

**Gordon Institute  
of Business Science**  
University of Pretoria

**Share price reactions to announcements of foreign direct investment made into the  
rest of Africa by South African listed retail companies**

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## **Abstract**

The South African retail industry is the largest and most sophisticated in Africa. Intensive domestic competition coupled with less sophisticated retail markets in Africa has prompted many South African retailers to expand into the region. This research investigates the impact on shareholder value of announcements of foreign direct investment (FDI) into Africa by retail companies. The effect of FDI announcements of share price was evaluated using an events study. Based on a sample of 8 Johannesburg Stock Exchange (JSE) listed retail companies and 52 news events from 1994 to 2014, results show a mostly positive response in the share price to FDI announcements. The findings have practical use for corporate leaders' internationalisation strategy, investor technical trading strategies and policy makers efforts to enhance intra-African investment.

## **Keywords**

Event study, FDI, Retail, Signaling theory

## **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.

Angelina Chihambakwe

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## **1. Introduction to the Research Problem**

### **1.1. Introduction**

This research focuses upon the expansion of South African retail firms into Africa through foreign direct investment (FDI). The work provides insight on FDI as a means of business expansion and internationalisation by measuring the impact of such activity on the share price. The choice of topic was prompted by the increased interest in the field of study. However, most new studies of FDI into Africa are qualitative and exploratory in nature. Despite increased interest and academic journal articles on the internationalisation of emerging market companies, quantitative research into Africa remains sparse (Masipa, 2018).

The findings of the research provide additional insight by specifically examining Johannesburg Stock Exchange (JSE) listed retail companies. The time period of study, between 1994 and 2014, was chosen as it represents a period of significant expansion into Africa by South African firms. This period saw significant internationalisation of South African retail firms due to the lifting of sanctions (Lodge, 2019) and the South African government encouraging firms to invest in Africa (Ring & Ederlöv, 2017).

A study period of twenty years was selected in order to have a sufficient number of events for an events study to be conducted. Seminal work on event study methods for smaller stock exchanges, such as the JSE, stipulates a minimum of 25 observations ( Bartholdy, Olson, & Peare, 2007). The research identified and analysed 52 events over the period of study, surpassing the 25-observation threshold.

The research presented specifically evaluates the impact a press release of the engagement or intention to engage in FDI into Africa has on the share price of a JSE listed retail company. The primary theoretical lens is signaling theory, which postulates that there is information asymmetry in the market (Certo, Connelly, Ireland, & Reutzler, 2011). This means the knowledge possessed between different parties is not the same, and that various parties use signals to relay information which is indicative of a quality (Taj, 2016).

For the purposes of this research, signaling theory suggests information asymmetry exists between the management and shareholders of a company. The level of asymmetry is lessened through the public announcement or reporting of a company's internationalisation

activity as information is relayed from one party to another (Taj, 2016). This is either the engagement or intention to engage in FDI in Africa. The announcement relays information from the company to the shareholders, thereby reducing the degree of information asymmetry between the two parties. The research presumed that FDI activity was a positive signal, indicative of greater company value, therefore greater shareholder value – observable through an increase in the share price.

An event study was used to evaluate if and how much information asymmetry exists, thus providing insight into how information should be signalled. The announcements could result in a share price change as investors evaluate the positive and negative impacts of such a decision. Share price is the measurement of shareholder and implicant value, non-market correlated stock price changes suggest investors conclude value is created or destroyed (Wesson, 2015). The conveyor of the signal must then evaluate deeply the sharing of this information. The manner, detail provided, and timing could result in different price changes for the exact same activity (Yan, Yu, & Zhao, 2015).

The following sections provides insight on the research problem, objective, scope as well as the academic and business need for the research.

## **1.2. Research problem and objective**

The following study has two objectives. First, to investigate whether announcements of FDI activity or intent by South African JSE-listed firms retail firms influence the share price. Second, to determine whether a profitable technical trading strategy around potential price movements can be developed. An event study on the South African retail sector was the analytical framework used to examine the share price data with respect to the news articles. The retail sector industry focus was chosen because retail is one of the country's largest and most sophisticated sectors (Nair, 2019). The industry has also undertaken significant amount of African expansion (White & Van Dongen, 2017). The research analyses twenty years of daily share price information from 1994 to 2014.

The South African retail market is a highly concentrated market dominated by four large holding companies generating most of the revenue. Massmart, Pick 'n' Pay, Shoprite and Spar collectively hold approximately 80% market share (*South Africa Consumer & Retail Report*, 2019).

In terms of revenue, Deloitte's Global Power of Retailing Report 2019 lists four African retail firms in the Top 250 rankings, all of which are South African (Pick'n'Pay, Spar, Woolworths and Shoprite). Woolworths which holds quite a small market share focusses on the high-end consumer and therefore a relatively high revenue. Massmart which is the second largest South African retailer by revenue (South Africa Consumer & Retail Report, 2019) is not included in the list. It is assumed that its numbers are incorporated with those of its parent company, Walmart. Similarly, large privately held retail companies such as Food Lover's Market which has over 320 stores and a presence in strong presence on the African continent (*Food Lovers Market, 2020*) are not featured in the research due to the company not having a share price.

The report attributes the Africa region a growth rate of 9.8%, the second highest regional growth rate in the world, to increased FDI and a rising middle class of consumers (*Global Powers of Retailing, 2019*). This is the main driver behind the modernization of the retail sector, transforming economies to become more consumption centric (*Global Powers of Retailing, 2019*). Table 1 shows the top four African retail companies as detailed in the report

Table 1: The African retailers listed on the Deloitte Top 250 rankings

FY2019 Retail revenue rank	Name of company	Country of origin	FY2019 Retail revenue (US\$M)	FY2019 Parent company/ group revenue <sup>1</sup> (US\$M)	FY2019 Parent company/ group net income <sup>1</sup> (US\$M)	Dominant operational format	# Countries of operation	FY2012-2019 Retail revenue CAGR <sup>2</sup>
179	Woolworths Holdings Limited	S. Africa	5332	5332	-276	Department Store	14	14.3%
140	The SPAR Group Limited	S. Africa	7252	7252	136	Supermarket	12	17.4%
160	Pick n Pay Stores Limited	S. Africa	6225	6225	99	Supermarket	7	6.6%
86	Shoprite Holdings Ltd	S. Africa	11294	11294	405	Supermarket	15	9.4%

Source: Deloitte: *Global Powers of Retailing, 2019*.

The companies featured on Deloitte's Power of Retailing 2019 global Top 250 retailers list; all have high level of internationalisation. Eight of the nine companies have international operations in an average of 8.8 countries with 23% of combined turnover being attributable

to foreign operations. Figure 1 below shows the retail revenue growth and profitability by region.

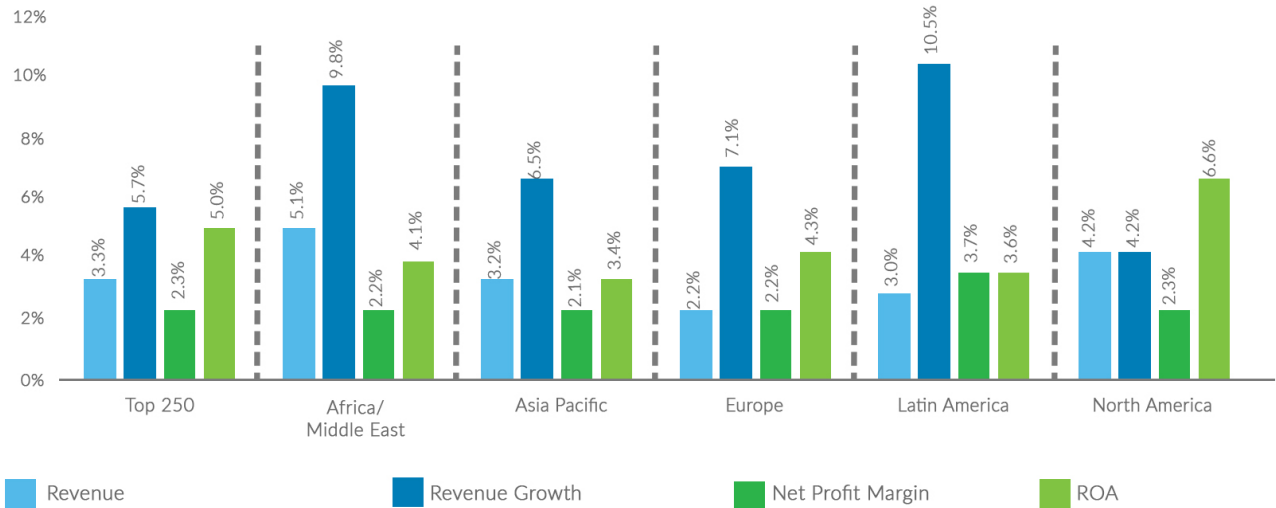


Figure 1: Retail revenue growth and profitability by region

Source: Deloitte, *Global Powers of Retailing*, 2019.

The South African market is highly competitive with firms struggling from challenging domestic market demand which has led to an increased interest in business expansion into Africa where growth rates are higher and competition is less intense (White & Van Dongen, 2017). One of the leaders in internationalization is the South African retailer, Shoprite. The company one of the largest retailers by revenue in the Africa/Middle East region, with operations in over 15 countries and intends increased expansion into East Africa. Internationalisation appears have become a cornerstone of their operations.

This focus upon internationalisation also stems from the challenging market conditions in the South African economy. Although possessing the most sophisticated consumer market in Africa, South Africa is plagued by the continent's highest inequality (World Bank, n.d.). As a result, only a small percentage of the 58,8 million population make purchases at these major retail outlets (*Global Powers of Retailing*, 2019). Therefore, this small market is under immense pressure due to lower economic growth resulting in the South African

consumer having less disposable income. (*Key View - South Africa Consumer Outlook*, 2020).

The challenging market conditions have resulted in firms diversifying domestically and/or searching for new, less competitive, higher growth markets abroad (Vahlne & Johanson, 2017). Often this internalisation is done via FDI, which is defined as “the control of a firm situated in a foreign territory by people who are not citizens of that country” (Fasanya, 2018). Control can be defined both in terms of a specific equity stake level or significant influence over the business (Alfaro & Chauvin, 2016).

The equity stake threshold to be classified as FDI varies from source to source. The most commonly used minimum threshold is 10%, as set by the Organisation for Economic Co-operation and Development (OECD) (OECD, 2019). FDI is normally considered to be riskier mode of internationalisation because of the large amount of capital and resource commitment required compared to other methods such as export licensing and franchising (Conconi, Sapir, & Zanardi, 2016). However, if done well, it can be a huge source of long-term growth (Alfaro & Chauvin, 2016).

The effect of a multinational company footprint on the share price of a listed retail company in the African context, has not featured often in academic research (Fasanya, 2018). Furthermore, the few existing studies do not present cohesive and consistent findings. Some show a strong positive effect on share price as a result of FDI, while others do not. Research conducted in the United States has shown that FDI is more lucrative for firms than investment domestically, especially if directed into emerging markets, which typically have higher growth rates than the domestic US market (Sunde, 2017). Perhaps the same trend exists for South African firms? The research presented here investigates this.

The more open an economy is, the greater the potential for economic growth through the internationalisation of companies (Semančíková, 2016). A significant amount of academic literature exists on the effects of outward FDI on the transition process from a closed to an open economy for other geographical regions. e.g. the former USSR (Fortescue & Hanson, 2015; Liuhto, 2015), Eastern European countries (Ficici, 2018) and BRICS countries (Andreff, 2015). However, very little work exists on the transition of South Africa from a closed economy to an open economy with respect to FDI of retail firms into Africa (Zoogah, Peng, & Woldu, 2015).

### **1.3. Academic motivation for the research**

This study contributes to existing academic literature in the following two ways. First, it provides additional knowledge on the impact of business expansion into the rest of Africa through FDI on shareholder wealth of JSE-listed retail companies. Second, the work provides empirical evidence on the effect FDI has on stock price helping to uncover possible trading strategies for investors.

South Africa provides a data-rich research environment as it is the most sophisticated retail market on the continent and has the greatest number of firms expanding into the rest of Africa (White & Van Dongen, 2017). As a result, this research contributes to the understanding of the emergence of the South African multi-national enterprise (MNE) – a company classification which was not possible prior to the reintroduction of South Africa as an active player in the global economy.

### **1.4. Business expansion and internationalisation**

Expansion and growth are important strategic considerations for the long-term viability of a business (Nason & Wiklund, 2018; Seccatore, Marin, De Tomi, & Veiga, 2014). Broadly speaking there are two ways in which this can be achieved - product/industry diversification or international geographical expansion into new markets (Songwe, 2019). The focus of this study is the latter. More specifically the market perception of announcements of FDI into Africa by JSE-listed retail companies. Although cross border expansion by South African companies is depicted positively by multiple South African government reports (*Brand South Africa Annual Report*, 2019), the academic research on the subject remains mostly qualitative and exploratory in nature. The following research will provide quantitative results to the collective body of knowledge on the subject of expansion into Africa through FDI.

### **1.5. Commercial motivation for the research**

The commercial motivations of this research are to provide empirical information that can be used by the management of South African retail companies and investors. Due to factors such as policy reform, increased trade, and market development, integration between African states continues to increase (Songwe, 2019).

This is partly due to greater independence from previous colonial powers and increasingly better diplomatic engagement between African countries (*African Development Bank*, 2019). As a result, nations are better able to explore trade opportunities with their neighbours, regardless of language and business customs. Regionally, efforts to foster trade are seen in initiatives such as the Africa Free Trade Zone and the reduction of visa entry requirements between countries (Sommer, Calabrese, Mendez-parra, & Luke, 2017). Empirical evidence has shown that the increased trade has been a major contributing factor to growth in Africa and should be encouraged (Zahonogo, 2016; Zoogah et al., 2015).

With several of the fastest growing economies in the world, and one of the youngest populations, Africa has the potential to replicate the impressive growth Asia has experienced over the past 50 years (Leke & Signe, 2019).

South Africa is one of the most prosperous, well developed and diversified economies on the continent. Since the early 1990s, South Africa has and continues to constitute approximately 70% of the Southern African Development Community's (SADC) GDP and 60% of the region's trade (*African Development Bank*, 2019). Furthermore, South Africa possesses many successful and well-established firms whose skills, expertise and product offerings could be of benefit to lesser developed African countries (Leke & Signe, 2019; Ring & Ederlöv, 2017). Therefore, the country is uniquely positioned to successfully leverage this immense market opportunity.

The South African retail sector is of particular interest because it is considered to be the highly advanced and the most adept to expand into Sub-Saharan Africa (*South Africa Consumer & Retail Report*, 2019). A high concentration of large, holding companies that control over 80% of the market share create an environment that is highly conducive to expansion into the rest of Africa where growth rates are more favourable and competition is less intense (*Key View - South Africa Consumer Outlook*, 2020).

## **1.6. Research methodology**

The event study methodology was applied in this research because the work looked at the effect of an event on share price and share price returns - which is exactly the purpose of an event study. It is a statistical analysis tool employed in a multitude of academic research



contexts in order to understand the effect of several factors e.g. new products, technological advancements and corporate name changes (Meyer, Gremler, & Hogreve, 2014). Research has shown that news releases impact firms' market value. Several finance related event studies have explored the effects of different types of company-specific publicly available news such as initial public offerings (Lehmann & Schwerdtfeger, 2016) mergers and acquisitions (Yilmaz & Tanyeri, 2016), capital restructurings, Black Economic Empowerment (BEE) (Ward & Muller, 2010), dividend announcements (Khanal & Mishra, 2017), earnings (Liu, 2018), etc.

### **1.7. Structure of the report**

The research report consists of six additional chapters and is structured as follows:

- Chapter 2 reviews academic literature on signalling theory, internationalisation the efficient market hypothesis (EMH) and agency theory to illustrate the need for the research into FDI or expressed intent of FDI by South African retail companies into Africa.
- Chapter 3 summarises the research questions and associated hypotheses tested
- Chapter 4 details and justifies the use of an event study methodology. It also defines the unit of analysis, population, sample size and sampling method, research instrument and details the data collection and analyses processes. Furthermore, it describes the quality controls implemented, including measures of trustworthiness and validity are also detailed here.
- Chapter 5 profiles the sample and presents the results with limited commentary on the results of each of the two hypotheses tested.
- Chapter 6 analyses the research findings in terms of the research questions, hypotheses and academic theory presented in the literature review in chapter 2
- Chapter 7 concludes the report by summarizing the principal theoretical findings of to infer conclusions for the South African retail industry's corporate leadership, current and potential investors in the industry and government. The limitations of the research and the suggestions for future research are also given here.

## **2. Literature Review**

### **2.1. Introduction**

The following chapter describes the research within the context of existing academic literature, showing gaps and thus the need for the research conducted. More specifically, this literature review is divided into two parts. The first provides context to the formulation of the main research question and the second, a subsequent explanation of the two sub-questions.

Part one addresses several key points. First, signaling theory, which is the overarching theoretical lens for the research. Emphasis is placed on the salient points within academic literature on signaling theory – including current and seminal theory base, constructs and past empirical findings. In order to provide a more robust analysis of the research questions, this is supplemented by an explanation of relevant aspects of the efficient market hypothesis (EMH), retail as an industry sector, and the South African business and economic context.

The second part examines the research within the context of the two research sub-questions. Both questions build upon signaling theory, incorporating the other topics addressed to demonstrate the academic basis of the question. This also highlights additional knowledge the conclusions can provide in the context of global academic research. Figure 2 below summarizes the applicable theories, associated research questions, sub-questions and hypotheses.



Figure 2: Theories, topics and research questions

## 2.2. Main Research Question

The main research question is built on the premise of information asymmetry as outlined in signaling theory. Research sub-question 1 pertains to the signaler and their related constructs within signaling theory. Research sub-question 2 relates to the receiver and their related constructs within signaling theory. Figure 3 shows the relationship between the theoretical constructs of the main research question in relation to the two research sub-questions which were tested empirically using the data collected.

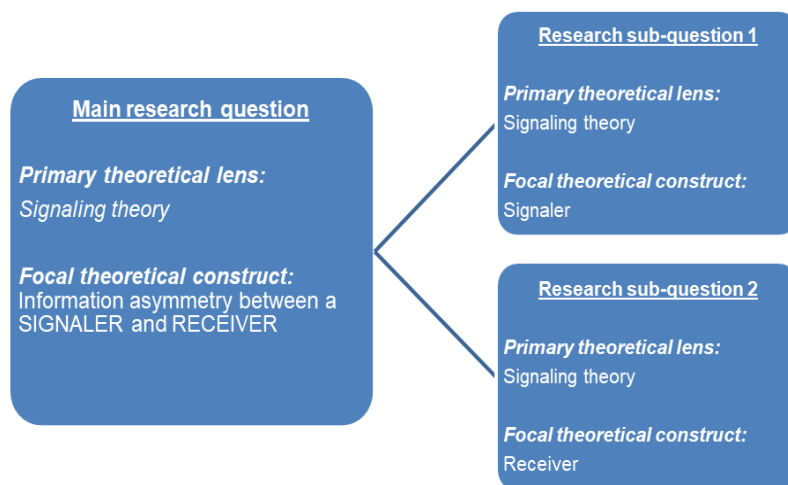


Figure 3: Research questions and theory base

### **2.3. Signaling theory**

Signaling theory was conceptualised by Michael Spence, in the 1970s, through study of the hiring process within labour markets in the United States. The main premise is the existence of information asymmetry between a receiver and a transmitter of information (Certo et al., 2011). Subsequent seminal literature defines asymmetric information as “the instance in which some actors possess private information, or information that others do not have” (MacLeod, 2011). Thus, information asymmetry or information failure occurs, resulting in the imbalance in the amount of material information held by parties in an economic exchange or transaction (Taj, 2016).

Signaling theory has since been applied to various research contexts in order to examine and explain the effect of information asymmetry e.g. marketing, human resource management ( Bozos, Nikolopoulos, & Ramgandhi, 2011; Khanal & Mishra, 2017; Meyer et al., 2014). It is of particular relevance when considering situations when two parties, be they individuals or firms, do not possess the same information (Goyal, 2006). The more information rich party, the sender, must then determine how to relay (or signal) their knowledge appropriately to the less knowledge rich party, the receiver. In order to correct the knowledge asymmetry, the receiver must then appropriately and accurately understand the signal (Taj, 2016).

This research addresses the theory through the context of the announcement of African expansion efforts by South African corporates. In this case, the JSE-listed retail firm making an FDI into Africa is the sender. The assumption is that management possesses material knowledge and analysis beyond publicly available information that have leading to their decision. Further, the decision is considered to have been taken in good faith and for the benefit of the firm and its shareholders. The receivers of the information are the shareholders of the company’s share and all interested members of the investment community that then must interpret the signal from the management and choose to trade or hold the stock accordingly.

The research has academic relevance as it contributes to the current academic research around signaling theory and the efficient market hypothesis with relation to retail companies on the JSE. The following subsections provide additional details on information asymmetry,

contextualisation of the key constructs and highlights the need to investigate research sub-questions one and two.

#### **2.4. Signaling theory and information asymmetry**

Access to information and the level of information possessed by a decision maker impacts the probability of the optimal decision being taken. i.e. the more information a decision maker has, the greater the likelihood of them making better decision. Information asymmetry exists when there is an imbalance of the level of economically important information between two parties on either end of a financial transaction or interaction with economic implications (Khanal & Mishra, 2017; Taj, 2016).

Traditional economic models have long assumed that information asymmetry does not exist and presented analysis and theory within the context of perfect information (Tchamyu, Asongu, & Nwachukwu, 2018). More recent research in the field of information economics has highlighted the importance and relevance of information asymmetry (Stiglitz, 2017). In fact, the 2001 Nobel Prize in Economics were awarded to Akerlof, Spence and Stiglitz for their work on the subject of information economics with relation to signaling theory (Kwilinski, 2018). It is evident that the assumption of perfect information gives limited practical utility of any research because perfect information is not usually observed empirically (Etikan, 2016). The research provides insight into the extent of the information asymmetry as it pertains to JSE listed retail share prices and potentially profitable trading strategies following the announcement of an FDI into an African country. Figure 4 below gives a diagrammatic representation of information asymmetry at time period zero.

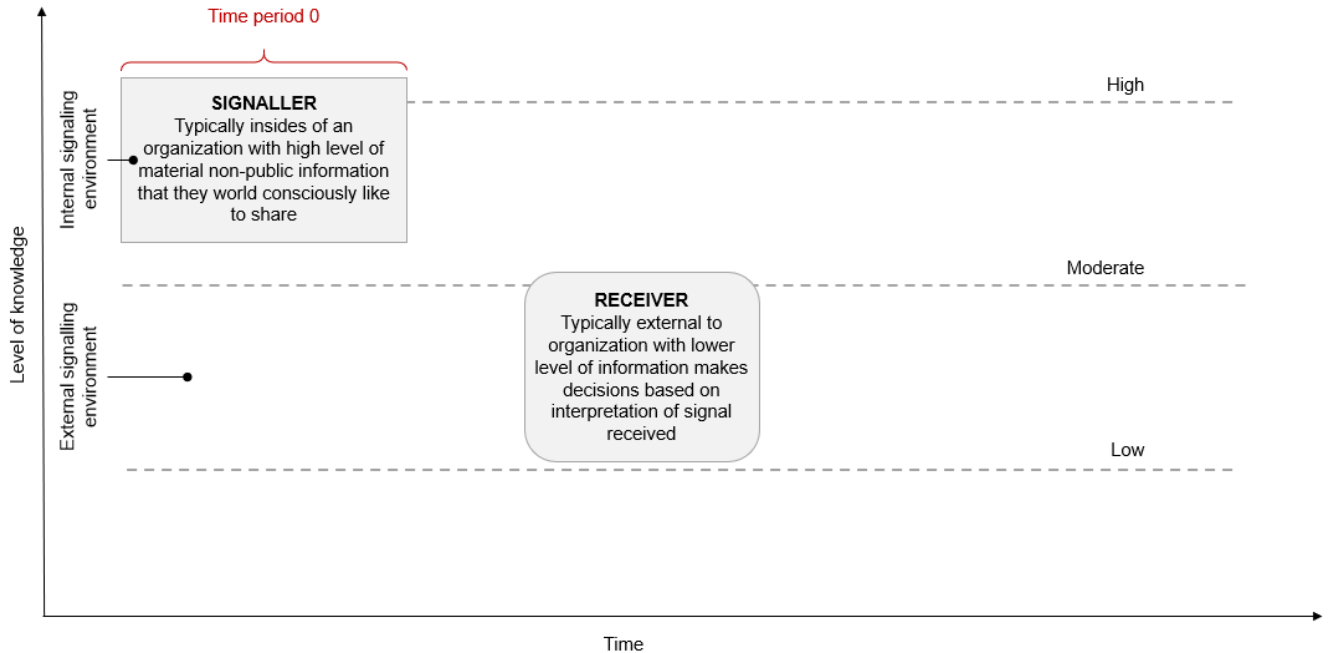


Figure 4: Signaling theory time period 0 information asymmetry

Source: Author's own work, based on content of Taj (2016).

## 2.5. Signaling theory and the agency dilemma

Academic literature on agency theory was developed in the late 1960s and 1970s. The primary aim initially was to ascertain the optimal level of risk sharing between individuals (Birjandi, 2015). Later, when the theory was applied to the management studies context, the theory was used to examine situations where in which one party ("the agent") is engaged by a second party ("the principal") to perform tasks on their behalf according to a contractual fee schedule (Chod & Lyandres, 2018). It is assumed that both parties are utility maximisers which creates possibly conflicts of interest between the two, in times of uncertainty and information asymmetry. More specifically, the objectives of principal and agent are misaligned and can lead to the agent taking actions which are of benefit to themselves and not in the interest of the principal. The two consequences of information asymmetry are adverse selection and moral hazard (Yan, Yu, & Zhao, 2015). The theory also presumes that both parties are risk averse (Chod & Lyandres, 2018).

In the context of this research, the agent is the management team of the company and the principal are the shareholders of the company. For the purposes of this research, the effect

of agency theory is considered to be minimal and it is assumed that the objectives of the company management and shareholders is aligned.

## **2.6. Internationalisation through FDI**

FDI is a key component in global economic integration and is defined as movement of capital from a party in one country to an enterprise in another country (Sunde, 2017). The main aim of FDI is to establish a lasting or significant interest which is either established by the stakeholders or investors obtain a minimum of 10% of the voting power in the target company (Masipa, 2018; OECD, 2019; Sunde, 2017). Conversely, lasting or significant interest can also be defined in terms of control (Liu, Tang, Chen, & Poznanska, 2017). This distinguishes FDI from foreign portfolio investing (FPI) in which an investor merely buys shares in a foreign business (Albulescu, 2015). The research focuses on outward investment, encompassing all permutations of outward FDI - greenfield and brownfield, horizontal, vertical and conglomerate.

Investing in a foreign market also has many potential benefits such as access to resources, a larger customer base, better growth prospects etc. There are also benefits for nations and firms receiving the investment. Receiving FDI is an attractive strategy to bridge national savings investment gap limits of domestic investment. FDI also bridges the gap in technology, entrepreneurship and skills between countries through knowledge transfer that is made by the management team of the investing company.

Outward FDI is when an investment is made abroad. Conversely, inward FDI is the receipt of FDI from abroad. Greenfield investment refers to the establishment of a new corporate entity, not possessing any previous operations. Whereas brownfield is an investment in an already existing company, typically through a merger, acquisition or equity stake purchase (La Grange, 2017). Horizontal FDI occurs when the company chooses to stay within the same field or sector that they operate domestically (Subhanij & Annonjarn, 2016). Conversely, vertical FDI is when the company plays the role of a supplier or distributor. Conglomerate FDI is investment into a totally unrelated sector (Subhanij & Annonjarn, 2016).

Academic literature regarding outward FDI was initially centred on the two concepts of portfolio diversification and return equalization. Over time, factors such as product management (product cycle theory), the destination geography's comparative advantage (location theories), the firm's internal efficiency (internalization theory), competitive advantage and game theory (oligopolistic behaviour theories). Eclectic Theory which is the most prominent FDI based theory is driven by many shifting forces and deemed the most suitable for the FDI discussion pertaining to the following research as it encompassed elements of all the above theories.

## **2.7. Foreign Direct Investment in the South African / African context**

Trade, investment and integration between African states continues to increase (Songwe, 2019). A key reason is African nations are more independently developing with less direction from colonial alliances as well as previous alliances from the cold war (African Development Bank, 2019). Regional efforts to foster trade are seen in the Africa Free Trade Zone and reduction of visa entry between countries (Sommer et al., 2017).

This increased trade has been a major contributing factor to Africa's growth. Africa possesses four of the fastest growing economies in the world (Ethiopia, Cote D'Ivoire, Ghana and Rwanda) and one of the youngest populations (World Bank, n.d.). These characteristics and trend present the potential to replicate the impressive growth of Asia over the past 50 years.

South Africa is the most prosperous, sophisticated, and diversified economies on the continent (*Brand South Africa Annual Report*, 2019). The country is uniquely positioned to lead in this economic development. Since the early 1990s, South Africa has and continues to constitute approximately 70% of SADCs GDP and 60% of the region's trade (Ring & Ederlöv, 2017). Furthermore, South Africa possesses many successful and well-established firms whose skills, expertise and product offerings could be of benefit to lesser developed African countries. One of the most remarkable changes to the post-apartheid South African business landscape has been the ability for South African companies to freely expand operations abroad as under apartheid they were restricted by trade sanctions (Skinner, 2017).



In line with the broad South African economy, the retail sector is of the most advanced retail market in Africa (South Africa Consumer & Retail Report, 2019). It is a highly concentrated industry with several holding companies possessing over 80% of the market share. Due to limited domestic growth opportunities, the industry is aggressively expanding. Particular focus on the rest of Africa, where growth rates are more favourable and competition is less intense (*Industry Forecast - South Africa Consumer Spending Forecast Essential And Non-Essential Spending, 2020*).

## **2.8. Share price as a measure of shareholder wealth**

The research used the share price as the measure of value for the retail companies undertaking FDI. The share price was deemed to be the most appropriate measure because the researcher specifically wanted to examine the value of the firm as determined by the market. This is in line with the research questions which aim to see if signaling through a news article has the potential to increase shareholder wealth.

Other possible measures of value that have been employed to measure the value of a company are based on the financial results of the company. Examples of which are the analysis of the differing financial ratios and the discounting of future cash flows.

## **2.9. Efficient market hypothesis**

The efficient market hypothesis (EMH), is a long-standing and well researched financial economic theory. It postulates asset prices are reflective of all information. Thus, implying that there are no unfair advantages between investors and thus is not possible to achieve abnormal returns. Abnormal returns can be defined as the difference between the expected and actual return on an investment (Ficici, 2018). Elements of the theory can be traced back to the early 1900s. However, EMH was popularized in academic literature in the 1960s and 1970s through the work of Samuelson and later Fama (Fama & French, 1995; Konstantinos, 2010). The EMH proposes three forms of market efficiency - weak, semi-strong and strong. The three forms follow the same postulation, that asset prices reflect all information and that it is not possible to outperform the market, but to varying degrees (Konstantinos, 2010). The weak form

Empirical evidence has been used to criticize the validity of the EMH with research showing conflicting results regarding the ability of professional investors to beat the average market returns over time (Ward & Muller, 2012). There are a multitude of studies that investigate the EMH specifically with respect to the JSE with the general consensus that the bourse does, for the most part, comply with the EMH (Vincent, 2018). More specifically the evidence overwhelmingly supports the JSE showing characteristics of a weak form efficiency (Guduza & Phiri, 2017).

### **2.10. The size anomaly**

The study of the relationship of firm size as measured by the market capitalisation and the company's returns has long been of interest in academic research. The general consensus is that companies with a smaller market capitalisation will show higher returns (Ferreira, Mohlamme, Van Vuuren, & Dickason (Koekemoer), 2019).

### **2.11. Global retail sector**

The retail sector is a very important industry sector globally and on a national level, it is often used to gauge the state of an economy (Burt, Johansson, & Dawson, 2016). Globally, governments consciously track the level of consumer spending and use the information in policy decision making (*Global Powers of Retailing*, 2019). A slow-down in the retail spending is often an indicator of negative economic sentiment as consumer spending reduces (White, & Van Dongen, 2017). The following section provides an overview of the industry classification benchmarking system that is used in South Africa and an overview of the South African retail industry characteristics and trends.

### **2.12. Industry classification benchmark**

The international classification benchmark (ICB) standards are used by the JSE to classify public listed entities on the exchange into industry groups (JSE, n.d.). ICB was developed by the Dow Jones and the Financial Times Stock Exchange (FTSE) and is used globally on multiple exchanges ("Industry classification benchmark (ICB)," 2014). A 2014 FTSE report on the ICB states that "a company is allocated to the subsector of ICB whose definition most closely fits the business that accounts for the primary source of the company's revenue" ("Industry classification benchmark (ICB)," 2014). More specifically, firms will be classified as retail if their primary source of income is retail.

The benchmark classifies companies across four cascading levels – industry, supersectors, sectors and subsectors (“Industry classification benchmark (ICB),” 2014). Thus, the ICB classification enables the comparison of companies across different exchanges. Figure 5 below, provided by FTSE, shows the relationship between each.



Figure 5: ICB classification model

Source : FTSE, 2014.

### 2.13. South African retail sector

The South African retail sector is Africa’s largest and ranks 20<sup>th</sup> globally, by revenue (*Industry Forecast - South Africa Consumer Spending Forecast Essential And Non-Essential Spending*, 2020). Over the course of the period of study, the list of top 10 retailers in Africa consists solely of South African companies (Piatti & Shand, 2015).

Table 2: The top 25 African retailers FY13

Retail revenue rank FY13	Name of company	Headquarter country	Core retail segment 2013	FY13 revenue (US\$ million)
1	Shoprite Holdings Ltd	South Africa	Food and beverage	9 852.5
2	Massmart Holdings Ltd	South Africa	General merchandise	7 529.9
3	Pick n Pay Stores Ltd	South Africa	Food and beverage	6 343.3
4	The SPAR Group Ltd	South Africa	Food and beverage	5 166.7
5	Woolworths Holdings Ltd	South Africa	Clothing and accessories	3 827.8
6	The Foschini Group Ltd	South Africa	Clothing and accessories	1 594.1
7	Mr Price Group Ltd	South Africa	Clothing and accessories	1 557.7
8	Clicks Group Ltd	South Africa	Health and personal care	1 349.7
9	JD Group Ltd (Steinhoff International Holdings Limited)	South Africa	Furniture and home furnishings	1 141.3
10	Truworths International Ltd	South Africa	Clothing and accessories	1 008.2
11	Label'Vie SA	Morocco	General merchandise	681.9
12	Choppies Enterprises Ltd	Botswana	Food and beverage	567.9
13	Lewis Group Ltd	South Africa	Electronics and appliances	523.4
14	OK Zimbabwe Ltd	Zimbabwe	Food and beverage	483.7
15	Iliad Africa Ltd	South Africa	Building materials	464.2
16	Société Magasin Général SA	Tunisia	General merchandise	454.5
17	PZ Cussons Nigeria Plc	Nigeria	Electronics and appliances	444.7
18	Meikles Ltd	Zimbabwe	Food and beverage	346.4
19	Sefalana Holding Company Ltd	Botswana	General merchandise	229.6
20	Zambeef Products Plc	Zambia	Food and beverage	171.8
21	Uchumi Supermarkets Ltd	Kenya	Food and beverage	163.8
22	AVI Ltd	South Africa	Food and beverage	155.7
23	Furnmart Ltd	South Africa	Furniture and home furnishings	131.6
24	Edgars Stores Ltd (Edcon)	Zimbabwe	Clothing and accessories	64.8
25	Rex Trueform Clothing Co Ltd	South Africa	Clothing and accessories	47.4

Source: Piatti & Shand, 2015.

The South African retail market is considered fairly concentrated with twelve large holding companies owning most of the retail chains and brands (*Key View - South Africa Consumer Outlook*, 2020). Further, 80% of local sales are attributable to the four largest companies – Massmart, Spar, Pick'n'Pay and Shoprite. All four were established in South Africa (South Africa Consumer & Retail Report, 2019). However, Massmart was recently bought out by Walmart in 2011 and is now foreign owned (*Retail Business in South Africa*, 2013).

Growth has stagnated in South Africa to a rate of 0,8% in 2019, this is further exasperated by increased unemployment and reduced consumer spending - all of which puts pressure on the retail sector (*Industry Forecast - South Africa Consumer Spending Forecast Essential And Non-Essential Spending*, 2020). Consequently, retail firms should consider the growth strategy of accessing new markets in Africa (South Africa Consumer & Retail

Report, 2019). Figure 6 below displays World Bank sourced GDP growth figures, showing that growth has been consistently higher in Africa than in South Africa.

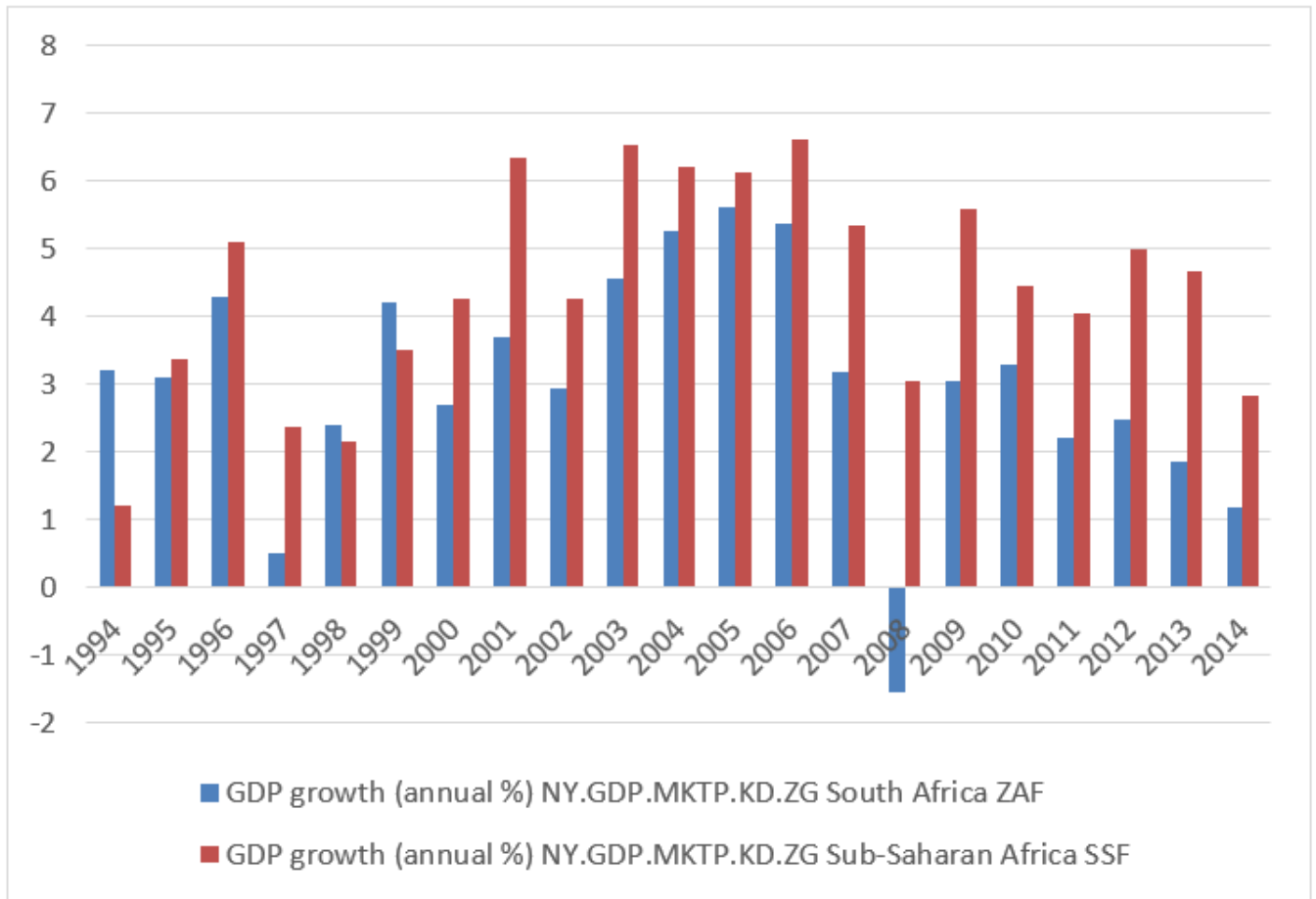


Figure 6: South African & African GDP Growth Rate (annual %)

Source: *World Development Indicators, 2020.*

## 2.14. Hypothesis 1: signaler, signal and signaling environment

The research question sub-question and subsequent hypotheses are centred on the constructs associated with the signaler, signal and signaling environment. The aim is to evaluate whether the share price of JSE-listed retail firms is positively influenced by announcements of FDI.

**Research Sub-Question 1:** What are the share price reactions to announcements of FDI by South African retail companies into the rest of Africa?

### Hypothesis 1:

$H1_0$ : The share prices after the FDI announcements by South African retail firms are not larger than the share prices before the FDI announcements.

$$H1_0 : \Delta SP(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

$H1_{alt}$ : The share prices after the FDI announcements by South African retail firms are larger than the share prices before the FDI announcements.

$$H1_{alt} : \Delta SP(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

The following sections outline each of the constructs within the context of the research question

### 2.14.1. Empirical studies carried out elsewhere

A study focusing on Korean companies found that a catechistically significant positive abnormal return after FDI announcement can be received in long term (Lee, Piesse, & Strange, 2011).

### **2.14.2. Signaler**

Within the context of signaling theory, the signaler has access to more information than the other party, leading to information asymmetry. This is because the signaler has access to confidential company information, due to access to corporate leadership information.

Signalers have been defined in various ways depending on the academic study context. In business management literature signalers are most commonly defined as a person, product, or firm. For example, in the first text on signaling theory in human resource studies (HRS) by Spence in 1973 the signalers were job applicants who signalled their quality as a candidate by relaying their educational achievement to the recruiter.

There is a vast amount of research that explores the signals sent by companies, some with emphasis on the management team, or executive board demographic composition and diversity. In short, the possible definition of a signaler differs and is contextually specific to a multitude of different academic fields. For the purposes of the following study, a signaler will be defined as a retail company that is publicly traded on the JSE. The management of which will have access to materially significant information regarding the company, market and potential success of an FDI decision. The non-public information can be negative or positive. However, most academic research in the business studies, economics and finance spheres is focused on the dissemination of positive information rather than negative news.

### **2.14.3. Signal**

The underlying key message of this information is relayed to the general public through a generalized communication, or signal. An example could be confidential market research on a new possible business location or details around the suitability of a company's product offerings to a new demographic.

#### **2.14.3.1. Characteristics**

Research related to signaling theory is mainly concerned with the conscious dissemination of positive information in order to give a positive outlook of a company's activities to the investing public or consumer. In the research presented, the signal is the announcement in the news by the company of foreign direct investment into the African region. There are several studies related to negative information however it is not usually the conscious intent of the signaler to relay the information but more an unintended consequence of an action.

Effective signals have been found to have two main attributes – signal observability and signal cost. There is also the lesser regarded consideration of whether there is a mutual benefit to signaler and receiver through the smoothing of the information asymmetry.

#### **2.14.3.2. Signal observability**

Signal observability pertains to the ease with which the receiver can gain exposure to the signal. i.e. that the information is being de-classified and made public.

#### **2.14.3.3. Signal cost**

The second attribute is signal cost. Certo, Connelly, Ireland and Reutzel (2011) refer to signaling cost as the associated monetary outlay required by a signaler to remit a signal to a receiver. Signaling theory is premised on the idea that the signaler makes a conscious effort to relay positive information that would have otherwise been unknown to the receiver. Signaling cost is the associated monetary outlay required by a signaler to remit a signal to a receiver (Yan et al., 2015).

#### **2.14.3.4. Economic gain**

Lastly, signaling theory is premised on the idea that the signaler makes a conscious effort to relay positive information that would have otherwise been unknown to the receiver. For an action to be considered a signal, the signaler should realize some sort of benefit that would otherwise not have occurred had the signal not been made. Examples of signals would be details on a new product or service offering, an upgrade to a process or manufacturing process, a company repurchasing its own shares in the open market and in the case of this research a company decided to engage in foreign direct investment in Africa.



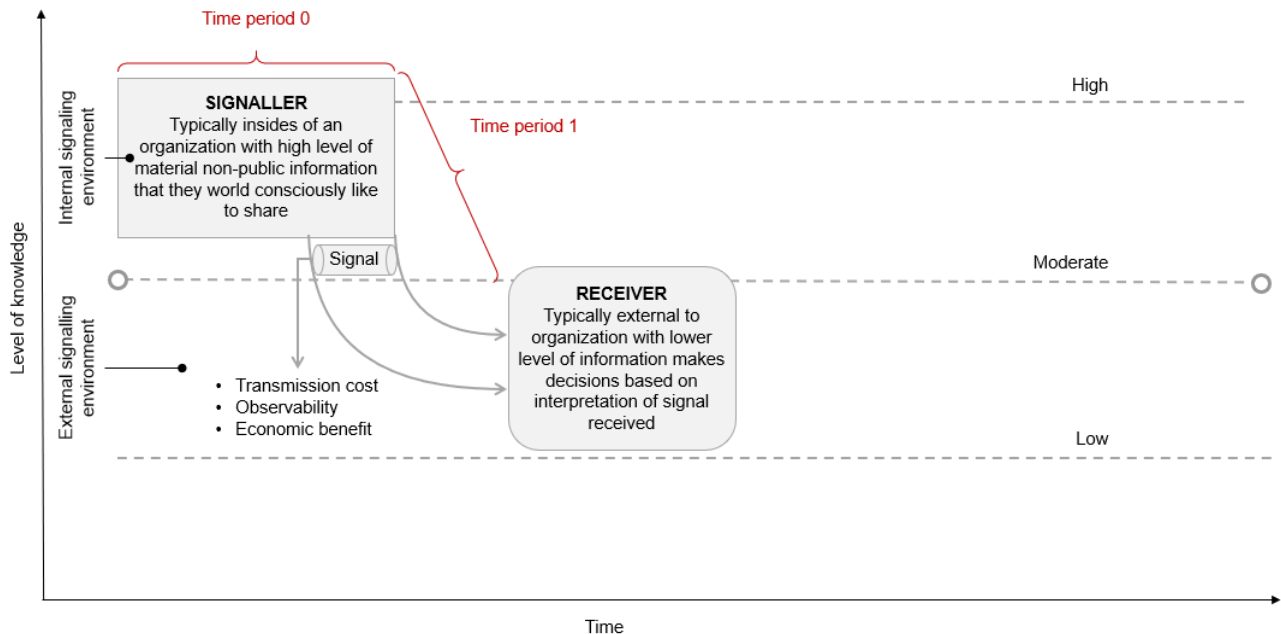


Figure 7: Signaling theory, time period 1, signal sent

#### 2.14.4. FDI as a positive signal of firm internationalisation

FDI leverages the firm's resources and internal expertise in international strategy. This assesses the advantages of internationalization strategy outweigh the disadvantages and that FDI is value adding to the firm for South African retail companies.

In the case of South Africa, empirical evidence has shown that event information should be immediately reflected in the price on the short-term (Metha, 2016; Ward & Muller, 2010; Wesson, 2015). Furthermore, the JSE is the oldest, biggest and most liquid equity market on the African continent.

#### 2.14.5. Environmental distortion

The signaling environment both internal and external the organization can also affect the efficacy of signaling in reducing the information asymmetry between parties. Environmental distortion, the bandwagon effect and signal reliability are the three sub-constructs within the context of the signaling environment. Environmental distortion relates most to research sub-

question 1 and is discussed below. The remaining two concepts are discussed in relation to research sub-question 2.

The environment can cause *environmental distortion* – this occurs when the signal is changed or manipulated by the mode by which it is relayed. For example, a research analyst may apply bias to an official press release or financial review presentation given by a company’s management team. This bias or opinion could change the way in which the investment community interprets the management action and thus influence the counter reaction away from that desired by the management team.

### **2.15. Hypothesis 2: receiver, feedback/countersignal and signaling environment**

The second research sub-question and hypothesis relate directly to the receiver and investigates the possibility of achieving abnormal returns following the announcement of FDI. The question has been contextualized in academic theory in the sections below by considering empirical investigations carried out elsewhere, signaling theory in combination EMH and agency theory.

**Research Sub-Question 2:** Can investors formulate a profit yielding investment strategy around share price reactions to FDI announcement information?

#### **Hypothesis 2:**

H<sub>20</sub>: The cumulative abnormal return does not differ from zero in short term after FDI announcement.

$$H_{2_0}: CAR(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

H<sub>2alt</sub>: The cumulative abnormal return differs from zero in short term after FDI announcement.

$$H2_{alt}: CAR(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

In the research, the announcement by a firm to engage in foreign direct investment is considered to be a material strategic event (or signal) that should affect the underlying value of the company. Shareholders will receive this information, process it and then decide on whether to buy, sell or keep their stock ownership the same (counter signal). If a critical number of investors react to the event in the same manner, then a material effect on the share price will occur. A material effect can also result from the “bandwagon effect” if a few shareholders react in a certain way, thus sending a signal to other investors who mimic the behaviour.

### **2.15.1. Empirical studies carried out elsewhere**

Academic literature does not have a consistent view on the potential to achieve a positive cumulative average abnormal return (CAAR) following the announcement of FDI by a firm.

Research performed by Baran and Saikevičius (2015) found that the announcement of a mergers and acquisition (M&A) produced a short-term increase in CAAR. The study focused on a sample of twelve European countries - Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovakia, and Slovenia (Baran & Saikevičius, 2015). Jain, Rani and Yadav (2015) found a positive CAAR for M&A announcements made by Indian companies listed on the Bombay Stock Exchange (BSE). The research encourages company management to engage in FDI in order to improve their competitiveness (Jain, et al., 2015). Research which compared companies from Brazil, Russia, India, China and South Africa found that short-term the CAAR was positive for some countries and negative for others (Gokgoz & Sevindik, 2018).

In conclusion, the previous research does not show a consistent pattern of results with respect to the possibility of achieving a positive CAAR following the announcement of FDI by a company.

### **2.15.2. The receiver**

The receiver in most economics, business studies and finance related signaling models is a party that is external to the company with a potential or vested interest in the economic performance. In the context of this research, the receiver is any shareholder in the company or potentially interested investor. A receiver typically has less information compared to the signaler and is actively interested in receiving information from the signaler. In the research undertaken here, the knowledge is limited to publicly available information. The receiver also usually has an economic incentive related to the correct understanding of the information relayed. For example, an investor may choose to participate in an IPO after the announcement that the company being listed has just secured a lucrative government contract or has a diverse and seemingly competent executive and management team. For the purposes of this research, the receiver are the potential investors (possibly interested in buying shares), current shareholders (currently holding shares) and speculative investors (looking to engage in technical trading strategies on the share to achieve profit in the short term).

### **2.15.3. Feedback / Counter signals**

A fundamental assertion in signaling theory is that the receiver stands to gain from the correct interpretation of, and appropriate reaction to the signal. For example, investors would benefit from buying or selling shares in a company that's signal implies a solid future earnings. Initially, signaling theory was mainly concerned with the relaying of the signal from the signaler to the receiver. However, recent research has shown a greater interest in the response that the receiver remits back to the signaler, in the form of counter signals.

The implication then is that the information asymmetry flows in two directions: receivers and signals require and receive information from each other which shapes and influences economically significant decisions. Counter signals can help the signaler improve the efficacy of future signals. Thus, creating a virtuous cycle of communication between

signaler and receiver which facilitates mutual economic gain for both parties. This is a key point in the context of the research presented because if FDI into Africa leads to value creation then the company will continue to invest in other African countries.

#### 2.15.4. Bandwagon effect and reliability of signals

The internal and external signaling environment influence the way in which the receiver of the signal processes and interprets the information. The signaling environment has three sub-constructs that are frequently discussed in academic literature: environmental distortion, the bandwagon effect and signal reliability. The bandwagon effect and signal reliability are the most relevant to the receiver and therefore discussed below within the context of research sub-question 2 and hypothesis 2.

Actions based on distorted signals can also result in a bandwagon effect where signals are misinterpreted by a multitude of different receivers.

The overall reliability of signals by signalers in the operating environment is another important consideration i.e. if the market is largely dominated by deceptive signalers then there will be a reduced level of trust in signal reliability.

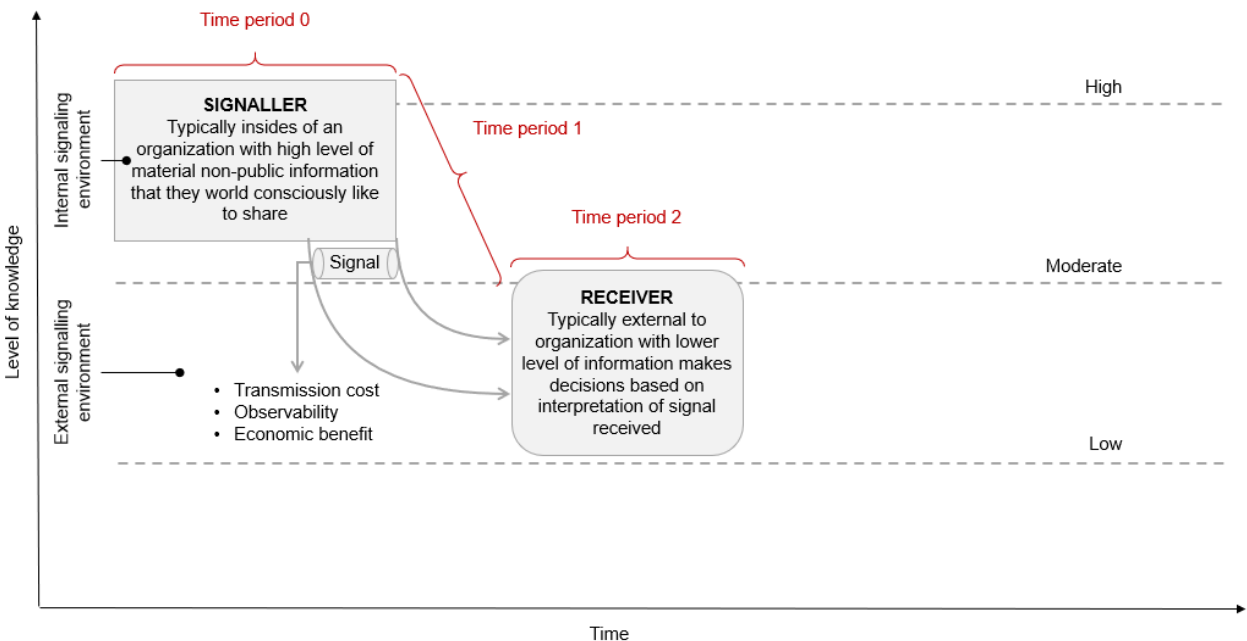


Figure 8: Signaling theory time period 2, signal internalised by receiver

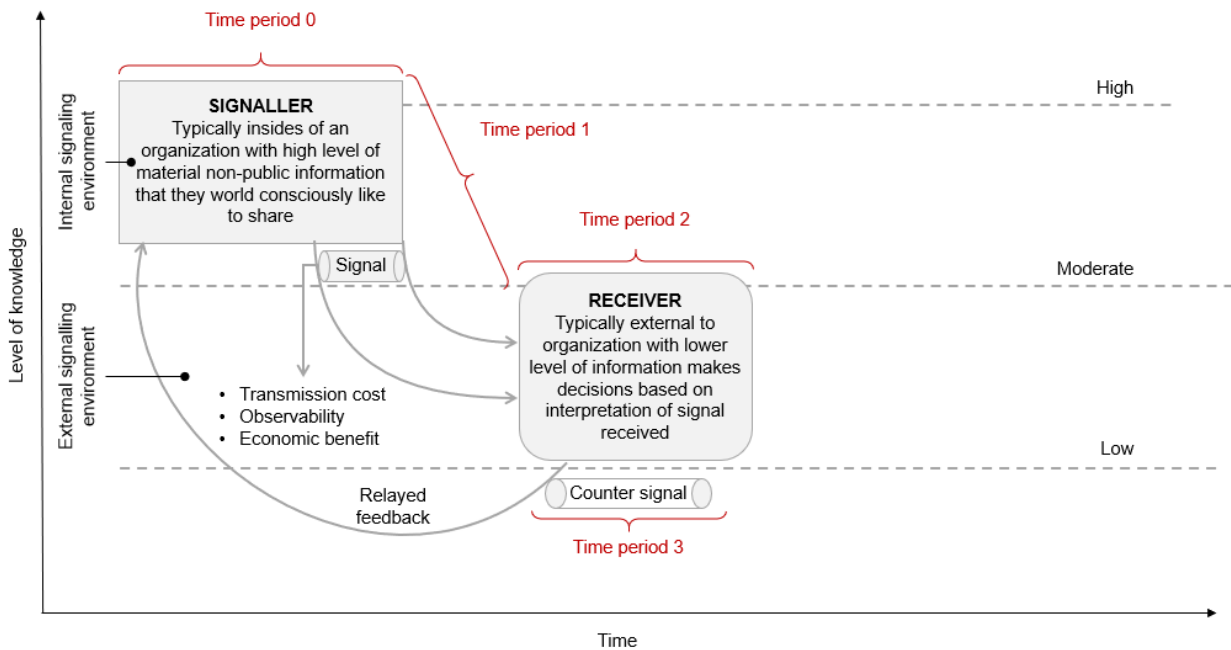


Figure 9: time period 3, feedback/ counter signal relayed by receiver

## 2.16. Diagrammatic representation of the signaling theory

The diagram below presents the constructs and sub-constructs discussed in the preceding sections. It illustrates the cyclical nature of the knowledge transfer. The time period element shown is for the first cycle of signaling that occurs. The time element of this model aligns very well with an event study and will be referred to in further detail in Chapter 4's discussion of the research methodology choice.

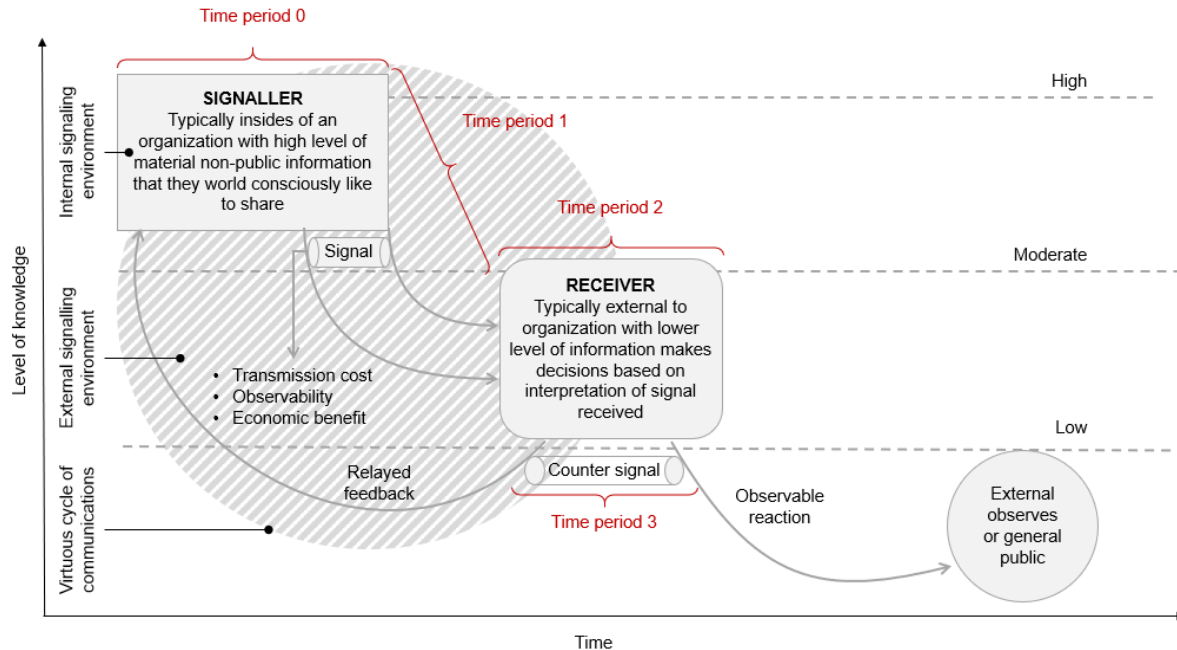


Figure 10: Diagrammatic representation of signaling theory

## 2.17. FDI research in other geographies

The proposed topic of research has been examined empirically and theoretically in other geographies and using different modes of evaluation in the South African context. The following paragraphs give an overview of the findings of event studies carried out in Greece and Singapore with respect to outward FDI by listed companies in those two countries and the theoretical work performed on FDI as a signal.

Previous research has conducted event studies on to determine the effect on the stock price of announcements of FDI by Singapore, Greek and Russian listed entities with filters for industry focus. In conducting an event study on a sample of JSE listed retail companies the following research adds to current literature by providing greater insight on the effect of FDI by retail companies in South Africa.

An event study conducted by Ding and Sun (1997) explored the stock return responses of FDI announcements by Singaporean companies. The announcement effect was found to be positive and significant with an average abnormal return of 0.4913% on day zero and a cumulative average abnormal return (CAAR) of 0.9642% over days zero and one. Further

analysis also revealed that the two-day CAAR was statistically significant with respect to the industry that the FDI is in and whether or not the FDI is a joint venture or an independent initiative by the company. The results of the investigation regarding industry specification prompted the current research to have an industry sector focus. The retail industry was selected the research focus due to its high level of sophistication when compared to the rest of Africa. Therefore, South African firms would be able to translate their proprietary knowledge and expertise of running successful retail operations in a sophisticated, highly competitive environment in South Africa to success in the less sophisticated retail markets in the rest of Africa. Due to the relative larger size in comparison to their African counterparts, the South African entities would be able to source products at a lower price from suppliers as they would be ordering larger quantities (Ding & Sun, 1997). Similarly, the larger South African firms would probably be more likely to negotiate more favourable payment terms with South African suppliers for export to the country where the FDI is held.

An event study focusses on outward foreign direct investment by Greek companies found that the success of outward FDI was dependent tend to be in highly developed countries, in a technologically advanced sector and involving horizontal integration (Demos, Filippaios, & Papanastassiou, 2004). The expansion into Africa of South African JSE-list firms mimics two of the three parameters – technological advancement and horizontal integration. The expansion is however, into less developed countries in the rest of Africa.

Foreign direct investment has been examined in the context of information asymmetry and as a signal using a variety of different theoretical and empirical examination metrics. Theoretical work has largely been linked to game theory (Goyal, 2006) and examined FDI as a signal of increased productivity (Onur, et al., 2015).

## **2.18. Conclusion**

The previous section provided an overview of the relevant literature showing a need for the research and the value of the three research questions posed. This was achieved by giving an overview of the main theoretical lens, signaling theory, its constructs and the way they relate to the South African retail sector. A brief outline of other empirical and theoretical studies carried out in other geographies underpinned the need for the investigation of the proposed questions and hypotheses.



Considering the main research question and two research sub-questions in a theoretical framework provides justification for the research conducted and its potential contribution to existing field of academia. The following chapter will provide further detail on the specific hypotheses to be tested in each regard.

### 3. Research questions and hypotheses

#### 3.1. Introduction

The aim of the previous chapter was to provide context of the research within recent academic research. Hypotheses have been formulated because the researcher intends on to run an event study, which is a statistical testing procedure. Chapter 3 concisely states the research questions and specific hypotheses to be tested.

#### 3.2. Main research question

The main research question will be tested through two research sub-questions, details of which are given further on.

Main research question: Does the market understand FDI into Africa to be value creating for shareholders, as measured by the share price in the short term?

#### 3.3. Research Sub-Question 1

Research Sub-Question 1: What are the share price reactions to announcements of FDI by South African retail companies into the African region?

The research question sub-question was raised with the view to providing an answer whether the share price of South Africa retail firms positively reacted to announcements of FDI. Thus, the below hypotheses were generated for the research question.

#### Hypothesis 1:

$H_{1_0}$ : The share prices after the FDI announcements by South African retail firms are not larger than the share prices before the FDI announcements.

$$H_{1_0} : \Delta SP(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

H1<sub>alt</sub>: The share prices after the FDI announcements by South African retail firms are larger than the share prices before the FDI announcements.

$$H1_{alt} : \Delta SP(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

### 3.4. Research Sub-Question 2

Research Sub-Question 2: Can investors formulate a profit yielding investment strategy around share price reactions to FDI announcement information?

#### Hypothesis 2:

H2<sub>0</sub>: The cumulative abnormal return does not differ from zero in short term after FDI announcement.

$$H2_o: CAR(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

H2<sub>alt</sub>: The cumulative abnormal return differs from zero in short term after FDI announcement.

$$H2_{alt}: CAR(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

### 3.5. Conclusion

The research questions and hypotheses to be explored clearly stated in the chapter above. The following chapter will discuss the research methodology selection process and the appropriateness of an event study and cross-sectional analysis which was used in the testing of each hypothesis. Table 3 below summarizes the theories and associated research question, research sub-questions and hypotheses.

Table 3: Research questions and applicable theory

<b>Theories &amp; Constructs</b>	Signaling theory	FDI constructs	New market expansion theory	Efficient market theory
<b>Research Questions</b>				
Main Research Question	✓	✓		
Research Sub-Question 1	✓	✓	✓	
Research Sub-Question 2	✓			✓

## **4. Research Methodology**

### **4.1. Introduction**

The quality of the research and final conclusions is highly dependent on the quality of the data collected and research methodology employed in its analysis (Kumar, 2019). Furthermore, every methodology needs to have a theory base that provides direction for the analysis (Saunders & Lewis, 2018). As highlighted in the Chapter 2 literature review, signaling theory forms the academic basis of the research question. In particular, an event study evaluating the effect on the share price due to specific occurrences is a powerful econometric analysis tool, aligns well with signaling theory and is the most preferable methodology for evaluating the effect on the share price due to specific occurrences (Eggert, Böhm, & Cramer, 2017; MacKinlay, 1997; Miskolczi, 2017).

As a standard methodology for event studies already exist, the methodology was applied without making any material changes. The first section of this chapter provides an overview of an event study and the various permutations of the methodology. The subsequent sections provide justification for this methodology, an overview of the research epistemology and defines the unit of analysis, population and research instrument.

### **4.2. Event study methodology**

The section below provides an overview of an event study and the standard variations of the methodology. The event study methodology is largely considered to be the most appropriate manner in which to measure the impact of different events (or actions) on specific dependent variables related to firms' value (Meyer et al., 2014) or stock price changes (Oler, Harrison, & Allen, 2008). The event study method assumed the market is efficient and prices fully reflect information (Fama & French, 1995; Gustavsson & Gustafsson, 2019). Thus, stock prices and returns are changed if new information becomes available while market changes with some delay (Meyer, et al., 2014). To detect such changes, it needs to know what return would have been in the case if the new information (or event) would be absent. Therefore, the researcher defined the estimation or control

period to estimate how stock return depends on market return (a model for expected return) and the event window (to compare actual return and expected return). These windows don't overlap (MacKinlay, 1997). Figure 11 below gives a diagrammatic representation of the relationship between each of these.

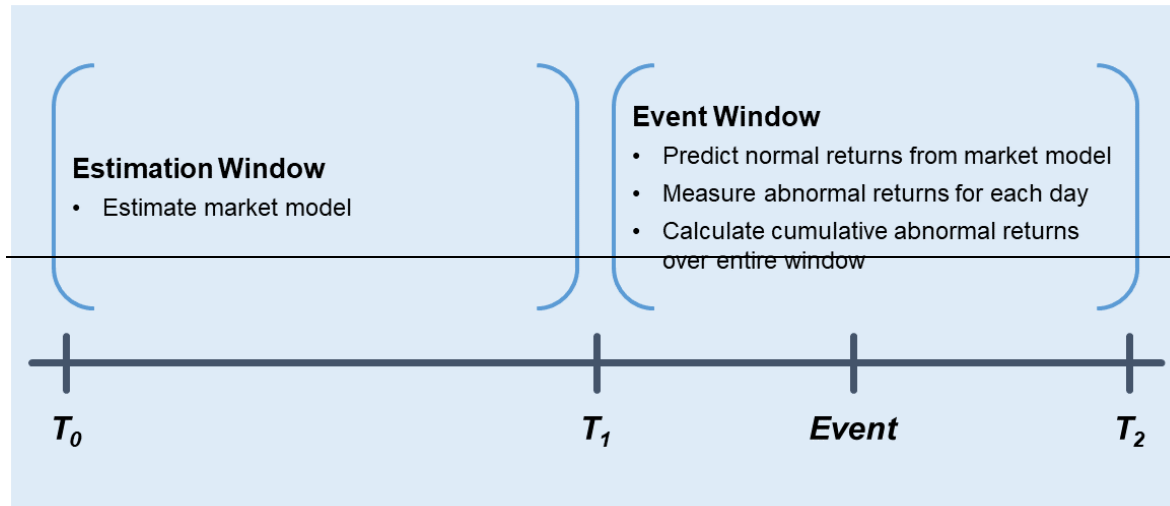


Figure 11: Event study time windows

Source: Reprinted from Meyer, et al., 2014, p. 154.

The many of event study research are based on a market model for calculation, an expected or “normal” return (Brockett, Chen, & Garven, 1994). Moreover, the market model considered as the most often used for estimation of expected return in research used the event study method (Reese & Robins, 2017).

The basic market model includes a market index and stock-specific constant as predictors and return as a dependent variable and can be written as (MacKinlay, 1997).

$$r_{it} = \alpha_i + \beta_i \cdot r_{mt} + e_{it} \quad (1)$$

Where  $r_{it}$  is the return of an asset number  $i$  at the time-period  $t$ ,  $\alpha_i$  is assess-specific constant,  $r_{mt}$  is the return of the benchmark (market index) at the time-period  $t$ ,  $\beta_i$  is coefficient showed how to assess return volatility is related to the market index return

(Brockett et al., 1994). The market model is the simplest example of a factor model because it includes only one factor (MacKinlay, 1997).

In the 1970s, the Capital Asset Pricing Model (CAPM) based event study was the most frequently utilised methodology. However, the popularity of the CAPM has since declined because it required that the intercept in the market model was equal to the risk-free rate, which poses an additional restriction. The validity of this restriction is questionable (MacKinlay, 1997). Therefore, the market model is now considered to be preferable than the CAPM (MacKinlay, 1997). There are a limited number of researchers who have successfully employed multifactor market models (Oler, et al., 2008), but such models are more complicated and often add a little explanatory power (MacKinlay, 1997). Therefore, the market model (1) was used for calculation of the expected return within the event window.

Knowing the expected return calculated by formula (1) and actual return, the abnormal return  $AR_{it}$  for each day  $t$  within the event window for event  $i$  can be calculated as (Meyer, Gremler, & Hogleve, 2014, p.154)

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i \cdot r_{mt}) \quad (2)$$

where  $R_{it}$  is actual return,  $\hat{\alpha}_i$  and  $\hat{\beta}_i$  are estimates of the model (1) received using the estimation window.

Further, a cumulative abnormal return for each event  $i$  can be calculated as a sum of individual abnormal returns from the beginning of the event window  $T_1$  to the end of the event window  $T_2$  (MacKinlay, 1997, p.21)

$$CAR_i(T_1, T_2) = \sum_{t=T_1}^{T_2} AR_{it} \quad (3)$$

The average abnormal cumulative return for the sample of  $N$  events can be aggregated as (Reese & Robins, 2017)

$$CAAR(T_1, T_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(T_1, T_2) \quad (4)$$

Finally, the hypothesis  $H_0: CAAR(T_1, T_2) = 0$  is tested to answer the question whether the  $CAAR(T_1, T_2)$  differs from zero within the given event window  $[T_1 T_2]$  (MacKinlay, 1997).

### **4.3. Justification for the event study methodology**

The research determines whether there is a material effect on the share price of a South African retail company following a news publication of the firm's decision to engage in foreign direct investment into Africa. This was measured via an event study which "is designed to investigate the effect of an event on a specific dependant variable. A commonly used dependent variable in event studies is the stock price of the company" (Woon, 2004). The events in this study are publications of the firm's decision to engage in foreign direct investment into Africa. Therefore, the dependent variable is share return.

This event study will evaluate whether the share price achieves abnormal returns. More specifically whether or not there is a difference between the expected and observed prices ('abnormal return') over a period of time following the event, commonly referred to as the 'event window' (Bartholdy et al., 2007; Sorescu, Warren, & Ertekin, 2017). Furthermore, the level of significance of the results is determined using a test of significance such as a t-test. The methodology is used to ascertain whether abnormal returns can be attributed to an event and at what level of significance (Reese & Robins, 2017).

For this research, the event is news article publication detailing the FDI activity. All news articles pertaining to the 8 sample companies over the period of study from 1994 to 2014 that were stored on the Iress expert online data base were accessed and exported to Microsoft excel. The researcher read through each, singling out articles that pertained to foreign direct investment intent or action.

In short, the event study methodology is the most appropriate for the given research problem, questions and hypotheses. The Figure 12 provides a visual representation of the alignment of signaling theory and the event studies as it pertains to this research.



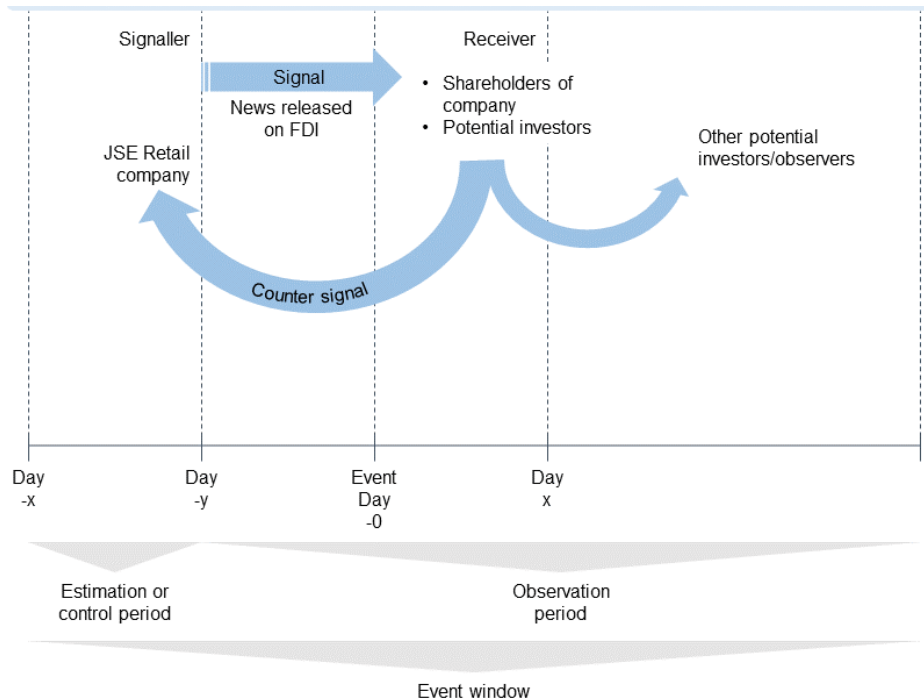


Figure 12: Combination of signaling theory and event study timelines

Source: Adapted from: Khanal & Mishra, 2017; Lehmann & Schwerdtfeger, 2016; Woon, 2004.

#### 4.4. Research epistemology

A positivist, mono-method, deductive research epistemology was employed in conducting the events study.

Positivism is related to research depending specifically on scientific methods, such as tests and statistics, to make inferences about the real world (Kock, Avison, & Malaurent, 2017). The research was singularly quantitative in both the methodology and data interpretation therefore the methodology had a mono-methods approach. Research can either be theory testing (deductive) or theory building (inductive) in its approach (Saunders & Lewis, 2018). Further, this case, the research was deductive because the historical stock price information

was analysed with respect to the proposed hypotheses to allow the researcher to accept or reject a hypothesis. (Saunders & Lewis, 2018).

#### 4.5. Unit of analysis and research instrument

The unit of analysis of the study was retail companies listed in JSE who announced FDI into Africa between 01/01/1994 to 01/01/2014, whereas the unit of observation and measurement instrument was daily closing share price. The news articles were filtered manually by the researcher to a list of articles relating to the announcement of an investment into an African country by the retail companies in question. These were used to compile a list of events, with dates for each of the companies which was used in the statistical analysis

#### 4.6. Population

The population consisted of all 31 JSE listed retail companies, as determined by the screening factors on Iress expert online database within the GIBS Information Centre's subscription to the service. Figure 13 illustrates the screening process that produced the set of companies in the population. The data was restricted to the period 01/01/1994 to 01/01/2014.

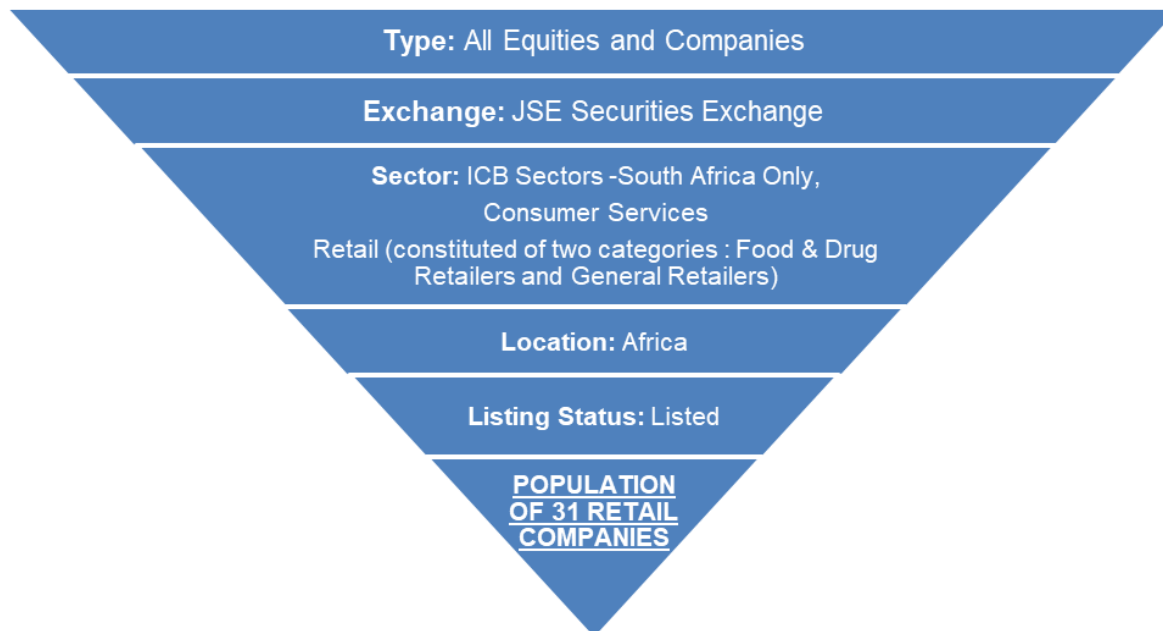


Figure 13: Population determining inverted pyramid

## **4.7. Information gathering process**

### **4.7.1. Data collection**

In order to conduct an event study, with the chosen methodology, the following three data sets were sourced for the time period 01/01/1994 to 01/01/2014:

- Historical daily closing share prices for each share
- Historical daily closing prices for the JSE retail and overall market related indices - J537 (General Retailers Index), J533 (Food & Drug Retailers Index), J530 (Consumer Good Index) and J203 (FTSE/JSE All Share Index)
- Company news releases

Attempts were made to source the same data directly from the JSE information service and SENS news repository. However, the limitations of their services and the longer than anticipated timelines for data resulted in the researcher being unable to utilize these sources of data for the purposes of the given study.

### **4.7.2. Quality controls**

The data collected was valid and trustworthy because it was sourced from a reputable financial data collection company, it is secondary data produced by the JSE which is a trustworthy information source and the researcher conducted comprehensive checks of the data for irregularities. The three data components employed in the research (daily closing share prices, daily closing indices' prices and company news articles over the time period 01/01/1994 to 01/01/2014) are all historical, longitudinal, publicly available, secondary data produced and retained by reputable sources.

Historical data is information from the past and commonly employed in academic research to evaluate the effect of significance of events (Shahi & Shaffer, 2017). Longitudinal data "sometimes referred to as panel data, track the same sample at different points in time" (Brockett et al., 1994) is required in order to conduct an event study.

Data sources can be classified as either primary or secondary. Primary data relates to data collected specifically for the intended research. Whereas, secondary data already exists and was not collected specifically for the research being conducted (Saunders & Lewis,

2018). Secondary data that is compiled by a reputable source is generally considered to be valid and trustworthy. In the case of the given research, the information pertains to publicly listed entities, and is made publicly available by the JSE which is a reputable, internationally recognized stock exchange.

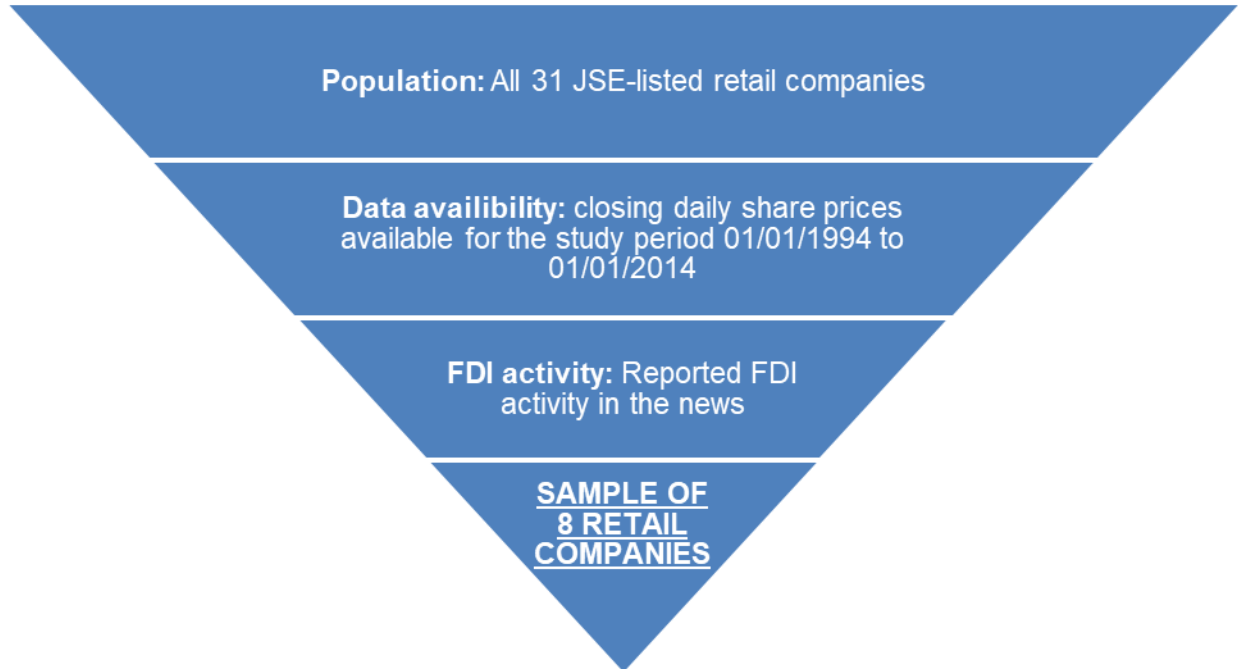
Furthermore, the information was downloaded from the Iress expert online database which is freely available to all Gordon Institute of Business (GIBS) students through the information centre portal. Ethical clearance was approved by the GIBS research committee as the data is public information which was accessed through a legitimate data service subscription available to the researcher.

The researcher checked all the data fields in the data sets downloaded for missing data. All the sample companies apart from two had full data share price information for the time interval of the study. Pepkor Holdings did not have any available share price information while Woolworths Holdings did not have share price information for the entire period of study. The decision was taken to exclude Pepkor Holdings entirely from the sample to be analysed and include Woolworths Holdings.

Information on four indices was collected: J537 (General Retailers Index), J533 (Food & Drug Retailers Index), J530 (Consumer Good Index) and J203 (FTSE/JSE All Share Index). As the population was limited to JSE listed retail firms, the sample consists solely of retail firms, therefore the J537 (General Retailers Index) deemed the most appropriate benchmark for the event study analysis as it is the most suitable index for the retail segment of the market.

#### **4.7.3. Sampling method and sample size**

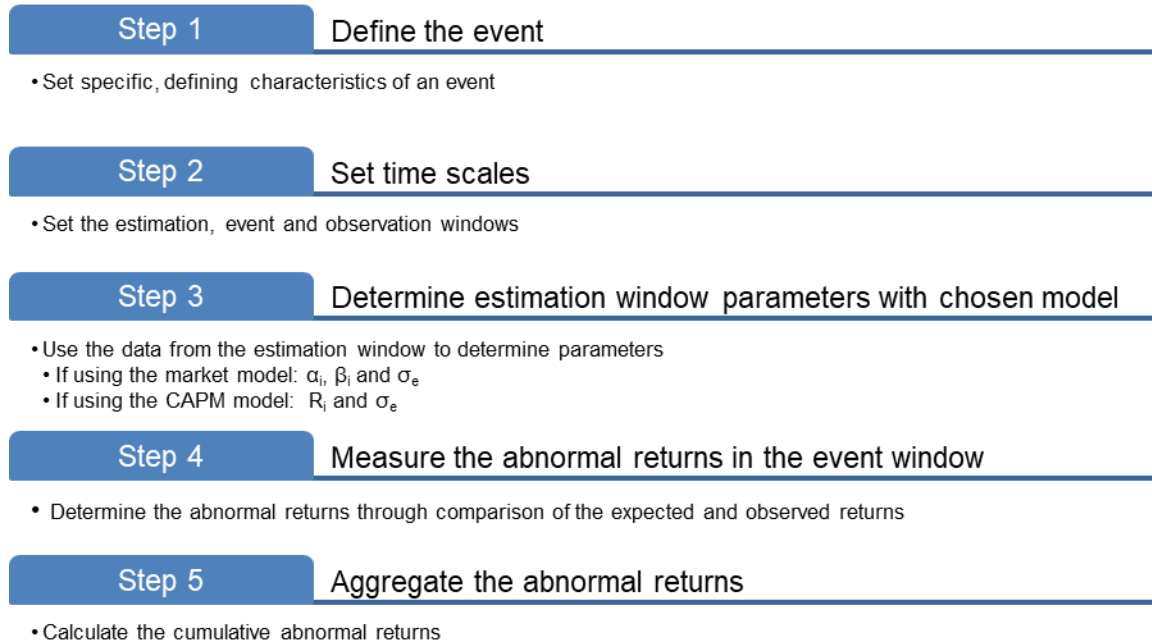
A purposive, non-probability sampling technique was employed. i.e. the sample was selected from the population based on specific characteristics deemed relevant to the study (Etikan, 2016). A set of companies that had made FDI announcements in the press in the time period 01/01/1994 to 01/01/2014 were selected from the 31 JSE listed retail companies of the research defined population. The sampling resulted in a sample of 8 companies. Figure 14 below shows the selection process from the population to sample.



*Figure 14: Sample determining inverted pyramid*

#### **4.8. Implementation of research: Data analysis**

The following standard five step event study data analysis procedure was used. Firstly, the definition of an event is determined. Secondly, the length of the estimation, event and observation windows are set. Thirdly, the establishment of parameters on which event study model will be used – the market related model or the CAPM related model – was determined. Fourthly, the quantity of the abnormal returns in the specified event window was established. Finally, the abnormal returns were aggregated (Woon, 2004).



*Figure 15: Event study 5 steps*

*Source:* Author's own, adapted from various sources

#### 4.8.1. Data analysis process employed for both research questions

Data analysis was conducted in R which “is a language and environment for statistical computing and graphics”(r-project.org/about.html, 2018). R has a plethora of online support resources, tutorials and pre-written to support analysis with an event study. The software is also freely available for download and does not require a paid licence or subscription to success.

##### **Step 1: Defining the event**

The researcher defined an event to be a news announcement, stored on the Iress news data base, of FDI into Africa by a JSE listed retail company between 01/01/1994 and 01/01/2014. A list of news articles from 01/01/1994 to 01/01/2014 for each company was downloaded into a Microsoft Excel spreadsheet. The articles were each read to determine if it could be classified as FDI announcement into Africa. Such were highlighted yellow on the spreadsheet.

The necessary market, firm and event data were compiled into csv. format excel files to be used when running the event study in R. The paragraphs below provide additional detail on the compilation of each input sheet.

**Input sheet 1, market data:** The historical index daily closing price data for the three indices selected were compiled into sheet with the following identifiers 'Date', 'Closing\_price', 'Market\_identifier'. 'Date' was given in dd/mm/yyyy format. 'Closing\_price' was stated numerically to two decimal places. 'Market\_identifier' was stated as 'Ftse\_Jse\_General\_Retailers'.

**Input sheet 2, firm data:** The company historical closing share price information was compiled into a single sheet with the following identifiers 'Date', 'Closing\_price' and 'Firm\_identifier'. 'Date' was given in the dd/mm/yyyy format. 'Closing\_price' was stated numerically to two decimal places. 'Firm\_identifier' was the JSE three letter ticker symbol.

**Input sheet 3, event data:** The company ticker, event date and title of the article were compiled from the articles announcing FDI into Africa by a sample company. The data was presented in a three-column table in a separate excel tab with the headings 'company ticker', 'event date' and 'event overview'. The file was subsequently converted to .csv format with the identifiers 'Event\_ID', 'Firm\_ID', 'Event\_Date' and uploaded into R for the running of the event study. 'Event\_ID' was the sequential number assigned to the event by the researcher. 'Firm\_ID' was stated as the three letter JSE ticker for the company. 'Event\_Date' was the date the event occurred. The headline and detail of the event was not necessary in the event study analysis in R as the analysis required only the quantitative data collected.

## **Step 2: Setting the time windows for the event study**

The estimation and event windows were set in the second part of the analysis. Details of the process followed as well as a diagrammatical representation are given below.

**Event window length:** Most of the studies used symmetric event windows centred on event date. The researchers used different window length: 5 days (-2 days, event day, + 2 days) (Oler et al., 2008), 9 days (-4, +4) (Meyer et al., 2014), 11 days (-5 +5) or even 30 days (Bina & Vo, 2007). Three event window length were used in this study: 5 (-2, +2)

days, 11 (-5, +5) days and 21 (-10, +10) days to examine CAR during different time horizons.

Estimation window length. Researchers used different lengths of estimation window. Some researchers used estimation window length equal to 250 trading days (Meyer et al., 2014). But long estimation windows can incorrectly consider recently trends in market price (Bina & Vo, 2007). Therefore, a time window around 30-60 days is commonly deemed more appropriate with preference given to longer periods (Bina & Vo, 2007). As the data allowed for the higher estimation window length, 60 days was used in this study. The day before event was used as the end of estimation window.

### **Step 3: Determine estimation window parameters with chosen model**

The researcher used the data files to run event study code using R. The market model was utilised as the researcher was unable to obtain risk free rate data which related appropriately to the sample companies for the period of study.

### **Step 4 & Step 5: Measure and aggregate the abnormal returns**

The aggregate abnormal returns were produced in R and downloaded into Microsoft excel for further statistical interpretation and analysis. Both simple returns and log returns were computed using R (Miskolczi, 2017). The range, mean and median were determined in excel. The t-test and Wilcoxon sum rank test were used to determine whether the CAAR is significantly differ from zero within the event window. A table of the summary statistics for the simple and normal returns was compiled using excel.

## **4.9. Research limitations: discussion of research limitations, limitations of the method**

There are several potential limitations relating to data and the methodology, these are discussed in detail in the sections below.

### **4.9.1. Data-related limitations**

The research only analyses companies on the JSE main board, which are both published and of relatively larger size. Not including smaller and private companies, may have resulted in a key conclusion being missed. Furthermore, the JSE is the only market being



examined in this research as it is the only stock exchange in South Africa (JSE, n.d.). Similarly, the study only includes shares that were listed and remained listed during the analysis window therefore there is an element of survivorship bias (Wesson, 2015).

As the data was not exclusively collected for the purposes of this particular study it did not fully meet the research needs and may have been unknowingly manipulated (Saunders & Lewis, 2018).

The greatest possible limitation of this study was not having JSE produced data related to FDI activities by listed companies (JSE, n.d.). The study was therefore reliant on news feed data from Iress.

#### **4.9.2. Methodology-related limitations**

In addition to the numerous practical limitations to an event study, there remains several additional limitations to the study. Firstly, the stock returns are raw prices and not adjusted for dividend and bonuses. This is due to lack of access to global databases such as Bloomberg, DataStream, and others. Consequently, it is equally possible that abnormal returns in response to a specific event of interest (i.e. FDI into Africa) may exhibit patterns pertaining to dividend and bonus announcements.

An event study is a quantitative analysis technique that can be used in a variety of different contexts to evaluate the effect of a specific event. The key assumption of an event study is that the market complies with the efficient market hypothesis (EMH) (Bartholdy et al., 2007; Woon, 2004). Given an efficient market, the stock prices of the company consider all available information and expectations of the future. It is highly plausible that the EMH may not have held true in this case.

## **5. Results**

### **5.1. Introduction**

The following chapter presents the sample and results of the research with sparse commentary. More detailed discussion of the results will be provided in the following chapter. The first part of the given chapter profiles the sample used in the research, providing key characteristics and traits that may have had material influence on the results. This is followed by an overview of the raw data collected and its characteristics. After which is a presentation of the results and discussion of the results by research question. The concluding interpretations give a high-level summary of the findings and lay the basis for the more detailed discussion in the following chapter.

### **5.2. Profile of the sample**

The population of the research was all 31 JSE listed retail companies. The two criteria for inclusion in the same was that the company had to have made a news announcement of FDI into Africa and have daily share price information available for over the period 01/01/1994 to 01/01/2014. The research sample consisted of 8 JSE listed retail firms and 50 events were identified for inclusion in the analysis. The number of observations was deemed sufficient because, according to Bartholdy, Olson and Peare (2007), the minimal number of events acceptable for event study is 25.

#### **5.2.1. Sample companies**

The initial screening showed that 9 companies had made news announcements regarding FDI into Africa. However, share price data was unavailable for one of the companies (Pepkor Holdings) and it was excluded. The sample was thus narrowed down to 8 companies. The sample companies spanned a wide range of size, as measured by market capitalisation. The smallest company had an approximate market capitalisation of R4,7 billion and the largest was approximately R67,7 billion. Turnover ranged from close to R11 billion to just over R150 billion. Gross profit margins showed a range of between 7% and 27% with an average of 13% and a mean of 11%. Net profit margin was between a loss of 1% and a high of 13%.

Table 4 gives a brief overview of the business activities, current market capitalisation (at 17 February 2020), turnover, gross profit, gross profit margin, net income and net income margin.

Table 4: List of companies in the sample used in the research

Ticker	Name	Business Overview	Market Capitalisation	Turnover	Gross Profit	Gross Profit Margin	Profit Attributable to Ordinary Shareholders (Net Income)	Net Income Margin
1	CSB	Cashbuild Ltd	4 678 092 619	10 821 235	1 046 870	10%	427 357	4%
2	CLS	Clicks Group Ltd	64 830 545 810	31 352 109	3 807 509	12%	1 702 914	5%
3	MSM	Massmart Holdings Ltd	11 960 596 195	90 941 600	6 038 785	7%	888 600	1%
4	MRP	Mr Price Group Ltd	44 615 426 835	22 361 000	6 011 000	27%	2 982 000	13%
5	PIK	Pick N Pay Stores Ltd	31 200 863 796	88 293 200	6 842 934	8%	1 649 500	2%
6	SHP	Shoprite Holdings Ltd	67 625 471 088	150 395 000	14 959 355	10%	4 260 000	3%
7	TRU	Truworths Int Ltd	19 109 466 658	18 094 000	3 217 259	18%	872 000	5%
8	WHL	Woolworths Holdings Ltd	46 062 081 970	73 103 000	11 941 167	16%	1 086 000	-1%
	<b>Mean</b>		<b>36 260 318 121</b>	<b>60 670 143</b>	<b>6 733 110</b>	<b>13%</b>	<b>1 462 046</b>	<b>4%</b>
	<b>Median</b>		<b>37 908 145 316</b>	<b>52 227 555</b>	<b>6 024 893</b>	<b>11%</b>	<b>1 269 050</b>	<b>3%</b>
	<b>High</b>		<b>67 625 471 088</b>	<b>150 395 000</b>	<b>14 959 355</b>	<b>27%</b>	<b>4 260 000</b>	<b>13%</b>
	<b>Low</b>		<b>4 678 092 619</b>	<b>10 821 235</b>	<b>1 046 870</b>	<b>7%</b>	<b>1 086 000</b>	<b>-1%</b>

\* All financial data is as of 17/02/2020. Source: Iress

\* Company Overview, Source: Eikon

Source: Adapted from Eikon and Iress data

### 5.2.2. Indices information

The J537 General Retailers was deemed to be the most appropriate index for the analysis because of this index the most appropriate reflects the market retailer segment because was especially introduced to as benchmark for retail sector (JSE, n.d.). Also, as shown in Figures 16 and 17 below, J537 is the most correlated with J203 (FTSE/JSE All Share index).

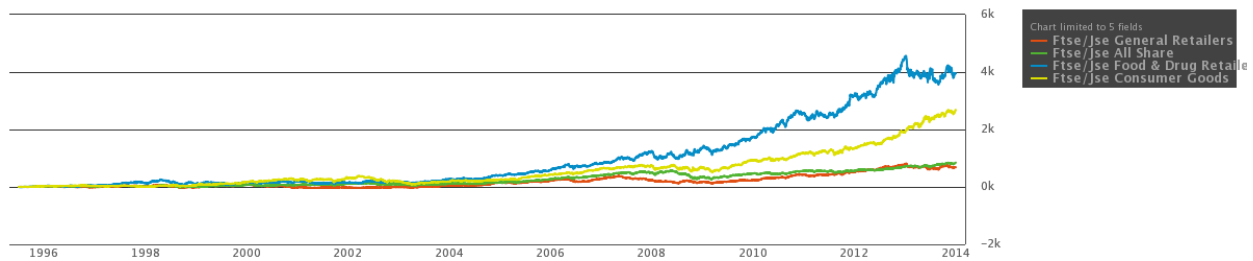


Figure 16: FTSE/JSE General Retailers, FTSE/JSE All Share, FTSE/JSE Food & Drug Retailers, FTSE/JSE Consumer Goods Retailers



Figure 17: J533 (General Retailers) and J203 (FTSE/JSE All Share index)

### 5.2.3. Sample company share price and index comparison

The graphs below show the daily closing share price for each of the sample companies plotted together with the J533 General Retailers Index which was used in the event study analysis.

As illustrated in the Figures 18 to 26 below, Clicks Ltd, Truworths Int Ltd, and Woolworths demonstrated a high synchronisation with the J533 General Retailers Index. While

Cashbuild Ltd and Massmart Holdings Ltd indicated a moderate synchronisation with the J533. Three other firms, namely Mr. Price Ltd, Shoprite Holdings Ltd, and Pick N Pay Holdings Ltd, indicated lower synchronisation with the J533.

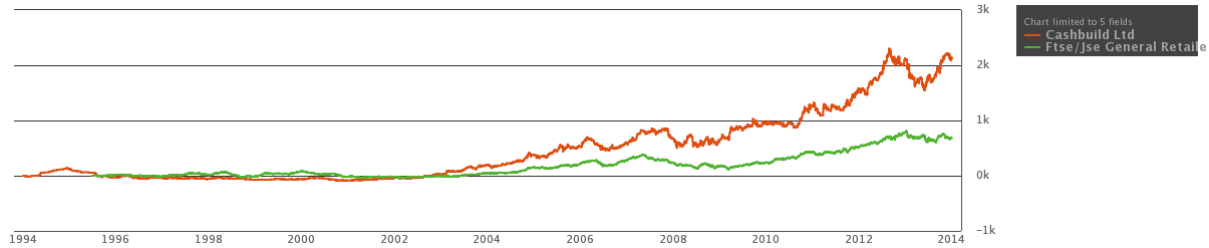


Figure 18: Cashbuild Ltd and J533 (FTSE/JSE General Retailers)



Figure 19: Clicks Ltd and J533 (FTSE/JSE General Retailers)

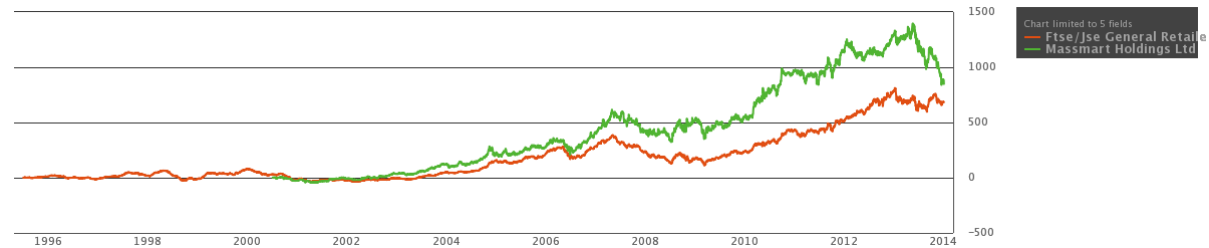


Figure 20: Massmart Holdings Ltd and J533 (FTSE/JSE General Retailers)

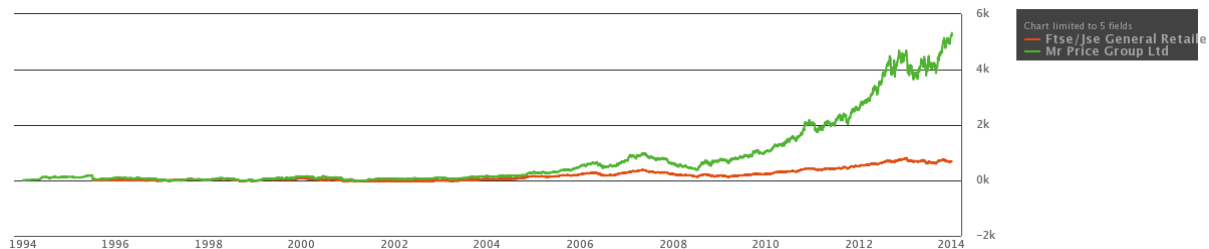


Figure 21: Mr. Price Ltd and J533 (FTSE/JSE General Retailers)

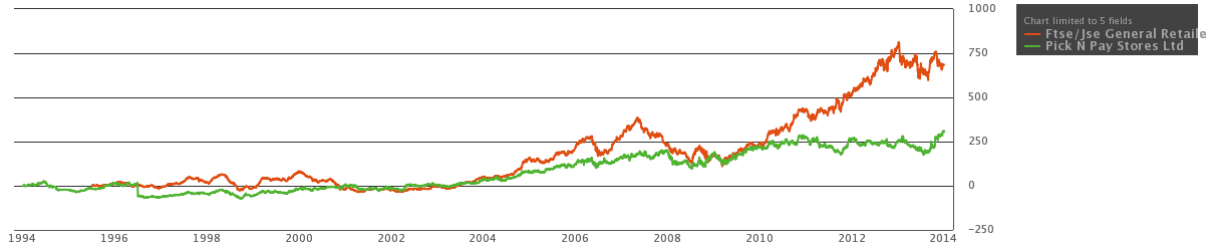


Figure 22: Pick N Pay Stores Ltd and J533 (FTSE/JSE General Retailers)

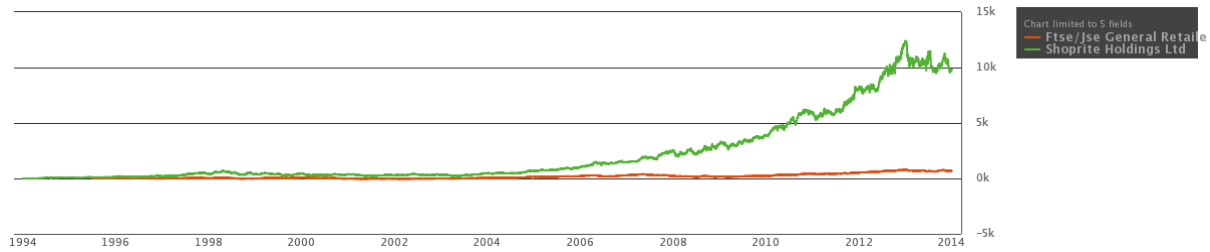


Figure 23: Shoprite Holdings Ltd and J533 (FTSE/JSE General Retailers)



Figure 24: Truworths Int Ltd and J533 (FTSE/JSE General Retailers)

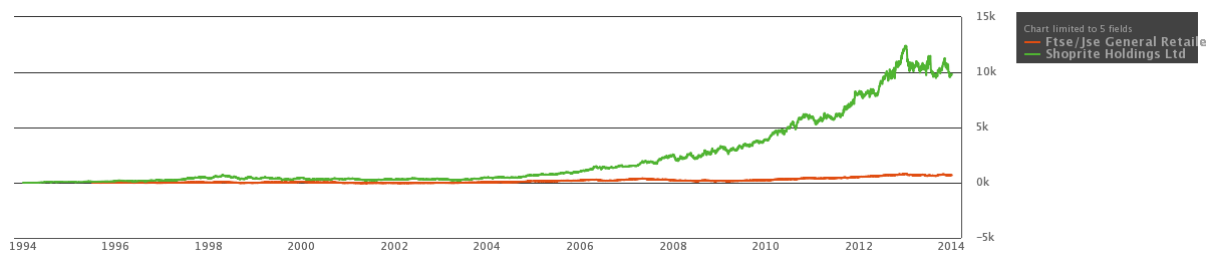


Figure 25: Shoprite Holdings Ltd and J533 (FTSE/JSE General Retailers)

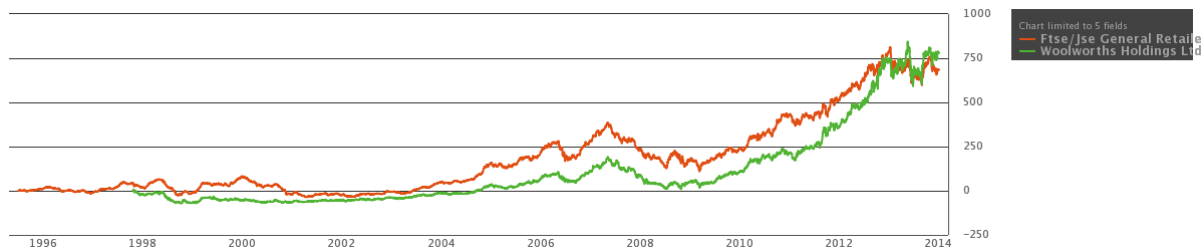


Figure 26: Woolworths Holdings Ltd and J533 (FTSE/JSE General Retailers)

#### 5.2.4. Events and trading volumes

A total of 3,184 news articles on JSE listed retail stocks for the period from 01/01/1994 to 01/01/2014 were downloaded from the Iress online database through the newsfeed function. The researcher manually screened each article, using two selection criteria. Firstly, the article had to pertain to FDI and secondly the article had to pertain to FDI made into Africa. A total of 63 events pertaining to FDI were initially identified and 11 were excluded for being into countries outside of Africa. Therefore, a total of 52 events were identified for use in the analysis. Figure 27 shows the distribution of the events over time and Table 7 below gives a breakdown of event by sample company. The sample displayed a wide range in terms of number of events attributable to a single company with a low of 1 and a high of 17. The average of 4 was clearly skewed by the lower counts as the median was 7 news announcements over the observation window.

The share price data was visually inspected to determine whether the shares were thinly or thickly traded as this affects the way the expected return will be calculated. If shares are thickly traded i.e. there are daily transactions and the price changes every day, then we can calculate a return for each day of trade. If the shares are thinly traded i.e. there are very few transactions on the share, then the return should only be calculated for the day the price changed. The researcher determined that all shares in the sample were always thickly traded with the exception of Cashbuild which was only thickly traded around the event periods. The share price data was also checked for stock splits or any other price distorting activities and found not to have any such irregularities.

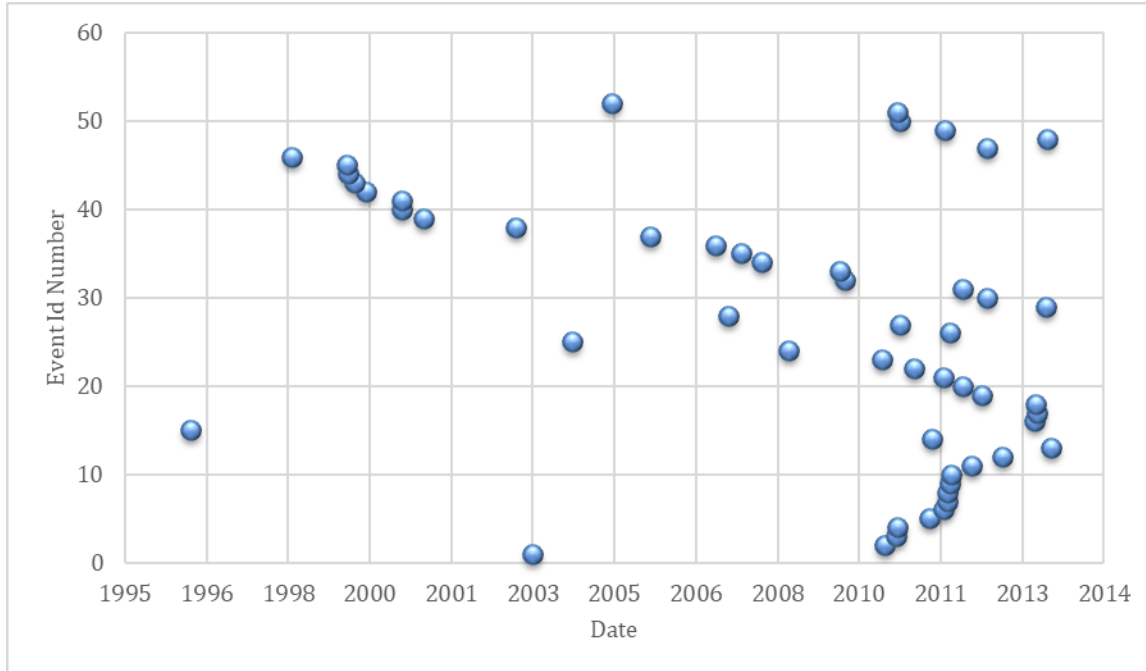


Figure 27: Distribution of events over time

Table 7: List of events by sample company

Ticker	Name	Event Count	Traded Stock Groups
1	CSB Cashbuild Ltd	1	Thickly/Th
2	CLS Clicks Group Ltd	2	Thickly
3	MSM Massmart Holdings Ltd	9	Thickly
4	MRP Mr Price Group Ltd	3	Thickly
5	PIK Pick N Pay Stores Ltd	14	Thickly
6	SHP Shoprite Holdings Ltd	18	Thickly
7	TRU Truworths Int Ltd	1	Thickly
8	WHL Woolworths Holdings Ltd	5	Thickly
	<b>Mean</b>	<b>7</b>	
	<b>Median</b>	<b>4</b>	
	<b>High</b>	<b>18</b>	
	<b>Low</b>	<b>1</b>	

Source: Data modified from Iress



### 5.3. Presentation of results

#### 5.3.1. Events and Share Prices

The first metric to be examined was the change in share price following the event. Following the guidelines set out by Bina and Vo (2007), average share prices were estimated within the 30-trade day period before event window, and within the event window.

A possible impact of events on the share price was investigated into two stages. At the first stage, average share prices were calculated within the 30-trade day before event and within the event window for each event and for each window. As shown in Chart below, the share prices were on average higher after events in comparison with the same company's share price before events

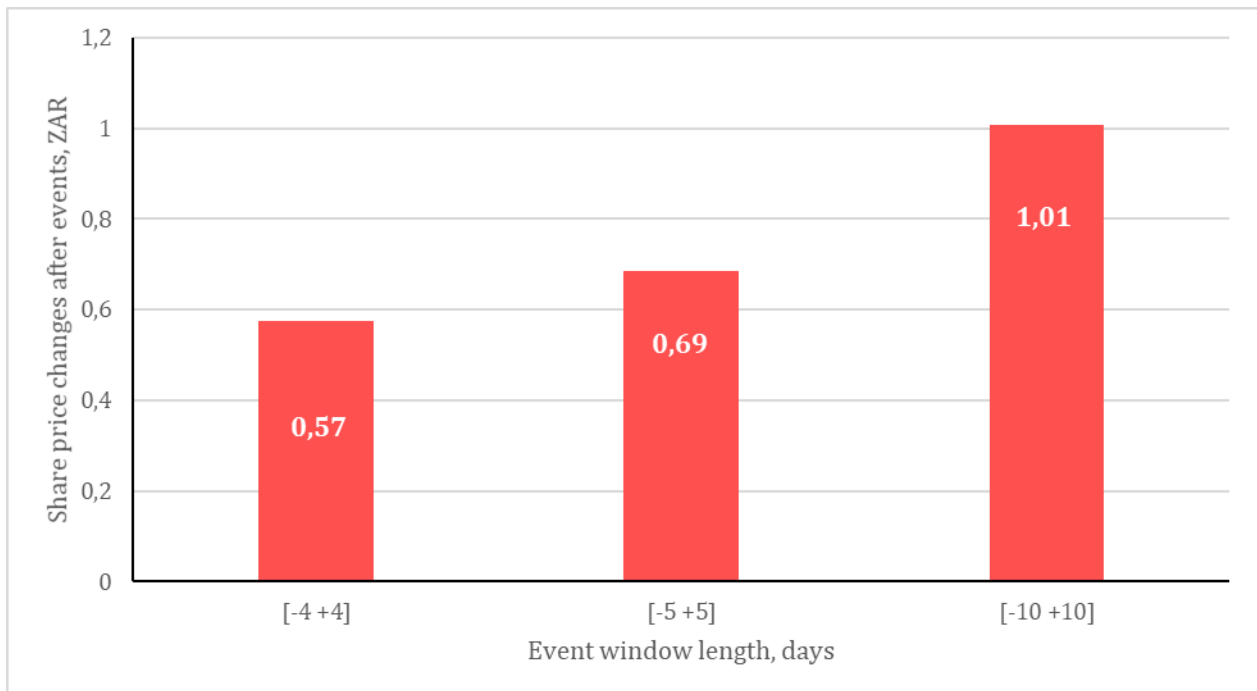


Figure 28: Average share price changes after events

As shown in Figure 29, the share prices changed after FDI announcements across firms in different ways.

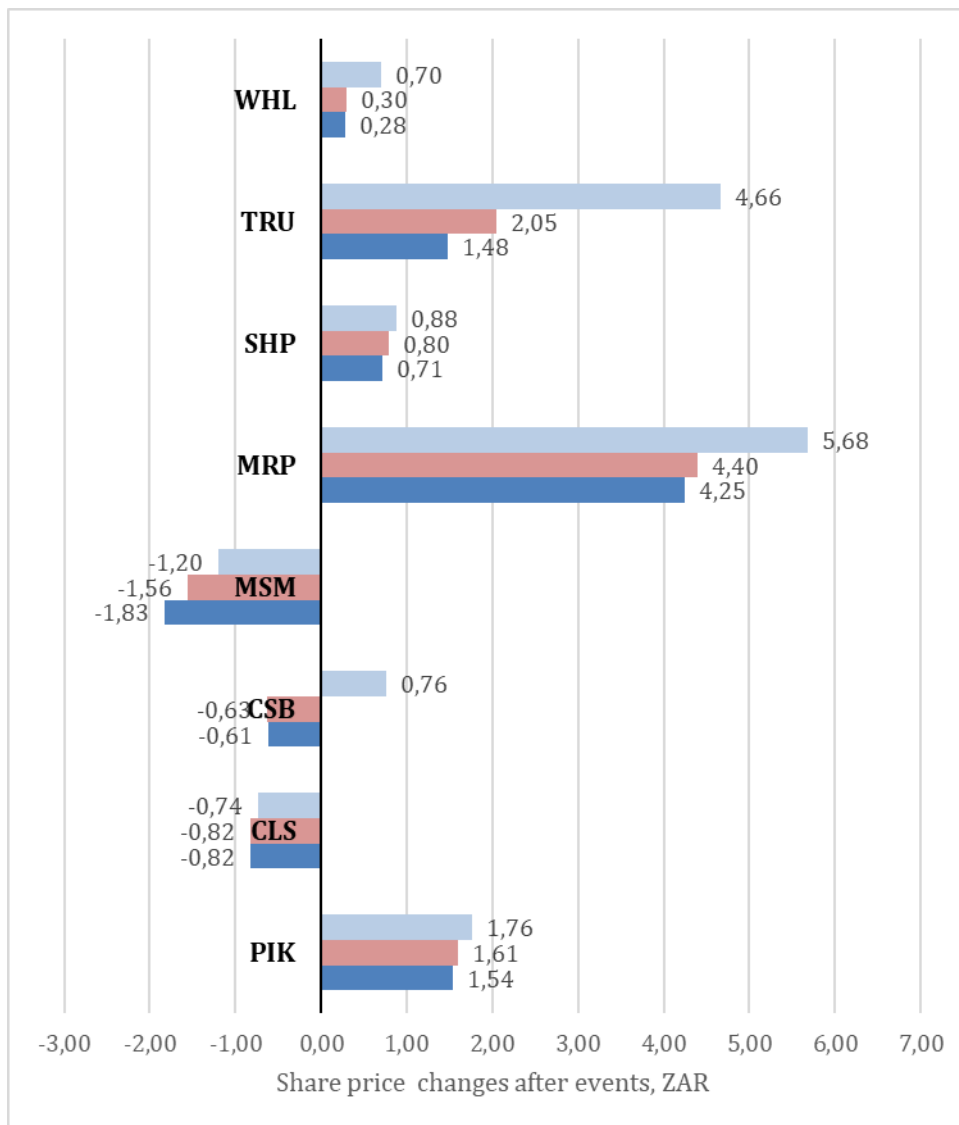


Figure 29: Average share price changes after events

The share price increased in average after events in case of MRP, SHL, TRU, WHL, and PIK, but, decreased in case of FDI announcements made by CLS, MSM, and CSB (in case of CSB, the share price increased if the event window [-10 10] was used).

Then, z-scores of skewness and kurtosis for each of the sub-samples were calculated to test assumption about data distribution as it was suggested by Kim (2013). The majority of

Z-scores of kurtosis were larger 1.96 indicating an essential departure of the data distribution from a normal distribution considering that the sample size was  $<30$  (Kim, 2013). Therefore, two-sample t-test for the mean comparison was used as well as two-sample Mann-Whitney U-test. The Mann-Whitney U-test is free from any assumptions about data distribution and is a non-parametric equivalent of t-test (Rana, Singhal, & Dua, 2016). The results are reported in Table A.1. of the Appendix.

At the second stage, the paired t-test and non-parametric Wilcoxon signed rank test were used to test whether the average price changes across the sample of 52 events is statistically significant. The results are presented in Table 6.

Table 5: Summary of share price changes investigation

	Event window length		
	[-4 +4]	[-5 +5]	[-10 +10]
N of event	52	52	52
Positive changes in share prices	21	21	25
Negative changes	16	17	17
Insignificant changes	15	14	10
Z-score of Skewness	-0.63	-0.43	-0.41
Z-score of Kurtosis	6.58	6.40	6.50
T - statistics (p-value)	0.94 (0.176)	1.11 (0.136)	1.52 (0.068)
Significance of paired Wilcoxon test	0.036	0.033	0.024

### 5.3.2. Events and Returns

Figures 30 and 31 show the average cumulative simple and log abnormal return for the three different event windows. Both charts indicate positive values of the cumulative average abnormal return for all event windows.

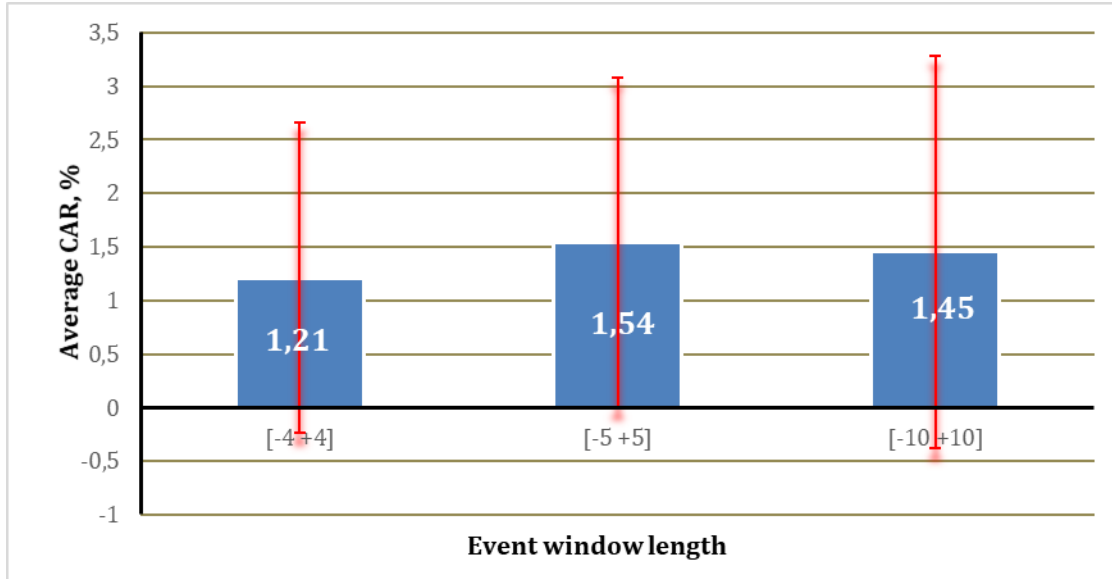


Figure 30: Average CAR (95% CI)

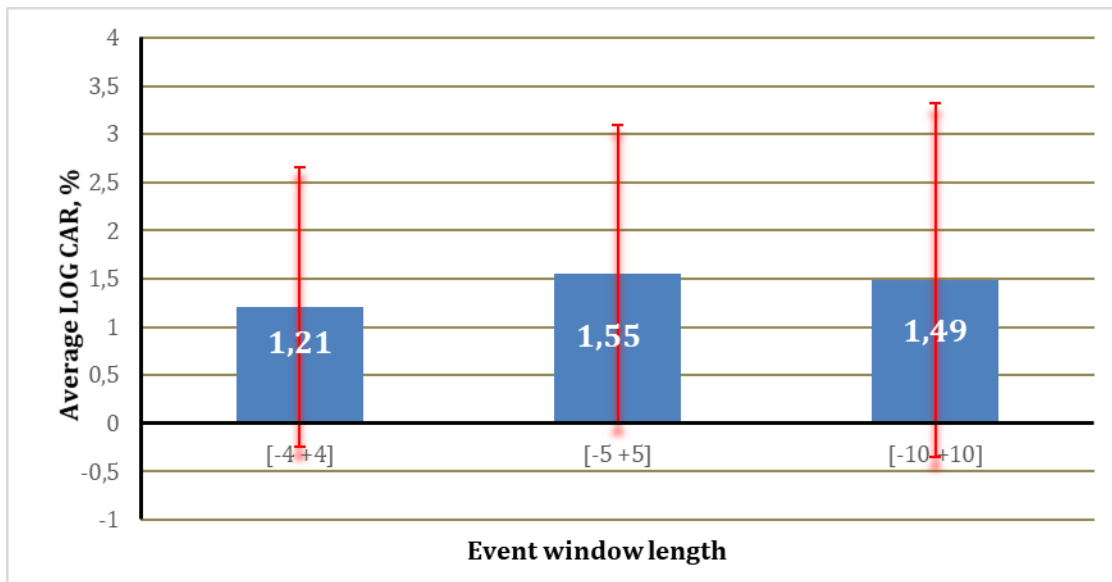


Figure 31: Average LOG CAR (95% CI)

Tables 7 and 8 below show the summary of average abnormal cumulative simple and log returns investigation for the events and sample companies. Analysis was carried out using three event window lengths: 4 days, 5 days and 10 days.

Table 6: Summary of cumulative abnormal simple returns

Simple Return Values	Event window length (days)		
	[-4,+4]	[-5,+5]	[-10,+10]
Average [95% CI]	1,21 [-0,24 2,66]	1,54 [0,00 3,08]	1,45 [-0,38 3,29]
Min CAR	-9,34	-9,57	-14,56
MAX CAR	14,88	15,69	14,32
Median	1,67	2,12	1,45
Number of events with positive AR	31	31	28
Number of events with positive CAR	21	21	24
Skewness	0,11	0,20	0,06
Kurtosis	2,89	2,54	2,57
Z-score of skewness	0,33	0,57	0,18
Z-score of Kurtosis	4,25	3,74	3,78

Table 7: Summary of cumulative abnormal log returns

Log Return Values	Event window length (days)		
	[-4,+4]	[-5,+5]	[-10,+10]
Average [95% CI]	1,21 [-0,24 2,65]	1,55 [0,01 3,09]	1,49 [-0,35 3,33]
Min CAR	-9,34	-9,62	-14,56
MAX CAR	14,77	15,59	14,23
Median	1,75	1,96	1,88
Number of events with positive AR	31	31	31
Number of events with positive CAR	21	21	21
Skewness	0,11	0,19	0,05
Kurtosis	2,86	2,55	2,56
Z-score of skewness	0,32	0,56	0,14
Z-score of Kurtosis	4,22	3,75	3,76

The range of returns over all the event periods was found to be between -14,56 and 15,59. The greatest return is attributed to event number 35 on the event list (given in Table A.1 of the Appendix), with a value of 15,69. Event number 35 occurred on 03/09/2007 and relates to Shoprite's intention to shift the focus of its Africa expansion plans to West Africa after growth in the Central and East African revenue numbers was less than expected. The event

with the least return is event number 47 on the event list (given in Table A.1 of the Appendix), with a value of -14,56. Event number 47 occurred on 17/08/2012 and relates to the announcement by Truworth's management of the groups intention to increase the number of stores in Africa (outside South Africa) to 45 by the end of December 2012. This decision was taken following a 14% increase in revenue from Africa (excluding South Africa) in the full year to end of June.

It is recommended that when using a sample of the size in the research (52) that the z-score of skewness and kurtosis is calculated to assess data distribution (Kim, 2013). The z-scores for Kurtosis were >3.29 indicating an essential deviation of the data distribution from a normal distribution (Kim, 2013).

Despite the t-test being determined to be adequately robust for cases of non-normally distributed data (Kim, 2013), a non-parametric Wilcoxon test was also run as additional check of robustness.

Table 8: Test results to check whether the average CAR differs from zero (simple return)

Simple Return Parameters	Event window length (days)		
	[-4,+4]	[-5,+5]	[-10,+10]
n	52	52	52
df	51	51	51
Average CAR	1,21	1,54	1,45
t-statistic (p-value)	1,67 (0,100)	2,01 (0,050)	1,59 (0,118)
Wilcoxon test significance	(0,049)	(0,038)	(0,087)

Table 9: Test results to check whether the average CAR differs from zero (log return)

Log Return Parameters	Event window length (day)		
	[-4,+4]	[-5,+5]	[-10,+10]
n	52	52	52
df	51	51	51
Average CAR	1,21	1,55	1,49
t-stat (p-value)	1,67 (0,100)	2,02 (0,048)	1,63 (0,110)
Wilcoxon test significance	(0,050)	(0,038)	(0,078)

### 5.3.3. Sample company average CAR

The average CAR and average log CAR for each sample company was calculated in excel using the output from R and are presented in Tables 11 and 12.

Table 10: The simple cumulative average abnormal returns across firms

Company ticker	[-4 +4]	[-5 +5]	[-10 +10]
PIK	3.63	4.62	7.98
CLS	-0.15	0.19	-6.04
CSB	4.06	4.94	5.03
MSM	-1.51	-1.43	-2.93
MRP	3.86	3.21	1.95
SHP	1.31	1.46	0.90
TRU	-8.29	-9.57	-14.56
WHL	-0.29	0.27	-0.41

Table 11: The logarithmic cumulative average abnormal returns across firms

Company Ticker	[-4 +4]	[-5 +5]	[-10 +10]
PIK	3.61	4.60	7.95
CLS	-0.05	0.32	-5.85
CSB	4.15	5.05	5.17
MSM	-1.54	-1.46	-2.94
MRP	3.90	3.26	2.02
SHP	1.32	1.49	0.98
TRU	-8.35	-9.62	-14.56
WHL	-0.30	0.25	-0.43



As shown in Figures 32 and 33 below the average CAR is varied across companies in case of both simple and logarithmic returns.

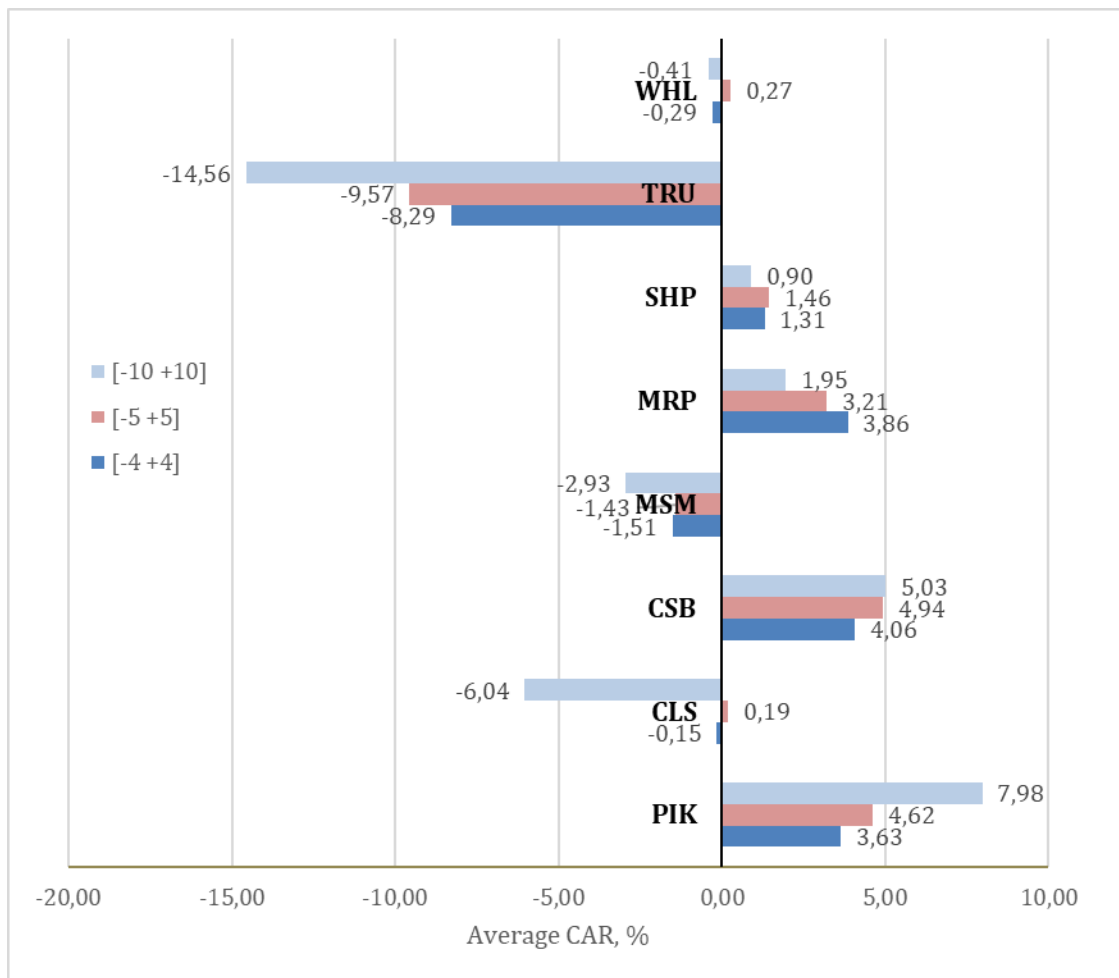


Figure 32: Average CAR by company

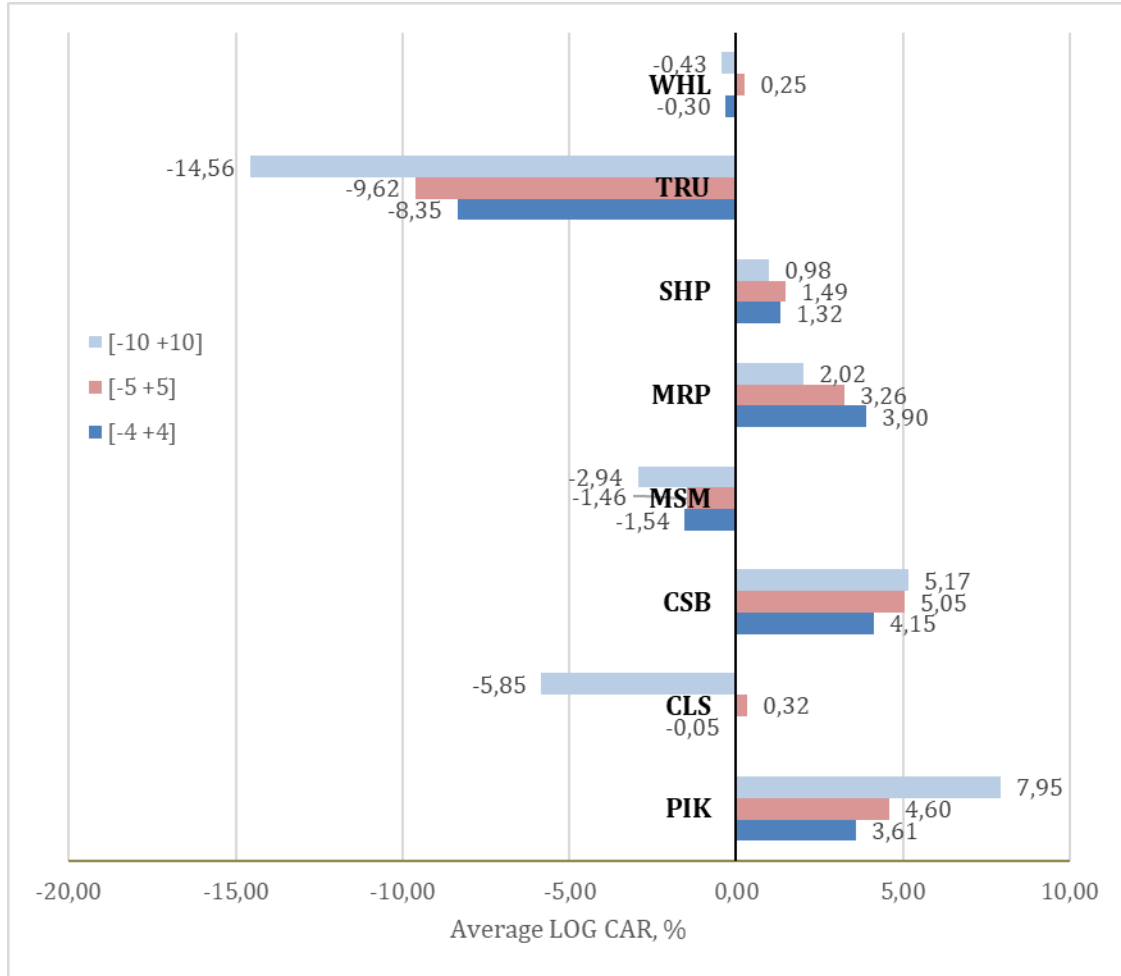


Figure 33: Average LOG CAR by company

#### 5.4. Discussion of results by research question/hypothesis

The aim of the research was to address the main research question, “Does the market perceive FDI into Africa as value creating for shareholders, as measured by the stock price?”, through the investigation of the two research sub-questions. The results with respect to each question are presented in the sub-subsequent sections.

#### 5.4.1. Sub-Research Question 1

**Research Sub-Question 1:** What are the share price reactions to announcements of FDI by South African retail companies into the African region?

H1<sub>0</sub>: The change in share prices after the FDI announcements by South African retail firms does not differ from zero.

$$H1_0 : \Delta SP(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

#### **Hypothesis 1:**

H1<sub>0</sub>: The share prices after the FDI announcements by South African retail firms are not larger than the share prices before the FDI announcements.

$$H1_0 : \Delta SP(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

H1<sub>alt</sub>: The share prices after the FDI announcements by South African retail firms are larger than the share prices before the FDI announcements.

$$H1_{alt} : \Delta SP(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

**Commentary:** There was not sufficient empirical evidence to verify null hypothesis ( $H1_0$ ) that the share prices after the FDI announcements by South African retail firms are not larger than the share prices before the FDI announcements. Thus, the alternative hypothesis ( $H1_{alt}$ ) was strongly supported for all three event window lengths as one-sided Wilcoxon test statistics had p-value 0.036 (event window length (-4 days, 4 days), 0.033 (window (-5 days, 5 days), and 0.024 (-10 days, 10 days) that is less than the threshold 0.05 which is considered as usual significance level for the majority of explanatory research (Hair, Black, Babin, & Anderson, 2010). This result shows that the share price positively reacted to announcements of FDI by South African retail companies into the African region in terms of increase in share prices.

#### 5.4.2. Sub-Research Question 2

**Research Sub-Question 2:** Can investors formulate a profit yielding investment strategy around share price reactions to FDI announcement information?

##### **Hypothesis 2:**

$H2_0$ : The cumulative abnormal return does not differ from zero in short term after FDI announcement.

$$H2_0: CAR(t_1, t_2) = 0$$

where,  $t_1 = \text{time period 1}$

$$t_2 = \text{time period 2}$$

$H2_{alt}$ : The cumulative abnormal return differs from zero in short term after FDI announcement.

$$H2_{alt}: CAR(t_1, t_2) > 0$$

where,  $t_1 = \text{time period 1}$

$t_2 = \text{time period 2}$

**Commentary:** There was no convincing evidence to accept the null hypothesis ( $H_{2_0}$ ) that the cumulative abnormal return does not differ from zero going by the comparison significance level of 0.05 and p-value obtained from model estimates. Hence the alternative hypothesis ( $H_{2_{alt}}$ ) was supported very strongly by the results of the event study analysis. The CAR was found to be positive and differs from zero at the significance level 0.05 within windows (-4 days, +4 days) and (-5 days, +5 days), supporting H2. In the case of the longer event window (-10 days, +10 days). The result of this hypothesis implies that the investors can formulate a profit yielding investment strategy around share price reactions to FDI announcement information.

Table 12: Summary results for the tests of hypotheses

Hypotheses	Event window length		
	[-4 4]	[-5 5]	[-10 10]
H1	Accepted	Accepted	Accepted
H2	Accepted	Accepted	Rejected

## 6. Discussion of the results

### 6.1. Introduction

The following chapter discusses the results in respect to the literature reviewed, research questions, and hypotheses presented previously.

The results indicated the following with respect to the main theoretical lens:

1. **Signaling Theory:** results supported the main premise of information asymmetry existing between a signaler (who has more information) and a receiver (who has less information)
2. **EMH:** results showed that the EMH loosely held, more specifically implying the JSE retail companies in the sample exhibited the weak form of the EMH
3. **Agency Theory:** results implied in general there was no form of agency dilemma

The following three key observations were made with respect to the main research question and two hypotheses tests:

1. **Main Research Question:** Results indicated that FDI by South African retail companies into Africa were value creating for shareholders as measured by the share price in the short term, over the period of study
2. **Hypothesis 1, related to signaler/management and share price:** Results indicated that on average there is a short-term growth in the share price of South African retail companies following the announcement of FDI into Africa
3. **Hypothesis 2, related to receiver/investor and possible abnormal returns:** Results indicated that it is possible to achieve positive cumulative abnormal returns by trading after the announcements of FDI into Africa by South African retail companies

With regards to each hypothesis, the following key observations were made through the analysis of the data:

#### **Hypothesis 1:**

1. The average share price change after the announcement is consistently positive
2. The marginal rate of increase of the share price decreases over time
3. The increase in share price following the announcement is not consistently observed across companies, with some companies showing a consistent increase, others a consistent decrease and a third group showing mixed results
4. Companies with a smaller market capitalisation show a consistent reduction in share price following the announcement
5. Companies retailing durable goods such as household appliances and construction materials see a consistent reduction in share price following the announcement
6. Companies retailing fast-moving consumer goods such as fashion and food exhibit a consistent increase in share price following the announcement

**Hypothesis 2:**

1. It is possible to achieve positive cumulative abnormal average returns (CAAR) by trading on the announcement of FDI into Africa
2. CAAR for different event windows were not the same
3. CAAR were greater for shorter event window lengths
4. The abnormal returns across companies are not consistently positive – the majority of companies (75%) show positive abnormal returns

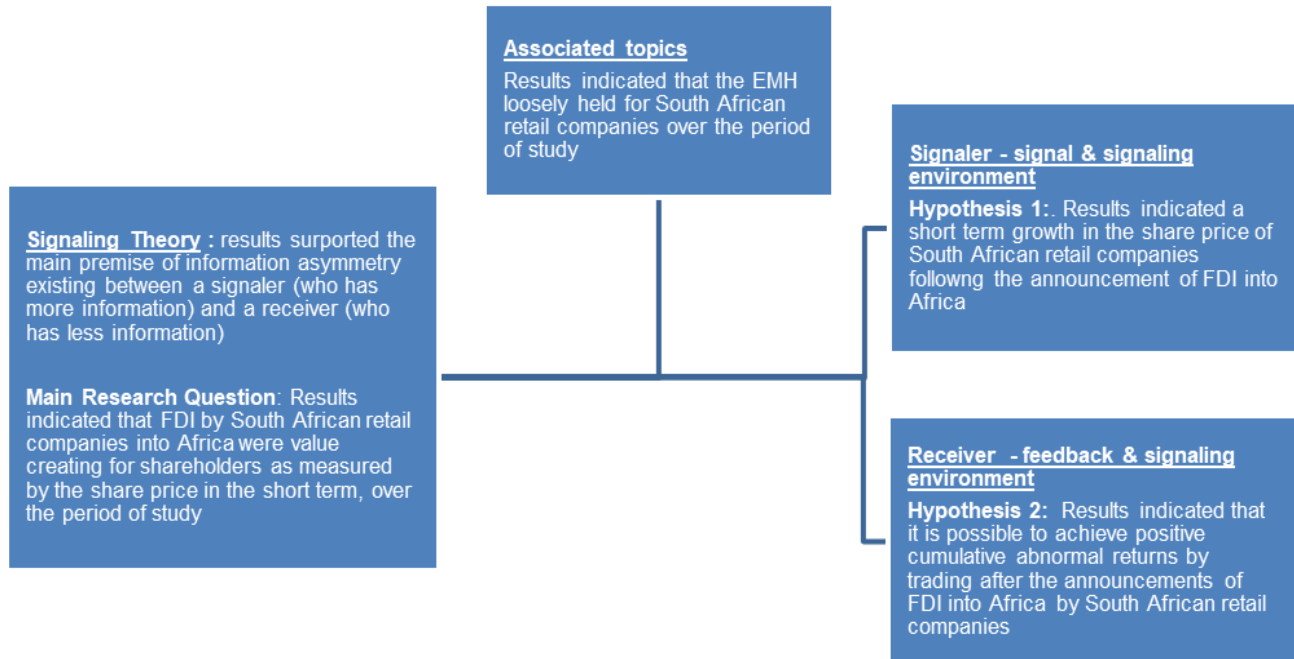


Figure 34: Theories, topics, research questions and results

The following section is devoted to a detailed discussion of the results in terms of the research sub-question, the research objective, associated literature, and mode of analysis with respect to the results presented in chapter 5. The aim of which will be twofold. Firstly, to provide a depth of insight into the findings in terms of the context of study while showing consideration of the theory base. Secondly, to highlight the research objectives and show how the research has fulfilled them adequately - concerns regarding the sample will also be discussed.

## 6.2. Main research question

The objective of the main research question was to evaluate the effect of FDI on share price as observed by a change in the share price, which was tested using the hypotheses of the two research sub-questions. The primary theoretical lens of investigation was signaling theory, supplemented by the EMH and agency theory. The following key observations were made with regards to these theories:



**Signaling theory:** In terms of signaling theory and the main research question, a positive response by the share price i.e. a share price appreciation to the news announcement of FDI was expected. For the most part, the findings support the main premise that information asymmetry exists between a signaler and a receiver. Moreover, the results of the research show that there has been a reduction in the level of information asymmetry through the announcement.

**EMH:** The findings imply that the JSE exhibits a weak form of the EMH because information regarding FDI does for the most part seem to be incorporated into the share price

**Agency theory:** The findings were in line with expectation and did not imply that there was any adverse selection or moral hazard as defined by Yan, Yu and Zhao (2015). This is because for the most part the share prices increased following the announcement

The main research question was investigated through the two research sub-questions and their associated sub-questions.

### 6.3. Research sub-question 1

The objective of research sub-question 1 was to ascertain whether the share price of South Africa retail firms positively reacted to announcements of FDI. The research objective was achieved through the testing of hypothesis 1. The result of which showed that the average share price positively reacted to announcements of FDI by South African retail companies into the African region.

There was insufficient empirical evidence to verify null hypothesis ( $H1_0$ ) that the share prices after the FDI announcements by South African retail firms are not larger than the share prices before the FDI announcements. Furthermore, the results strongly supported the alternative hypothesis ( $H1_{alt}$ ) for all three event window lengths as a one-sided Wilcoxon test statistic had following p-values, all of which all are below the usual stipulated threshold of 0,05 (Hair, et al., 2010):

- 0,036 (event window length (-4 days, 4 days)
- 0,033 (event window (-5 days, 5 days)
- 0,024 (-10 days, 10 days)

The analysis further found that that cumulative abnormal return is not differ from zero in the case of the long 21-day event window (-10, +10) days.

### **6.3.1. Theory base**

Hypothesis 1 is directly related to the signaler, which in this case is the management of the JSE-listed retail company. The results have shown the following with respect to signaling theory, the EMH and agency theory:

Signaling theory: It was expected that the FDI announcement would bring about an increase in the share price. This is because the FDI announcement is relaying information from the signaler to the receiver in order to reduce the level of information asymmetry. The results imply that for the most part, the signaler is able to positively influence the share price of their company through the announcement of FDI activity into the Africa region. The results of the analysis with respect to research sub-question 1 showed that 60% of the sample companies had a higher share following the announcement than they did prior.

EMH: The results of the given research are in accordance with the proposition as information regarding FDI does for the most part seem to be incorporated into the share price with the marginal change in the share price increase decreasing over time as shown in Figure 35.

Agency theory: The results imply that on average there is either no form of agency dilemma between the management of the company and the investors they represent as on average the actions taken have resulted in an increase in the share price.

### **6.3.2. Previous research**

These findings compare to existing research in the following ways. First in relation to market efficiency, on the JSE, research suggests that it is to be weak-form efficient and compliant with the EMH (Vincent, 2018).

On the contrary the cumulative abnormal return findings did not support the results found in previous research done by Lee, Piesse and Strange (2011) on Korean companies. Their work found a significant 21-day cumulative abnormal return of 1.1% after FDI

announcements for Korean companies following announcements of FDI which announced foreign share acquisitions (Lee et al., 2011). It can indicate possible difference between South African and Korean stock market regarding long-term reaction on FDI announcements, possibly implying that investing in Asia is more value creating than Africa.

### 6.3.3. Observations

The objective of research sub-question 1 was met through the analysis of the change in share price following the event. In order to determine this, the average share price before the event was compared with the average share price after the event.

The following six observations were made with respect to Hypothesis 1:

1. The average share price change after the announcement is consistently positive

The research found that the average share prices were higher after the event than before the event. Furthermore, the average increase in share price, measured in absolute South African Rand (ZAR) terms, increased as the event window length increased. The average increase in share price for the:

- (-4, +4) day event window was ZAR0,57
- (-5, +5) day event window was ZAR0,69
- (-10, +10) day event window was ZAR1.01

The significance of the increase in the absolute share price after the event as the event window increases is significant and could possibly be attributed to the counter signal by some investors resulting in a bandwagon effect which increases the demand for the stock and therefore increases. This is probably attributed to those within the investment community understanding that the investment is potentially lucrative and wanting to participate.

2. The marginal rate of increase of the share price decreases over time

The increase between the three event windows is also worth noting as the marginal increase diminishes over time. This could be explained through the EMH because over

time the market's lack of knowledge diminishes over time. Investors eventually understand the country, context, and rational, thus reducing information asymmetry. This is illustrative of a weak form of the EMH. This supports the previous findings with respect the EMH in South Africa as outlined in the literature review.

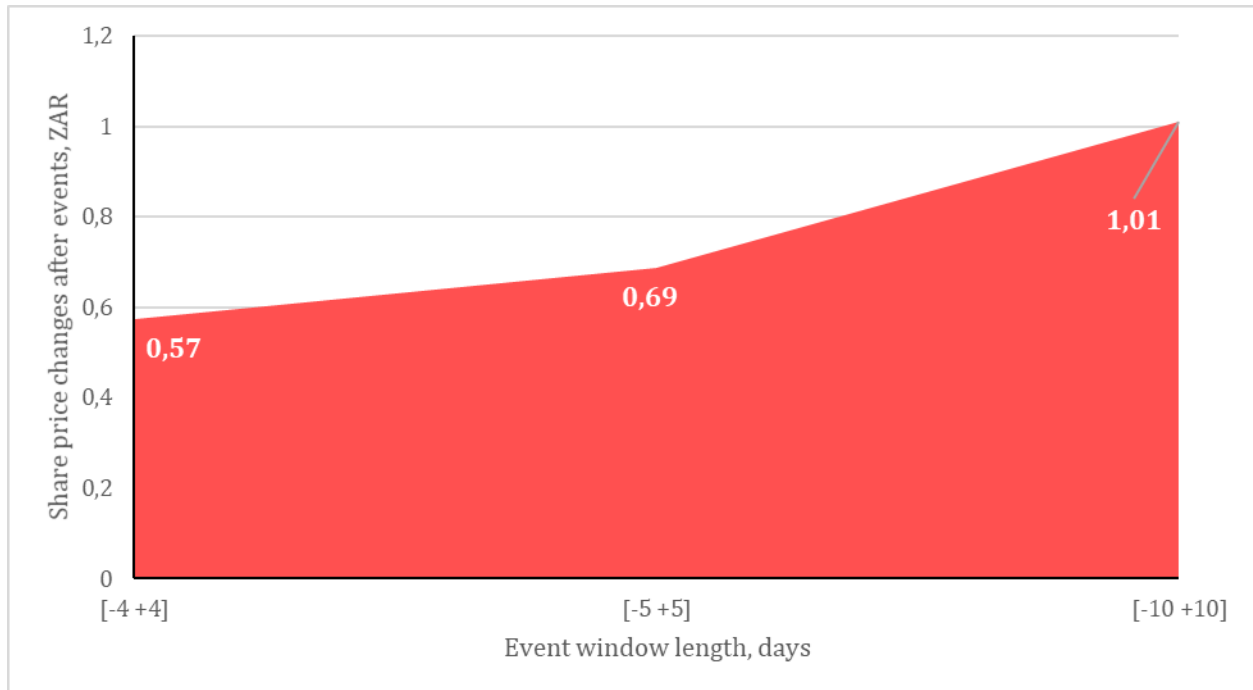


Figure 35: Average change in share price

3. The increase in share price following the announcement is not consistently observed across companies, with some companies showing a consistent increase, others a consistent decrease and a third group showing mixed results

The average change in share price by company showed that the share price changed after FDI announcements across firms in difference ways with 62,5% of the sample showing an increase in average share price after the event, 25% showing a decrease and 12,5% showing mixed results depending on the event window length. This means that international expansion does not always result in a positive impact upon share price

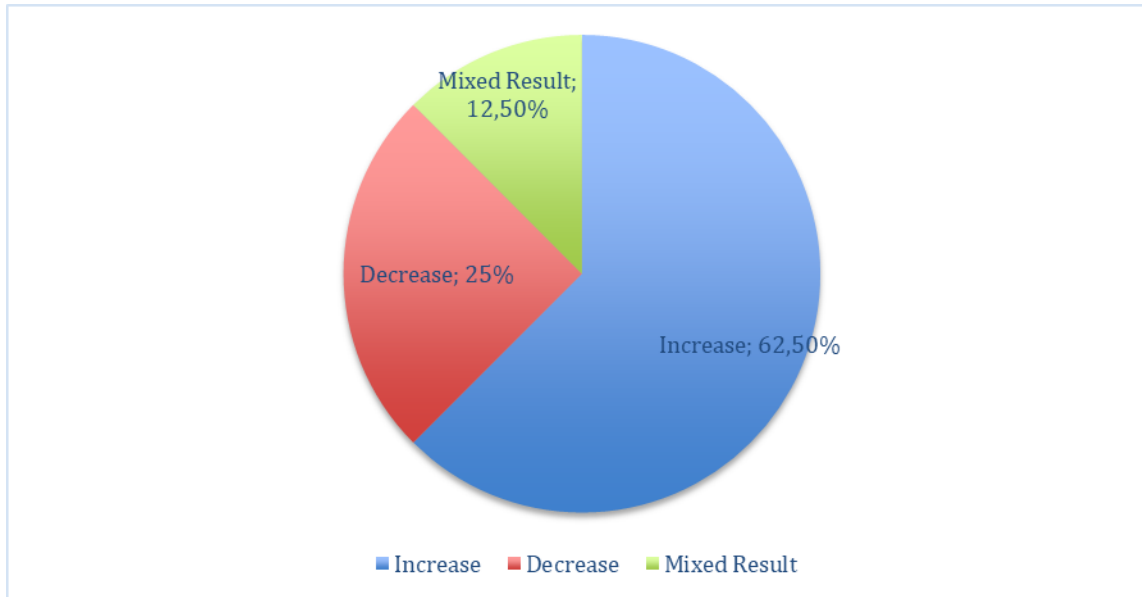


Figure 36: Average share price changes by company

The trend in share price reaction following the event seemed to align broadly with the retail focus and the size (as measured by market capitalisation) of company.

4. Companies with a smaller market capitalisation show a consistent reduction in share price following the announcement

It was observed that the two smallest companies by market capitalisation (Massmart and Cashbuild) showed a decrease in share price following the announcement of FDI into the African region. Therefore, the market does not perceive that the business expansion, by these companies, beyond the South African border will be value creating for shareholders and the share price decreases as a result.

This could be attributable to several reasons. First as a small company, they may not have much of an advantage in market knowledge. In fact, the market, may have more knowledge and could have insight the smaller company does not.

Second, a smaller company is likely to have less skills and resources compared to a larger company.

Third, an explanation could be that because the larger companies operate in a highly saturated domestic fast-moving consumer goods market within South Africa, the

announcement to expand horizontally into a completely new geography is seen as a positive initiative by the firm. Whereas, the smaller companies operate in less competitive, durable goods market within South Africa. The market response could possibly be attributable to the market perceiving the engagement in FDI as too risky, as FDI is the riskiest form of international business expansion (Conconi et al., 2016).

Lastly, possible reason for between-firm differences in share price changes after FDI announcements could be that the market reactions are essentially different for companies with various organizational structures, as it was shown by Lee, Piesse, and Strange (2010).

As a result, there could also be the perception that these companies would do better to leverage opportunities locally before expanding abroad. These findings are contradictory to the size anomaly phenomenon which proposes that it is companies with smaller market capitalisations that should achieve a greater level risk-adjusted return in response to an announcement of business expansion (Ferreira et al., 2019).

5. Companies retailing durable goods such as household appliances and construction materials see a consistent reduction in share prices

The companies within the 25% that saw a decrease in the share price were all in the retail of building materials, consumer goods and general merchandise. This is in line with the expectations of the research with respect to the literature reviewed in Chapter 2 because fast moving consumer goods are desirable. Perhaps the market potential for more durable goods in these areas are less attractive and riskier.

6. Companies retailing fast-moving consumer goods such as fashion and food exhibit a consistent increase in share price following the announcement

All companies within the 62,5% showed an increase in share price following the announcement were classified as being in the sub-categories of food retailer, fashion retailer or food and fashion retailer. These can be broadly grouped together as fast-moving consumer goods, concerned with the daily consumption patterns of the individual and fulfil short-term needs of the consumer.

Furthermore, the purchase of these items does not necessarily require access to capital and are also accessible to the very large bottom of the pyramid consumer base that exists in the most part of African countries outside South Africa.

#### **6.3.4. Research methodology with respect to the results**

The chosen methodological approach was selected as the optimal manner in which to measure the change in share price and followed the guidelines set out by Bina and Vo (2007). The methodological choice was made upon the review and of a number of recent statistical methodology frameworks and was determined to be the most appropriate way to evaluate the effect of an announcement on the share price (Rana et al., 2016). The paired Wilcoxon test which is free from any assumptions about data distribution (Hair et al., 2010) and is non-parametric equivalents of t-test (Rana et al., 2016) was used to test significance of the changes in share price before and after FDI announcements.

#### **6.4. Research sub-question 2**

With respect to sub-question 2, the results illustrated that it is possible for investors to formulate a profit yielding investment strategy around share price reactions to FDI announcement information.

##### **6.4.1. Theory base**

Research sub-question 2 relates specifically to the receiver and the possibility of achieving abnormal returns following the announcement of FDI. The theoretical base draws on signaling theory with specific emphasis on the constructs of feedback or counter signal, the bandwagon effect and reliability of signals.

##### **6.4.2. Previous research**

Gokgoz and Sevindik (2018) investigated cross-border M&A announcements using the event windows (-2, +2), (-1, +1), and (0, +1) days. The research found a negative CAAR in the case of Brazil and Russia, and positive CAAR in the case of China, India, South Africa, and Turkey (Gokgoz & Sevindik, 2018). These results are in line with the findings of the current study because a positive CAAR was found in case of FDI announcements for South African firms.

Other researchers also found that CAAR related to FDI announcements significantly differ from zero in the short term, with insignificant results in the long term. Baran and Saikevičius (2015) investigating FDI announcements in European countries used three event windows of (-30, +30), (-5, +5) and (0, +1) days. They found a positive CAAR for event window (0, +1) days with the CAAR for the longer event window found to differ insignificantly from zero (Baran & Saikevičius, 2015). Jain, Rani and Yadav (2015) also found non-zero positive CAARs for the event windows of (-3, +3), (-5, +5) and (-11, +11) and zero CAAR value for event window (-10, +10) days. The study specifically encourages the management of Indian companies to engage in FDI in order to increase their level of competitiveness (Jain et al., 2015)

### 6.4.3. Observations

The 4 following observations were made with respect to Hypothesis 2:

1. It is possible to achieve positive cumulative abnormal average returns (CAAR) by trading on the announcement of FDI into Africa
2. CAAR for different event windows were not the same
3. CAAR were greater for shorter event window lengths
4. The abnormal returns across companies are not consistently positive

The results of the event study showed no significant evidence for accepting the null hypothesis ( $H_{2_0}$ ) that the cumulative abnormal return does not differ from zero going by the comparison significance level of 0.05 and p-value obtained from model estimates. Thus, the results of the event study supported the alternative hypothesis ( $H_{2_{alt}}$ ) very strongly. The CAR was found to be positive and differs from zero at the significance level 0.05 within windows (-4 days, +4 days) and (-5 days, +5 days), supporting  $H_{2_{alt}}$ . In the case of the longer event window (-10 days, +10 days). The result of this hypothesis implies that the investors can formulate a profit yielding investment strategy around share price reactions to FDI announcement information.

Although the sample of 52 FDI announcements the average CAR was found to be significant and positive, announcements made by Massmart and Truworths result in a negative CAR supporting the notion that the market reaction to FDI announcements can be



different for firms with different business focus and size and structure. majority of companies (75%) showed positive abnormal returns.

#### **6.4.4. Research methodology with respect to the results**

The research objectives of research sub-question 2 were met through the analysis of the share price data using an event study methodology. As research sub-question 2 examined the effect of the event on the possible returns, an event study is the most appropriate statistical tool to determine the cumulative average abnormal returns (CAAR) attributable an event. An event study method was employed as the research question sought to investigate the effect on share price returns following the signal. The first event and estimation window lengths were determined based on the recommendations of the previous studies. A one-factor market model was employed to determine the equations for “normal return” of the shares for each of the sample companies. Based on the chosen equation, normal return was calculated within the event window for each event. The abnormal return was then determined using the calculated estimate of what the normal return should have been and the actual return. Further abnormal return was estimated as the difference between the actual return and normal return for each day within the event window. The cumulative return was estimated as the sum of abnormal returns across all days within the event window for all event. Finally, one sample Wilcoxon test was used to estimate whether the average cumulative return for sample of 53 events is statistically significantly differ from zero.

## 7. Conclusion

The following chapter concludes the research report by summarizing the principal findings of the research, outlining the implications for management and other relevant stakeholders based directly on the findings, highlighting the limitation of the research and giving guidance for future research.

### 7.1. Principal findings

The research presented had two objectives. First, to investigate whether announcements of FDI activity or intent by South African JSE-listed retail firms influence the share price. Second, to determine whether profitable technical trading strategy around potential price movements can be developed. The research objectives were successfully met through the examination of the effect announcements of foreign investment and intention of foreign investment had on these entities over a period of 20 years, from 1994 to 2014.

The results indicated that market reaction to FDI announcements was various across firms. The share price on average increased for all event window for Mr Price, Pick'n'Pay, Shoprite, Truworths and Woolworths. At the same time, the share price increased after FDI announcements made by Cashbuild only in case of the (-10, +10) day event window and decreased if shorter event windows were used. Interestingly, the share price decreased over all three event window lengths following FDI announcements made by Clicks and Massmart. It was noted that all the companies where an increase in share price was observed were in the fast-moving consumer goods sector, primarily focussed on the sale of either food or fashion. The companies showing a decrease in share price following the announcements focus on the sale of more durable goods such as construction materials and household appliances. The research presented gives evidence that the market usually responds positively to the FDI announcements made by South African retail firms. The one-factor market model was used in order to predict the expected future stock return. The study indicates that the shareholders of South African retail firms, which announced of FDI, received a significant positive AR on the announcement day as well as positive CARs over the short multi-days event windows of (-4, +4) and (-5 +5) days around the FDI announcements. The results produced also showed that the CAAR did not differ from zero

in case of longer event window of (10 +10) days, indicating that there is a substantial correction in the market prices after the announcement day. However, despite that for a sample of 52 FDI announcements the average CAR was found to be significant and positive, announcements made by Massmart and Truworths result in a negative CAR supporting the notion that the market reaction to FDI announcements can be different for firms with different business focus and size and structure (Lee et al., 2011).

In conclusion, the research conducted has determined that internationalisation efforts made by South African retail companies through foreign direct investment activities were for the most part viewed as favourable by the market.

## **7.2. Implications for management and other relevant stakeholders**

### **7.2.1. Implications for South African retail firms**

The South African retail industry is a highly sophisticated, competitive sector (South Africa Consumer & Retail Report, 2019) with participants who are adept and well-suited to international expansion. The finding of the research provide insight into the key traits of companies within the sector that are well suited for FDI into the rest of Africa. More specially the research shows that larger companies with a food and/or fashion retailing focus are the most likely to see a positive impact on their share price and returns following the announcement of FDI into Africa. Conversely, smaller companies that retail more durable items such as building supplies and homeware showed a negative impact on the share price and returns following the announcement. There effect was mixed for companies in the pharmaceutical retailing space.

The findings with regards to size of company are contradictory to what was expected as the general consensus within literature is that companies with a smaller market capitalisation should show higher returns after making the announcement to expand operations (Ferreira et al., 2019).

#### **7.2.1.1. Recommendations for corporate and government leadership**

The results of the study have significance for South African retail companies' management in that the findings can be used to guide strategic corporate decisions. More specifically, companies with larger market capitalisation retailing fashion and food products should consider business expansion in the rest of Africa as a means of increasing share price. On

the other hand, management of smaller companies in the business of selling more durable goods such as building supplied, appliances and household items should scrutinize the pros and cons of conducting FDI in another African country more closely before deciding. This is because smaller companies that do not operate in the fast-moving consumer goods sector (fashion and food) did not show consist increases in share price following the FDI announcement.

Since 1994, the government has made a concerted effort to encourage expansion, especially into other African markets (Draper, 2017; Ring & Ederlöv, 2017). Also, many African governments are eager to attract South Africa firm's due to the country's more sophisticated goods and services (White & Van Dongen, 2017). The findings of the research give insight into the factors associated with FDI that has a positive impact on shareholder wealth. The research gives government trade emissaries a better understanding, thereby enabling them to more competently assist South African companies wishing to engage in FDI into the rest of Africa.

### **7.2.2. Implications for the investment community**

The investment community stands to gain from the findings of this research because the findings can be used to guide technical trading strategies.

#### **7.2.2.1. Recommendations for the investment community**

The results of the research showed that it is possible to achieve abnormal returns on JSE-listed retail companies following the announcement of FDI into the rest of Africa. The results of the study have the following practical implications for the investment community:

An investor can also receive positive returns if the shares of the FDI announced company are purchased five days prior to the announcement day and sold five days after the announcement day. The investor cannot receive additional positive return if the shares purchased ten days before the FDI announcement day and sold after 10 days after the announcement day.

The analysis conducted has shown that there is an appreciation in the share price following an announcement of FDI. The statistical evidence also implies that it is possible for

investors to formulate profitable trading strategies around the trade on the information. That being said, the absolute possible returns a trader might earn as a consequence of the announcement invariably depend on the timing of the event.

### **7.3. Limitations of the research**

The anticipated limitations of the research that were identified prior to the commencement of the research are outlined in chapter 4. There are two main limitations that were identified encountered during the data gathering and analysis process.

#### **7.3.1. Time period**

The current research used events within the time diapason from 1990<sup>th</sup> to 2010<sup>th</sup>. The political and economic factors faced during this period could be different from others. For example, this period is characterised by rapidly penetration of internet and internet-based technologies in all areas including stock markets. It can be assumed that the speed of information distribution was different in XX and XXI centuries.

With the increased uptake of internet technologies, information dissemination is more efficient i.e. there is less of a time delay between dissemination and receipt of information. Therefore, investors receive any information with shorter time delay from the announcements in comparison with the 90<sup>th</sup> of the XX century. It would be possible to postulate that the information influence of the events is not the same for periods before and after the implementation of internet-based technology in the stock market. The given aspect was not considered in the given study.

#### **7.3.2. Equal attribution of influence:**

The current study assumes that all events has the same influence on the market reaction. It could be suggested that announcements of FDI in the different African regions (North Africa or Western Africa or other) could have different effect on the stock market. Research conducted by López-Duarte and García-Canal (2007) found that the target location of the announced future FDI had a notable impact on the stock market reaction. As the research focused solely on FDI into the rest of Africa and regional choice were not considered, by implication aspects of the events were not considered. This is can be considered to be a limitation of the current study.

#### **7.4. Suggestions for future research**

An interesting extension of the research conducted in this study would be to repeat the analysis on for other industry sectors on the Johannesburg Stock Exchange. This can help determine what other sectors are apt for international expansion. ascertain the relative difference that an announcement of FDI activity or intent has on the share price.

Another recommended extension of the current research would be the analysis of economic growth in relation to outward FDI activity. The importance of economic growth as a result of outward FDI is a topic of much academic research (Semančíková, 2016). This can help determine how much support governments should provide.

Also, future studies can used larger sample of events in order to produce more precise results. A separate study is needed to investigate possible effect of internet-based technology implementation on market reaction on FDI announcement. One with direction for future research is an examination whether the announcements of FDI in the different African regions (North Africa or Western Africa or other) have different effect on the stock market.

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## 9. Appendices

### Appendix A: Cumulative abnormal return for FDI announcements

Table A.1

*Simple return*

Event ID	Firm ID	Event Date	Event window length		
			[-4 +4]	[-5 +5]	[-10 +10]
1	PIK	6/23/2003	-0.9108	0.5270	2.7307
2	PIK	7/23/2010	1.8387	2.8648	3.2569
3	PIK	10/21/2010	6.2300	5.5958	8.2519
4	PIK	11/2/2010	9.5453	11.8983	13.8999
5	PIK	6/24/2011	0.4013	1.7188	5.3110
6	PIK	9/30/2011	-0.5331	-1.3342	1.6788
7	PIK	10/31/2011	1.3153	4.1084	12.7141
8	PIK	10/31/2011	1.3153	4.1084	12.7141
9	PIK	11/24/2011	2.0906	5.4097	14.3241
10	PIK	12/2/2011	10.0026	9.6573	9.1532
11	PIK	4/24/2012	9.2848	7.6679	9.8248
12	PIK	12/7/2012	8.8627	9.5350	9.9886
13	PIK	12/2/2013	-2.1981	-1.6335	-0.1617
14	CLS	7/13/2011	-9.3381	-8.8816	-9.0132
15	CLS	8/2/1996	9.0431	9.2579	-3.0595
16	CSB	8/7/2013	4.0634	4.9382	5.0261
17	MSM	8/23/2013	2.9941	5.7392	-3.0969
18	MSM	8/13/2013	-6.4647	-5.5299	-1.6224
19	MSM	7/11/2012	-0.8677	-1.2780	-5.1940
20	MSM	2/23/2012	-3.9885	-4.8788	-8.2854
21	MSM	9/29/2011	-3.3607	-3.1137	-4.9896

22	MSM	2/25/2011	-2.2812	-3.9546	-4.5269
23	MSM	7/13/2010	-1.2066	-3.8744	-3.8970
24	MSM	8/22/2008	4.3672	7.5635	2.9266
25	MSM	4/15/2004	-2.7397	-3.5683	2.3036
26	MRP	11/16/2011	3.6910	3.7764	4.7736
27	MRP	11/19/2010	3.7015	2.7519	-2.6069
28	MRP	6/1/2007	4.1857	3.0956	3.6771
29	SHP	10/28/2013	6.7173	8.2982	10.4958
30	SHP	8/22/2012	-1.0647	2.6392	-3.5502
31	SHP	2/22/2012	1.7786	-1.5111	-0.1460
32	SHP	10/7/2009	1.5714	-1.1691	-1.3628
33	SHP	8/31/2009	-1.3804	2.1608	-4.6086
34	SHP	2/3/2008	-0.7281	-2.1062	-1.4822
35	SHP	9/3/2007	14.8842	15.6913	11.3424
36	SHP	3/5/2007	0.8300	0.1325	1.9957
37	SHP	11/3/2005	2.4050	6.6748	6.1239
38	SHP	2/19/2003	-4.5355	-5.3281	-6.9684
39	SHP	4/11/2001	-4.9361	-2.2417	-3.6557
40	SHP	11/3/2000	5.8893	7.1608	1.2274
41	SHP	11/1/2000	3.1262	3.0841	3.6516
42	SHP	2/11/2000	-8.6467	-5.0183	-1.3802
43	SHP	11/25/1999	3.2163	2.5957	4.8311
44	SHP	10/8/1999	4.0706	2.0834	8.9352
45	SHP	9/23/1999	-2.7794	-3.9264	0.8619
46	SHP	8/19/1998	3.1265	-2.9739	-10.1686
47	TRU	8/17/2012	-8.2908	-9.5733	-14.5609
48	WHL	11/6/2013	2.0446	1.1822	3.2077
49	WHL	10/13/2011	-7.0703	-6.2567	-5.2808
50	WHL	11/19/2010	-5.6794	-4.9687	-2.1533
51	WHL	10/27/2010	1.9329	2.5163	2.2122

52 WHL 2/1/2005 7.3208 8.8649 -0.0564

Table A.2

*Logarithmic return*

Event_ID	Firm_ID	Event_Date	Event window length		
			[-4 +4]	[-5 +5]	[-10 +10]
1	PIK	6/23/2003	-1.0301	0.3833	2.4018
2	PIK	7/23/2010	1.8471	2.8609	3.2250
3	PIK	10/21/2010	6.2224	5.5834	8.2119
4	PIK	11/2/2010	9.5056	11.8548	13.8667
5	PIK	6/24/2011	0.5055	1.8361	5.5298
6	PIK	9/30/2011	-0.5537	-1.3250	1.7404
7	PIK	10/31/2011	1.2858	4.0574	12.6304
8	PIK	10/31/2011	1.2858	4.0574	12.6304
9	PIK	11/24/2011	2.0287	5.3270	14.2346
10	PIK	12/2/2011	9.9262	9.5934	9.0229
11	PIK	4/24/2012	9.1867	7.5731	9.7124
12	PIK	12/7/2012	8.8073	9.4890	9.9979
13	PIK	12/2/2013	-2.0515	-1.4530	0.1213
14	CLS	7/13/2011	-9.3430	-8.8706	-8.9163
15	CLS	8/2/1996	9.2380	9.5181	-2.7737
16	CSB	8/7/2013	4.1464	5.0513	5.1728
17	MSM	8/23/2013	2.8009	5.5262	-3.3935
18	MSM	8/13/2013	-6.5616	-5.6207	-1.9368
19	MSM	7/11/2012	-0.8720	-1.2758	-5.1490
20	MSM	2/23/2012	-4.0017	-4.8867	-8.2807
21	MSM	9/29/2011	-3.4427	-3.1449	-4.9210
22	MSM	2/25/2011	-2.2926	-3.9596	-4.5831
23	MSM	7/13/2010	-1.1398	-3.8031	-3.8509

24	MSM	8/22/2008	4.3523	7.5327	3.2956
25	MSM	4/15/2004	-2.7194	-3.5436	2.3228
26	MRP	11/16/2011	3.7106	3.8043	4.8733
27	MRP	11/19/2010	3.7218	2.7766	-2.6167
28	MRP	6/1/2007	4.2527	3.1889	3.8162
29	SHP	10/28/2013	6.7338	8.3160	10.5538
30	SHP	8/22/2012	-1.1472	2.5094	-3.6318
31	SHP	2/22/2012	1.8574	-1.3603	0.0329
32	SHP	10/7/2009	1.6581	-1.0745	-1.2807
33	SHP	8/31/2009	-1.4274	2.0764	-4.5656
34	SHP	2/3/2008	-0.7552	-2.0622	-1.3019
35	SHP	9/3/2007	14.7693	15.5880	11.2882
36	SHP	3/5/2007	0.8643	0.1685	2.0559
37	SHP	11/3/2005	2.2305	6.4936	5.8556
38	SHP	2/19/2003	-4.7407	-5.5001	-7.0380
39	SHP	4/11/2001	-4.8628	-2.1233	-3.6382
40	SHP	11/3/2000	5.9480	7.2809	1.1916
41	SHP	11/1/2000	3.2007	3.1647	3.8425
42	SHP	2/11/2000	-8.4217	-4.6646	-1.4260
43	SHP	11/25/1999	2.3489	1.7007	3.8425
44	SHP	10/8/1999	4.7434	2.8466	10.2186
45	SHP	9/23/1999	-2.3139	-3.3320	2.0153
46	SHP	8/19/1998	3.0966	-3.2082	-10.3062
47	TRU	8/17/2012	-8.3525	-9.6166	-14.5617
48	WHL	11/6/2013	1.9601	1.0853	3.1012
49	WHL	10/13/2011	-7.0584	-6.2568	-5.2360
50	WHL	11/19/2010	-5.6989	-4.9941	-2.2447
51	WHL	10/27/2010	1.9110	2.4901	2.1906
52	WHL	2/1/2005	7.3707	8.9133	0.0544

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## Appendix B Ethical Clearance Letter

# Gordon Institute of Business Science

University  
of Pretoria

06 November 2019

Angelina Chhambakwe

Dear Angelina

*Please be advised that your application for Ethical Clearance has been approved.*

*You are therefore allowed to continue collecting your data.*

*Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained.*

*We wish you everything of the best for the rest of the project.*

*Kind Regards*

GIBS MBA Research Ethical Clearance Committee