigrants, and perform 20.3 % better than companies that are incorporated and listed in developing markets, and 9.5% better than companies that are incorporated and listed in developed markets.

5.4 Hypothesis 4: Higher levels of opportunistic corporate dispersion enjoy increasing performance benefits over firms that employ less distributed corporate configurations

This research objective aims to establish whether companies with higher levels of corporate dispersion across developed and developing markets for their corporate functions enjoy higher performance.

A descriptive, comparative study was run on all the data points in the described universe in SPSS to compare the performance of the possible configurations to each other.

Incorporation Market classification	Exchange Market classification	COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation
DEVELOPED	DEVELOPED	· Legal Emigrant	77	0.018	4.30	1436.00	10410.41
DEVELOPED	DEVELOPED	· Absolute locational opportunist	11	0.003	1.97	5.91	9.22
DEVELOPED	DEVELOPING	· Financial Emigrant	1	0	1.55	1.55	.
DEVELOPING	DEVELOPED	· Absolute locational opportunist	45	0.01	2.06	2.54	1.62
DEVELOPING	DEVELOPING	· Absolute locational opportunist	1	0	2.04	2.04	.
DEVELOPING	DEVELOPING	· Foreign Subsidiary	74	0.017	1.68	2.32	1.83

TABLE 12: SUMMARIZED COMPANY STRUCTURE PERFORMANCE FOR CORPORATE HOME CHOICES

Due to the large number of possible combinations of legal and financial homes for the different company configurations table 1 above show only the highest performing configuration for each of the corporate home choices. The full comparison is included in *Appendix A*.

The most performant configuration is legal emigrants incorporated in developed markets. The table shows that the legal emigrants outperform absolute locational opportunists in developed markets by more than 100%. There is only one company incorporated in a developed market with a listing in a developed market, making the choice very unpopular. The most performant company listed and incorporated in developing markets was an Absolute locational opportunist, but unfortunately

one company employed this configuration, making the next most performant configuration in developing markets Foreign subsidiaries. For companies with a legal home in developing markets and financial home in a developed market the highest performing company configuration were Absolute locational opportunists.

6. Discussion of Results

MNEs have a wide array of choices when choosing a corporate structure. Dunning and Lundan's (2008, p. 3) definition of a MNE as an entity that has invested or owns operations in more than one country allows us to define a MNE in the dataset as a company that is listed or incorporated in a country different to its parent company. Desai (2009, p. 1282) discusses the concept of corporate headquarter dispersion, and identify three corporate functions that could potentially be dispersed internationally, namely: managerial, legal and financial.

The research conducted inspects company headquarters location choices and the accompanying performance implications at a high level - from a developed/developing market perspective, and subsequently, at a more granular country level.

This section will show that the findings support the theory discussed in chapter two and, in addition provides insight into the current state of affairs for the four sectors that were investigated.

The results from Section 5.1.1 show that 11.4% of all companies in the study form part of MNEs, and that the MNEs in the dataset outperform National companies by 15.9%. This finding can be explained by Dunning's (1988) suggestion that organizations exploit Ownership, Locational and Internalization advantages to overcome obstacles related to being a foreign firm.

6.1 Companies locate their legal headquarters in developed markets to gain a performance advantage over national firms.

The results show that the bulk of the world's companies have legal homes in developed markets. Furthermore, the results show that MNEs with legal homes in developed markets outperform MNEs incorporated in developing market countries by 19.85%. At the most granular level of analysis Legal emigrants with a legal home in a developed market has the highest level of performance, outperforming national companies incorporated in developed markets by 157%, finding support for the theory of Desai (2009, p. 1282) that MNEs locate their corporate functions to increase firm value. Absolute locational opportunists do not have the highest level of performance. This phenomenon could be explained by Desai's contention that some MNE location choices could be motivated by agency concerns. There are 77 companies that employ this configuration, providing future researchers with a large set of highly performant companies to investigate further.

Hypothesis 1 is supported at all levels of analysis.

6.2 Companies locate their financial headquarters in developed markets to gain a performance advantage over national firms.

The results show that the bulk of the world's companies have financial homes in developed markets. Furthermore, the results show that MNEs with financial homes in developed markets outperform MNEs listed in developing market countries by 18.28%. At the most granular level of analysis legal emigrants with a financial home in a developed market has the highest level of performance. The performance benefits relative to the other configurations are much more muted than for legal emigrants with a legal home in a developed market. The results do find some support for the theory of Desai (2009, p.1282) that MNEs locate their corporate functions to increase firm value. Absolute locational opportunists once again do not have the highest level of performance. This phenomenon could be explained by Desai's contention that some MNE location choices could be motivated by agency concerns.

Hypothesis 2 is supported at all levels of analysis.

The research conducted aims to understand company headquarters location choices, and the accompanying performance implications from a developed/developing market perspective, at a high level (developed/developing market), and subsequently, at a more granular country level. This second level of understanding is aimed at the level of the choices made in regards to specific countries.

Companies that disperse their legal and financial functions to the same country (but different to the parent company's country) are classified as foreign subsidiaries. Research objective 7 shows that foreign subsidiaries comprise 6.6% of the total data set, and 57.9% of the MNE dataset. Companies that disperse only one of their corporate functions are referred to as either legal or financial emigrants, and comprise 4.8 % of the total data set, or 41.9% of the MNE dataset. This finding implies that roughly half of the MNEs in the study have started distributing some of their headquarter location choices opportunistically.

Only 1.3% (57) of all the companies in the data set has fully exploited internationalization opportunities as described by Desai (2009, p. 1282). Companies that disperse their headquarter functions opportunistically have the highest level of performance amongst all company configurations, but only exceed legal emigrant performance (2nd best performance) by 0.4%. Both of these configurations exceed National company performance by 33%, and all other configurations by smaller, but still significant margins. The fact that both configurations essentially have the same level of performance does lead one to suspect that the performance benefit is largely related to the legal location choice, rather than the financial choice. Further analysis on the matter might lead to conclusive results on the matter.

6.3 Companies that locate their legal and financial homes in developed markets enjoy performance advantages over firms that have any of their corporate functions in a developing market

The results show that the bulk of the world's companies share their legal and financial homes (developed or developing market). Furthermore, the results show that MNEs with legal homes in developing markets and financial homes in developed markets

outperform other location combinations; and specifically companies with legal and financial homes in developed markets (the most numerous configuration) by 9.5%.

There are 133 companies that employ this configuration, with 2906 companies locating their legal and financial homes in developed markets. There is only one company that uses the inverse of this configuration - companies with legal homes in developed markets and financial homes in developing markets, leading this researcher to classify the 133 companies with legal homes in developing markets and financial homes in developed markets as financial emigrants. If this contention is accepted support for the theory of Desai (2009, p. 1278, 1279) that MNEs locate their corporate functions (financial in this case) to developed markets to increase firm value is found.

Hypothesis 3 is supported at this level of analysis.

6.4 Higher levels of opportunistic corporate dispersion enjoy increasing performance benefits over firms that employ less distributed corporate configurations

The results show that in absolute terms the highest performing configuration is Legal emigrants that are incorporated and listed in developed markets.

The results do find some support for the theory of Desai (2009, p. 1282) that MNEs locate their corporate functions to increase firm value. Absolute locational opportunists do not consistently have the highest level of performance, and in the cases where they do there are not many companies employing the configuration. This phenomenon could be explained by Desai's contention that some MNE location choices could be motivated by agency concerns.

7. CONCLUSION

7.1 MAIN FINDINGS

Desai's (2009, p. 1282) suggestion that MNEs locate their legal and financial corporate functions opportunistically to increase firm performance was investigated at different levels of analysis, and across developed/developing market locations. Desai's contention that firms that disperse their corporate 'homes' increase firm value was supported, with MNEs that relocate their legal homes enjoying the highest level of increased relative performance.

Desai (2009, p. 1284) suggested that: "More granular, empirical work on the ways firms are unbundling these homes will help inform new empirical, large-sample methods for capturing these developments." In an attempt to do this a classification model was developed to categorize different corporate structures, identifying National companies, Legal and Financial emigrants, Foreign subsidiaries, Foreign subsidiaries of a Legal emigrant, and Absolute Locational Opportunists as the possible corporate configurations employed by modern corporations.

National companies share a common incorporation and country of exchange country with its parent company. **Legal emigrants** are incorporated in a different country to its parent company, but listed in the same country as its parent company. **Financial emigrants** are incorporated in the same country as the parent company, but listed in a different country to the parent company. **Foreign subsidiaries** are incorporated and listed in the same country, with said country different to the parent company's country**. Foreign subsidiaries of a legal emigrant** are companies that are listed on exchanges in the same country it is incorporated in, but different to the parent company's country of incorporation, but the same as the parent company's exchange country. **Absolute Locational Opportunists** have different countries for its parents' exchange country, country of incorporation, and its own exchange and incorporation country.

National companies comprise the bulk of corporate configurations in the dataset, accounting for more than two thirds of all configurations, and more than two third of

the companies also conducted their business in developed markets. Companies in developed markets had a higher mean performance that companies in developed markets, and significant and consistent evidence was found that MNEs enjoy higher performance in developed markets for both legal and financial corporate location choices relative to National companies. Developed market configurations consistently performed better than developing market configurations at all levels of analysis. The MNE configuration that has the highest level of performance overall, and by a significant **173%** over National companies in developed markets (the most prevalent configuration) are **Legal emigrants that have moved their country of incorporation to a country in a developed market**.

This research has built on the work by Desai (2009), and provided empirical verification of the theories provided, namely that corporate function dispersion improves MNE performance. This research compared the relative performance of corporate headquarters located in developed vs. developing markets for legal and financial home choices, and at the level of National companies vs. MNE performance when choosing a corporate home. Furthermore this research has extended Desai's work by providing a classification schema to be used when analysing company structures with respect to corporate home choices at a more granular level, and lastly compared company performance when choosing a corporate home in developed and developing markets.

7.2 Recommendations to stakeholders

7.2.1 Recommendations to policy makers

The results imply that if Developing Market nations seek to increase attractiveness to MNE headquarter offices and the high value-add employment that they offer they have to improve the drivers that lead MNEs to locate their legal functions opportunistically – from the literature this seems to be predominantly taxation, labour and legal institutions. Brouwer and Mariotti (2004), Birkinshaw *et al.* (2006) as well as Strauss-Kahn and Vives (2009, p. 179) found that the institutional drivers of location are tax incentives and labour institutions. Desai (2009, p. 1282, 1283) opines that MNEs may be motivated to relocate based on greater protection under law.

7.2.2 Recommendations to business managers and shareholders

The results suggest that corporations have a vested interest in unbundling their corporate functions, and allocating legal and financial homes opportunistically. The research shows that MNEs in developing markets can increase performance by moving one or both of their legal homes to a developed market country. MNEs with legal homes in sub-optimal environments can realize significant performance benefits by seeking out better legal homes for their companies in developed markets.

The results also suggest that MNEs with higher levels of corporate headquarter dispersion have higher levels of performance, but that MNEs don't have to distribute all of their corporate functions to enjoy the benefits of distribution, but rather that distributing the legal function provides the bulk of the benefit.

7.3 Recommendations for future research

The findings for the prevalence and relative performance of the different company structures need to be verified against data sets for other sectors in the ICB classification, making the findings applicable to corporations in general and MNEs in particular.

This research focusses on data at a point in time, and provides no insight into whether MNEs are increasingly exploiting the benefits of developed markets corporate homes choices. Future research tracking the distribution of headquarter locations between developed to developing markets would reveal trends for corporate structures.

The 77 MNEs that have located their legal functions opportunistically in developed markets (*Appendix B*) enjoy significantly higher performance than the other company structures, and should be interrogated to verify that the legal home choice drives performance, and what the underlying drivers behind superior performance are for these companies.

The 57 MNEs that have allocated all of their corporate functions opportunistically (*Appendix C*) enjoy a higher than normal level of performance, and would provide future researchers with a list of companies that have implemented Desai's suggestions on corporate headquarter location choices. These companies should be interrogated to verify to what degree corporate headquarter dispersion drives performance.

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APPENDIX A – FULL PERFORMANCE COMPARISON OF ALL CORPORATE HOME CHOICES FOR ALL COMPANY STRUCTURES

Incorporation Market classification	Exchange Market classification	COMPANY_TYPE	N	% of Total N	Median	Mean	Std. Deviation
DEVELOPED	DEVELOPED	• Absolute locational opportunist	11	.3%	1.968698	5.909476	9.2188226
		• Financial Emigrant	30	.7%	2.224823	57.908531	296.9140933
		• Foreign Subsidiary	61	1.4%	1.587185	3.216602	8.1350689
		• Foreign Subsidiary of Legal emigrant	82	1.9%	1.489325	2.132397	1.9786271
		• Legal Emigrant	77	1.8%	4.300826	1435.935900	10410.4052815
		• National Company	2645	61.4%	1.570750	53.345736	1390.2830023
		• Total	2906	67.5%	1.587710	87.350263	2155.2445476
	DEVELOPING	• Financial Emigrant	1	.0%	1.553709	1.553709	.
		• Total	1	.0%	1.553709	1.553709	.
	Total	• Absolute locational opportunist	11	.3%	1.968698	5.909476	9.2188226
		• Financial Emigrant	31	.7%	2.142706	56.090634	292.0990017
		• Foreign Subsidiary	61	1.4%	1.587185	3.216602	8.1350689
		• Foreign Subsidiary of Legal emigrant	82	1.9%	1.489325	2.132397	1.9786271
		• Legal Emigrant	77	1.8%	4.300826	1435.935900	10410.4052815
		• National Company	2645	61.4%	1.570750	53.345736	1390.2830023
		• Total	2907	67.5%	1.587639	87.320749	2154.8742766
DEVELOPING	DEVELOPED	• Absolute locational opportunist	45	1.0%	2.064308	2.537155	1.6197036

		• Financial Emigrant	36	.8%	1.840635	3.352460	7.3636743
		• Foreign Subsidiary	6	.1%	1.947379	1.891262	1.0567623
		• Legal Emigrant	46	1.1%	1.220500	2.157303	2.4348604
		• Total	133	3.1%	1.724117	2.597324	4.1907346
	DEVELOPING	• Absolute locational opportunist	1	.0%	2.040855	2.040855	.
		• Financial Emigrant	13	.3%	.972570	1.121657	.4040181
		• Foreign Subsidiary	74	1.7%	1.677654	2.324003	1.8310134
		• Foreign Subsidiary of Legal emigrant	3	.1%	1.651594	2.126508	1.4785624
		• Legal Emigrant	3	.1%	.805534	1.022300	.5170333
		• National Company	1174	27.3%	1.405033	2.653122	13.386751 4
		• Total	1268	29.4%	1.431264	2.612626	12.889697 1
	Total	• Absolute locational opportunist	46	1.1%	2.052582	2.526366	1.6032765
		• Financial Emigrant	49	1.1%	1.617269	2.760614	6.3693909
		• Foreign Subsidiary	80	1.9%	1.715783	2.291547	1.7837650
		• Foreign Subsidiary of Legal emigrant	3	.1%	1.651594	2.126508	1.4785624
		• Legal Emigrant	49	1.1%	1.195247	2.087813	2.3758650
		• National Company	1174	27.3%	1.405033	2.653122	13.386751 4
		• Total	1401	32.5%	1.457803	2.611173	12.329496 1
Total	DEVELOPED	• Absolute locational opportunist	56	1.3%	2.032168	3.199575	4.4021140
		• Financial Emigrant	66	1.5%	2.032440	28.150674	200.27609 28

	• Foreign Subsidiary	67	1.6%	1.676387	3.097915	7.7712951
	• Foreign Subsidiary of Legal emigrant	82	1.9%	1.489325	2.132397	1.9786271
	• Legal Emigrant	123	2.9%	2.109349	899.726018	8246.1194280
	• National Company	2645	61.4%	1.570750	53.345736	1390.2830023
	• Total	3039	70.5%	1.601307	83.641102	2107.6110957
DEVELOPING	• Absolute locational opportunist	1	.0%	2.040855	2.040855	.
	• Financial Emigrant	14	.3%	1.024674	1.152518	.4049789
	• Foreign Subsidiary	74	1.7%	1.677654	2.324003	1.8310134
	• Foreign Subsidiary of Legal emigrant	3	.1%	1.651594	2.126508	1.4785624
	• Legal Emigrant	3	.1%	.805534	1.022300	.5170333
	• National Company	1174	27.3%	1.405033	2.653122	13.3867514
	• Total	1269	29.5%	1.434870	2.611792	12.8846477
Total	• Absolute locational opportunist	57	1.3%	2.040855	3.179247	4.3653312
	• Financial Emigrant	80	1.9%	1.731205	23.425997	181.9585535
	• Foreign Subsidiary	141	3.3%	1.676387	2.691748	5.5108600
	• Foreign Subsidiary of Legal emigrant	85	2.0%	1.494937	2.132190	1.9563224
	• Legal Emigrant	126	2.9%	2.037150	878.328311	8147.7263384
	• National Company	3819	88.6%	1.529536	37.762303	1157.2139682
	• Total	4308	100.0%	1.548887	59.772440	1770.4956643

APPENDIX B – LEGAL EMIGRANTS INCORPORATED IN DEVELOPED MARKETS

Parent company name	Ticker	Company Short Name	Tobins q Ratio	Country of incorporation	Exchange country	Parent company country of incorporation	Parent company exchange country
Messaging International PLC	MES LN Equity	MESSAGING INTER	0.486	ISRAEL	UK	UK	UK
Solomon Gold PLC	SOLG LN Equity	SOLOMON GOLD PLC	0.713	AUSTRALIA	UK	UK	UK
WGI Heavy Minerals Inc	WG CN Equity	WGI HEAVY MINERA	0.729	UNITED STATES	CANADA	CANADA	CANADA
Norseman Gold PLC	NGL LN Equity	NORSEMAN GOLD PL	0.764	AUSTRALIA	UK	UK	UK
Allied Gold Mining PLC	ALD LN Equity	ALLIED GOLD MING	1.032	AUSTRALIA	UK	UK	UK
China Premium Lifestyle Enterp	CPLY US Equity	CHINA PREMIUM LI	1.050	HONG KONG	UNITED STATES	UNITED STATES	UNITED STATES
Tamerlane Ventures Inc	TAM CN Equity	TAMERLANE VENTUR	1.091	UNITED STATES	CANADA	CANADA	CANADA
Atna Resources Ltd	ATN CN Equity	ATNA RES LTD	1.104	UNITED STATES	CANADA	CANADA	CANADA
Kontron AG	GROA GR Equity	QUANMAX AG	1.119	AUSTRIA	GERMANY	GERMANY	GERMANY
ChinaCast Education Corp	CAST US Equity	CHINACAST EDUCAT	1.192	HONG KONG	UNITED STATES	UNITED STATES	UNITED STATES
Americas Energy Co	AENY US Equity	AMERICAS ENERGY	1.193	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Aurelio Resource Corp	AULO US Equity	AURELIO RESOURCE	1.204	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Marshall Edwards Inc	MSHL US Equity	MARSHALL EDWARDS	1.205	AUSTRALIA	UNITED STATES	UNITED STATES	UNITED STATES
Galantas Gold Corp	GAL CN Equity	GALANTAS GOLD CO	1.249	IRELAND	CANADA	CANADA	CANADA

OceanaGold Corp	OGC CN Equity	OCEANAGOLD CORP	1.282	AUSTRALIA	CANADA	CANADA	CANADA
Xstrata PLC	XTA LN Equity	XSTRATA PLC	1.420	SWITZERLAND	UK	UK	UK
Vista Gold Corp	VGZ CN Equity	VISTA GOLD CORP	1.470	UNITED STATES	CANADA	CANADA	CANADA
Jaguar Mining Inc	JAG CN Equity	JAGUAR MINING IN	1.479	UNITED STATES	CANADA	CANADA	CANADA
Argonaut Gold Inc	AR CN Equity	ARGONAUT GOLD IN	1.649	UNITED STATES	CANADA	CANADA	CANADA
International Minerals Corp	IMZ CN Equity	INTERNATIONAL MI	1.789	UNITED STATES	CANADA	CANADA	CANADA
Golden Star Resources Ltd	GSC CN Equity	GOLDEN STAR RES	1.879	UNITED STATES	CANADA	CANADA	CANADA
Pan American Lithium Corp	PL CN Equity	PAN AMERICAN LIT	1.918	UNITED STATES	CANADA	CANADA	CANADA
Sherwin Iron Ltd	KSO AU Equity	KING SOLOMON MIN	1.993	NEW ZEALAND	AUSTRALIA	AUSTRALIA	AUSTRALIA
China Mobile Media Technology	CHMO US Equity	CHINA MOBILE MED	2.026	HONG KONG	UNITED STATES	UNITED STATES	UNITED STATES
Smooth Global China Holdings I	SMGH US Equity	SMOOTH GLOBAL CH	2.044	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Beacon Hill Resources PLC	BHR LN Equity	BEACON HILL RESO	2.109	AUSTRALIA	UK	UK	UK
Asiamart Inc	AAMA US Equity	ASIAMART INC	2.111	HONG KONG	UNITED STATES	UNITED STATES	UNITED STATES
Tahoe Resources Inc	THO CN Equity	TAHOE RESOURCES	2.177	UNITED STATES	CANADA	CANADA	CANADA
Revett Minerals Inc	RVM CN Equity	REVETT MINERALS	2.286	UNITED STATES	CANADA	CANADA	CANADA
Klondex Mines Ltd	KDX CN Equity	KLONDEX MINES	2.531	UNITED STATES	CANADA	CANADA	CANADA
Wireless Age Communications In	WLSA US Equity	WIRELESS AGE COM	2.539	CANADA	UNITED STATES	UNITED STATES	UNITED STATES

SinoCoking Coal and Coke Chemi	SCOK US Equity	SINOCOKING COAL	2.702	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Legend International Holdings	LGDI US Equity	LEGEND INTERNATI	3.069	AUSTRALIA	UNITED STATES	UNITED STATES	UNITED STATES
Wind Works Power Corp	WWPW US Equity	WIND WORKS POWER	3.482	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Royal Quantum Group Inc	RYQG US Equity	ROYAL QUANTUM GR	3.604	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Live Current Media Inc	LIVC US Equity	LIVE CURRENT MED	3.688	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Yinfu Gold Corp	ELRE US Equity	YINFU GOLD CORP	3.760	HONG KONG	UNITED STATES	UNITED STATES	UNITED STATES
AVIX Technologies Inc	AVIX US Equity	AVIX TECHNOLOGIE	3.927	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
KAL Energy Inc	KALG US Equity	KAL ENERGY INC	4.301	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Alacer Gold Corp	ASR CN Equity	ALACER GOLD CORP	4.435	UNITED STATES	CANADA	CANADA	CANADA
Teleconnect Inc	TLCO US Equity	TELECONNECT INC	4.466	SPAIN	UNITED STATES	UNITED STATES	UNITED STATES
Millenia Hope Inc	MLHI US Equity	MILLENIA HOPE	4.481	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Magic Lantern Group Inc	GMLI US Equity	MAGIC LANTERN GR	4.923	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
MIV Therapeutics Inc	MIVI US Equity	MIV THERAPEUTICS	4.993	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Gemco Minerals Inc	GMML US Equity	GEMCO MINERALS I	5.936	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Sterling Group Ventures Inc	SGGV US Equity	STERLING GROUP	6.731	CANADA	UNITED STATES	UNITED STATES	UNITED STATES

Magnus International Resources	MGNU US Equity	MAGNUS INTERNATI	7.069	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Xtra-Gold Resources Corp	XTGR US Equity	XTRA-GOLD RESOUR	7.572	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Intelgenx Technologies Corp	IGXT US Equity	INTELGENX TECHNO	7.782	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
NVCN Corp	SWME US Equity	SWISS MEDICA INC	8.293	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
KAT Exploration Inc	KATX US Equity	KAT EXPLORATION	8.588	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Patriot Gold Corp	PGOL US Equity	PATRIOT GOLD COR	9.271	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
TAO Minerals Ltd	TAON US Equity	TAO MINERALS LTD	9.378	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Osteologix Holdings Plc	OLGXF US Equity	OSTEOLOGIX HOLDI	17.482	IRELAND	UNITED STATES	UNITED STATES	UNITED STATES
Tiger International Resources	TGR CN Equity	TIGER INTL RESOU	17.511	UNITED STATES	CANADA	CANADA	CANADA
Pacific Gold Corp/Canada	PCFG US Equity	PACIFIC GOLD COR	19.967	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Diamond Discoveries Internatio	DMDD US Equity	DIAMOND DISCOVER	22.115	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Soltera Mining Corp	SLTA US Equity	SOLTERA MINING C	22.853	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Canyon Copper Corp	CNYC US Equity	CANYON COPPER CO	23.120	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
AlphaRx Inc	ALRX US Equity	ALPHARX INC	33.680	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Golden Queen Mining Co Ltd	GQM CN Equity	GOLDEN QUEEN MNG	36.097	UNITED STATES	CANADA	CANADA	CANADA

Neuro Biotech Corp	MRES US Equity	NEURO BIOTECH	58.660	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Goldsands Development Co	GSDC US Equity	GOLDSANDS DEVELO	63.964	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Blue Gem Enterprise	BGEM US Equity	BLUE GEM ENTERPR	65.977	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Ardent Mines Ltd	ADNT US Equity	ARDENT MINES LTD	66.463	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Nilam Resources Inc	NILA US Equity	NILAM RESOURCES	67.421	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Panex Resources Inc	DBGF US Equity	PANEX RESOURCES	118.344	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Myriad Interactive Media Inc	MYRY US Equity	MYRIAD INTERACTI	129.229	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Sphere Resources Inc	SPH/H CN Equity	SPHERE RESOURCES	137.631	AUSTRALIA	CANADA	CANADA	CANADA
Brookmount Explorations Inc	BMXI US Equity	BROOKMOUNT EXPLO	184.490	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Madison Explorations Inc	MDEX US Equity	MADISON EXPLORAT	193.956	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Douglas Lake Minerals Inc	DLKM US Equity	DOUGLAS LAKE MIN	295.940	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Uranium Hunter Corp	URHN US Equity	URANIUM HUNTER C	986.884	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Asian Dragon Group Inc	AADG US Equity	ASIAN DRAGON GRO	3660.837	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Apolo Gold & Energy Inc	APLL US Equity	APOLO GOLD & ENE	4163.679	CANADA	UNITED STATES	UNITED STATES	UNITED STATES
Infinex Ventures Inc	INFX US Equity	INFINEX VENTURES	9003.976	CANADA	UNITED STATES	UNITED STATES	UNITED STATES

Gold Standard Mining Corp	GSTP US Equity	GOLD STANDARD MI	91007.500	GREECE	UNITED STATES	UNITED STATES	UNITED STATES

APPENDIX C – ABSOLUTE LOCATIONAL OPPORTUNISTS

Parent company name	Ticker	Company Short Name	Tobins q Ratio	Country of incorporation	Exchange country	Parent company country of incorporation	Parent company exchange country
EastPharma Ltd	EAST LI Equity	EASTPHARMA S-GDR	0.4747644	TURKEY	UK	BERMUDA	UK
Polydex Pharmaceuticals Ltd	POLXF US Equity	POLYDEX PHARM	0.5324867	CANADA	UNITED STATES	BAHAMAS	UNITED STATES
Sierra Rutile Ltd	SRX LN Equity	SIERRA RUTILE LT	0.6269284	SIERRA LEONE	UK	VIRGIN ISLANDS, BRITISH	UK
Wuyi International Pharmaceuti	1889 HK Equity	WUYI INTERNATION	0.6349939	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Richland Resources Ltd	RLD LN Equity	RICHLAND RESOURC	0.7567033	TANZANIA, UNITED REPUBLIC OF	UK	BERMUDA	UK
Orsu Metals Corp	OSU CN Equity	ORSU METALS CORP	1.130029	UK	CANADA	VIRGIN ISLANDS, BRITISH	CANADA
Cathay International Holdings	CTI LN Equity	CATHAY INTL HLDG	1.162333	CHINA	UK	BERMUDA	UK
Northland Resources SA	NAU CN Equity	NORTHLAND RESOUR	1.178116	SWEDEN	CANADA	LUXEMBOURG	CANADA
KongZhong Corp	KONG US Equity	KONGZHONG-ADR	1.191397	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Hidili Industry International	1393 HK Equity	HIDILI IND INTL	1.307504	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Namakwa Diamonds Ltd	NAD LN Equity	NAMAKWA DIAM	1.312766	SOUTH AFRICA	UK	BERMUDA	UK
ChinaEdu Corp	CEDU US Equity	CHINAEDU COR-ADR	1.314333	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
China Qinfa Group Ltd	866 HK Equity	CHINA QINFA	1.375993	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG

VimpelCom Ltd	VIP US Equity	VIMPELCOM LT-ADR	1.439066	NETHERLANDS	UNITED STATES	BERMUDA	UNITED STATES
AutoChina International Ltd	AUTC US Equity	AUTOCHINA INTERN	1.554491	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Sinovac Biotech Ltd	SVA US Equity	SINOVAC BIOTECH	1.555256	CHINA	UNITED STATES	ANTIGUA AND BARBUDA	UNITED STATES
Simcere Pharmaceutical Group	SCR US Equity	SIMCERE PHAR-ADR	1.663714	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
CIC Energy Corp/Bahamas	ELC CN Equity	CIC ENERGY CORP	1.717551	BAHAMAS	CANADA	VIRGIN ISLANDS, BRITISH	CANADA
Shanda Interactive Entertainme	KUTV US Equity	KU6 MEDIA-ADR	1.726265	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
ShangPharma Corp	SHP US Equity	SHANGPHARMA-ADR	1.731289	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Lansen Pharmaceutical holdings	503 HK Equity	LANSEN PHARMACEU	1.773724	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Venturepharm Laboratories Ltd	8225 HK Equity	VENTUREPHARM LAB	1.801634	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Shirble Department Stores Hold	312 HK Equity	SHIRBLE DEPARTME	1.817314	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Global Education & Technology	GEDU US Equity	GLOBAL EDUC-ADR	1.859748	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Lentuo International Inc	LAS US Equity	LENTUO INTER-ADR	1.896381	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
C&O Pharmaceutical Technology	COPT SP Equity	C & O PHARMCEUTI	1.954138	HONG KONG	SINGAPORE	BERMUDA	SINGAPORE
China Metro-Rural Holdings Ltd	CNR US Equity	CHINA METRO-RURA	1.968698	HONG KONG	UNITED STATES	VIRGIN ISLANDS, BRITISH	UNITED STATES
China Distance Education Holdi	DL US Equity	CHINA DISTAN-ADR	2.000028	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES

Sadovaya Group SA	SGR PW Equity	SADOVAYA GROUP S	2.040855	UKRAINE	POLAND	LUXEMBOURG	POLAND
Intime Department Store Group	1833 HK Equity	INTIME DEPARTMEN	2.064308	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Real Gold Mining Ltd	246 HK Equity	REAL GOLD MINING	2.186685	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Winsway Coking Coal Holding Lt	1733 HK Equity	WINSWAY COKING	2.230114	CHINA	HONG KONG	VIRGIN ISLANDS, BRITISH	HONG KONG
China Animal Healthcare Ltd	CAL SP Equity	CHINA ANIMAL HEA	2.287799	CHINA	SINGAPORE	BERMUDA	SINGAPORE
Goodbaby International Holding	1086 HK Equity	GOODBABY INTERNA	2.290713	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
PCD Stores Group Ltd	331 HK Equity	PCD STORES GROUP	2.299016	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
African Minerals Ltd	AMI LN Equity	AFRICAN MINERALS	2.303972	GUERNSEY	UK	BERMUDA	UK
Peak Sport Products Co Ltd	1968 HK Equity	PEAK SPORT	2.330637	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Springland International Holdi	1700 HK Equity	SPRINGLAND INTER	2.409722	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
WuXi PharmaTech Cayman Inc	WX US Equity	WUXI PHARMAT-ADR	2.483401	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Talon Metals Corp	TLO CN Equity	TALON METALS COR	2.555751	BRAZIL	CANADA	VIRGIN ISLANDS, U.S.	CANADA
Mecox Lane Ltd	MCOX US Equity	MECOX LANE-ADR	2.648712	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Biostime International Holding	1112 HK Equity	BIOSTIME INTERNA	3.053103	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Shire PLC	SHP LN Equity	SHIRE PLC	3.055348	IRELAND	UK	JERSEY	UK

Xueda Education Group	XUE US Equity	XUEDA EDU GP-ADR	3.351186	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Mariana Resources Ltd	MARL LN Equity	MARIANA RESOURCE	3.857173	AUSTRALIA	UK	GUERNSEY	UK
China Shineway Pharmaceutical	2877 HK Equity	CHINA SHINEWAY	4.123115	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
Mongolian Mining Corp	975 HK Equity	MONGOLIAN MINING	4.414212	MONGOLIA	HONG KONG	CAYMAN ISLANDS	HONG KONG
GEICO Holdings Ltd	3308 HK Equity	GOLDEN EAGLE RET	4.493827	CHINA	HONG KONG	VIRGIN ISLANDS, BRITISH	CHINA
Frontier Rare Earths Ltd	FRO CN Equity	FRONTIER RARE EA	4.967041	LUXEMBOURG	CANADA	VIRGIN ISLANDS, BRITISH	CANADA
China Medical System Holdings	867 HK Equity	CHINA MEDICAL SY	5.034906	CHINA	HONG KONG	CAYMAN ISLANDS	HONG KONG
China Nuokang Bio-Pharmaceutic	NKBP US Equity	CHINA NUOK-ADR	5.458209	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
E-Commerce China Dangdang Inc	DANG US Equity	E-COMMERCE C-ADR	5.483057	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
ATA Inc/China	ATAI US Equity	ATA INC-ADR	5.529099	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
New Oriental Education & Techn	EDU US Equity	NEW ORIENTAL-ADR	6.253581	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
TAL Education Group	XRS US Equity	TAL EDUCATIO-ADR	7.631752	CHINA	UNITED STATES	CAYMAN ISLANDS	UNITED STATES
Bellzone Mining PLC	BZM LN Equity	BELLZONE MINING	13.42198	AUSTRALIA	UK	JERSEY	UK
Amarin Corp PLC	AMRN US Equity	AMARIN CORP -ADR	31.50016	IRELAND	UNITED STATES	UK	UNITED STATES

APPENDIX D – JAVA COMPANY STRUCTURE CLASSIFICATION PROGRAM

```
// EquityClassifier ************************************************

package javadatacleanup;

import java.util.HashMap;

/**

 *

 * @author JLF

 */

public class EquityClassifier {


   public static final String UNKNOWN = "Unknown";

   public static final String NATIONAL = "National Company";

   public static final String EMIGRANT = "Emigrant";

   public static final String FINANCIAL_EMIGRANT = "Financial Emigrant";

   public static final String NOT_FINANCIAL_EMIGRANT = "Not Financial Emigrant";

   public static final String LEGAL_EMIGRANT = "Legal Emigrant";

   public static final String NOT_LEGAL_EMIGRANT = "Not Legal Emigrant";

   public static final String FOREIGN_SUBSIDIARY = "Foreign Subsidiary";

   public static final String NOT_FOREIGN_SUBSIDIARY = "Not Foreign Subsidiary";

   public static final String EMIGRANT_KEY = "EMIGRANT";

   public static final String FINANCIAL_EMIGRANT_KEY = "FINANCIAL_EMIGRANT";

   public static final String LEGAL_EMIGRANT_KEY = "LEGAL_EMIGRANT_KEY";
```

```
   public static final String FOREIGN_SUBSIDIARY_KEY = "FOREIGN_SUBSIDIARY_KEY";

   public static final String COMPANY_STRUCTURE_KEY =
"COMPANY_STRUCTURE_KEY";

   public static final String FOREIGN_SUBSIDIARY_OF_LEGAL_EMIGRANT = "Foreign
Subsidiary of Legal emigrant";

   public static final String ABSOLUTE_LOCATIONAL_OPPORTUNIST = "Absolute
locational opportunist";


   public BBEquity classify(BBEquity bbEquity) {


      if (bbEquity.isEmigrant()) {

         bbEquity.getClassificationMap().put(EMIGRANT_KEY, EMIGRANT);


         if (bbEquity.isLegalEmigrant()) {

            bbEquity.getClassificationMap().put(LEGAL_EMIGRANT_KEY,
LEGAL_EMIGRANT);

         } else {

            bbEquity.getClassificationMap().put(LEGAL_EMIGRANT_KEY,
NOT_LEGAL_EMIGRANT);

         }

         if (bbEquity.isFinancialEmigrant()) {

            bbEquity.getClassificationMap().put(FINANCIAL_EMIGRANT_KEY,
FINANCIAL_EMIGRANT);

         } else {
```

```
        bbEquity.getClassificationMap().put(FINANCIAL_EMIGRANT_KEY,
NOT_FINANCIAL_EMIGRANT);
        }

        if (bbEquity.isForeignSubsidiary()) {
          bbEquity.getClassificationMap().put(FOREIGN_SUBSIDIARY_KEY,
FOREIGN_SUBSIDIARY);
        } else {
          bbEquity.getClassificationMap().put(FOREIGN_SUBSIDIARY_KEY,
NOT_FOREIGN_SUBSIDIARY);
        }

        if (bbEquity.isForeignSubsidiary()) {
          if (bbEquity.isParentLegalEmigrant()) {
            bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY,
FOREIGN_SUBSIDIARY_OF_LEGAL_EMIGRANT);
          } else {
            bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY,
FOREIGN_SUBSIDIARY);
          }
        } else {
          if (bbEquity.isSubAndParentLegalFinancialEmigrant()) {
            bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY,
ABSOLUTE_LOCATIONAL_OPPORTUNIST);
```

```
            }else if (bbEquity.isLegalEmigrant()) {

                bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY,
LEGAL_EMIGRANT);

            } else if (bbEquity.isFinancialEmigrant()) {

                bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY,
FINANCIAL_EMIGRANT);

            }

        }


    } else {

        bbEquity.getClassificationMap().put(EMIGRANT_KEY, NATIONAL);

        bbEquity.getClassificationMap().put(FINANCIAL_EMIGRANT_KEY, NATIONAL);

        bbEquity.getClassificationMap().put(LEGAL_EMIGRANT_KEY, NATIONAL);

        bbEquity.getClassificationMap().put(FOREIGN_SUBSIDIARY_KEY, NATIONAL);

        bbEquity.getClassificationMap().put(FINANCIAL_EMIGRANT_KEY, NATIONAL);

        bbEquity.getClassificationMap().put(COMPANY_STRUCTURE_KEY, NATIONAL);


    }

    return bbEquity;

  }

}

// BBEquity class  ************************************************
```

```
package javadatacleanup;


import java.util.HashMap;


/**
 *
 * @author JLF
 */
public class BBEquity {


    private String companyTicker;
    private String countryOfIncorporation;
    private String exchangeCountry;
    private String parentCompanyCountryCfIncorporation;
    private String parentCompanyExchangeCountry;
    private HashMap<String, String> classificationMap = new HashMap<String, String>();


    public String getCompanyTicker() {
        return companyTicker;
    }


    public void setCompanyTicker(String companyTicker) {
```

```
    this.companyTicker = companyTicker;
}

public String getCountryOfIncorporation() {
    return countryOfIncorporation;
}

public void setCountryOfIncorporation(String countryOfIncorporation) {
    this.countryOfIncorporation = countryOfIncorporation;
}

public String getExchangeCountry() {
    return exchangeCountry;
}

public void setExchangeCountry(String exchangeCountry) {
    this.exchangeCountry = exchangeCountry;
}

public String getParentCompanyCountryCfIncorporation() {
    return parentCompanyCountryCfIncorporation;
}
```

```
    public void setParentCompanyCountryCfIncorporation(String
parentCompanyCountryCfIncorporation) {
        this.parentCompanyCountryCfIncorporation =
parentCompanyCountryCfIncorporation;
    }

    public String getParentCompanyExchangeCountry() {
        return parentCompanyExchangeCountry;
    }

    public void setParentCompanyExchangeCountry(String
parentCompanyExchangeCountry) {
        this.parentCompanyExchangeCountry = parentCompanyExchangeCountry;
    }

    public HashMap<String, String> getClassificationMap() {
        return classificationMap;
    }

    public void setClassificationMap(HashMap<String, String> classificationMap) {
        this.classificationMap = classificationMap;
    }
```

```
public boolean isEmigrant() {
    if (countryOfIncorporation.equals(parentCompanyCountryCfIncorporation) &&
countryOfIncorporation.equals(exchangeCountry) &&
parentCompanyCountryCfIncorporation.equals(parentCompanyExchangeCountry)) {
        return false;
    }
    return true;
}

public boolean isLegalEmigrant() {
    if (countryOfIncorporation.equals(parentCompanyCountryCfIncorporation)) {
        return false;
    }
    return true;
}

public boolean isFinancialEmigrant() {
    if (!exchangeCountry.equals(countryOfIncorporation)) {
        return true;
    }
    return false;
```

```
    }

    public boolean isForeignSubsidiary() {
        if (exchangeCountry.equals(countryOfIncorporation)) {
            return true;
        }
        return false;
    }

    public boolean isParentLegalEmigrant() {
        if (exchangeCountry.equals(countryOfIncorporation) &&
exchangeCountry.equals(parentCompanyExchangeCountry) &&
!parentCompanyCountryCfIncorporation.equals(parentCompanyExchangeCountry)) {
            return true;
        }
        return false;
    }

    public boolean isLegalFinancialEmigrant() {
        if
(parentCompanyCountryCfIncorporation.equals(parentCompanyExchangeCountry) &&
!exchangeCountry.equals(countryOfIncorporation)
&&!exchangeCountry.equals(parentCompanyExchangeCountry) &&
!countryOfIncorporation.equals(parentCompanyCountryCfIncorporation)) {
```

```
            return true;
        }
        return false;
    }

    public boolean isSubAndParentLegalFinancialEmigrant() {
        if
(!parentCompanyExchangeCountry.equals(parentCompanyCountryCfIncorporation)
&& !countryOfIncorporation.equals(exchangeCountry) &&
!countryOfIncorporation.equals(parentCompanyCountryCfIncorporation) &&
!countryOfIncorporation.equals(parentCompanyExchangeCountry)) {
            return true;
        }
        return false;
    }

    public String printClassificationString() {
        StringBuffer sb = new StringBuffer();
        sb.append(getCompanyTicker());
        sb.append(",");
//      sb.append(EquityClassifier.EMIGRANT_KEY);
//      sb.append(":");
        sb.append(getClassificationMap().get(EquityClassifier.EMIGRANT_KEY));
```

```
        sb.append(",");
//      sb.append(EquityClassifier.LEGAL_EMIGRANT_KEY);
//      sb.append(":");
        sb.append(getClassificationMap().get(EquityClassifier.LEGAL_EMIGRANT_KEY));
        sb.append(",");
//      sb.append(EquityClassifier.FINANCIAL_EMIGRANT_KEY);
//      sb.append(":");

sb.append(getClassificationMap().get(EquityClassifier.FINANCIAL_EMIGRANT_KEY));
        sb.append(",");
//      sb.append(EquityClassifier.FOREIGN_SUBSIDIARY_KEY);
//      sb.append(":");

sb.append(getClassificationMap().get(EquityClassifier.FOREIGN_SUBSIDIARY_KEY));
        sb.append(",");
//      sb.append(EquityClassifier.COMPANY_STRUCTURE_KEY);
//      sb.append(":");

sb.append(getClassificationMap().get(EquityClassifier.COMPANY_STRUCTURE_KEY));
        sb.append("\n");
        return sb.toString();
    }
}
```

```
//Main class  ******************************************************

package javadatacleanup;

import java.io.BufferedReader;

import java.io.FileNotFoundException;

import java.io.FileReader;

import java.io.FileWriter;

import java.io.IOException;

import java.util.StringTokenizer;



/**

 *

 * @author JLF

 */

public class Main {



   /**

    * @param args the command line arguments

    */

   public static void main(String[] args) {

      BufferedReader in;

      try {

         int headerCount = 0;
```

```
        in = new BufferedReader(new
FileReader("C://Users//jlf//Documents//MBA//Research//java//Combined equities
vforjava.csv"));

        String line = "";

        FileWriter f1 = new
FileWriter("C://Users//jlf//Documents//MBA//Research//java//ClassifiedEnterprises.c
sv");



        EquityClassifier equityClassifier = new EquityClassifier();

        try {

           while ((line = in.readLine()) != null) {

              if (headerCount > 0) {

                 BBEquity bbEquity = new BBEquity();

                 System.out.println(line);

                 StringTokenizer tokenizer = new StringTokenizer(line, ",");

                 int counter = 0;

                 while (tokenizer.hasMoreTokens()) {

                    String token = tokenizer.nextToken();

                    switch (counter) {

                       case 0:

                          bbEquity.setCompanyTicker(token);

                          break;

                       case 1:
```

```
                bbEquity.setCountryOfIncorporation(token);
                break;
            case 2:
                bbEquity.setExchangeCountry(token);
                break;
            case 3:
                bbEquity.setParentCompanyCountryCfIncorporation(token);
                break;
            case 4:
                bbEquity.setParentCompanyExchangeCountry(token);
                break;
        }
        counter++;
    }
    equityClassifier.classify(bbEquity);
    System.out.println(bbEquity.printClassificationString());
    f1.append(bbEquity.printClassificationString());
    f1.flush();

} else {
    System.out.println("Header line");
    System.out.println(line);
```

```
                }
                headerCount++;
            }
            f1.close();
        } catch (FileNotFoundException ex) {
            System.out.println(ex);
        }
    } catch (IOException ex) {
        System.out.println(ex);
    }
  }
}
```