Factors contributing to repetitive listing and delisting of JSE companies

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ABSTRACT

Companies are listed and delisted on various stock exchanges. The listing of companies on a stock exchange creates an opportunity for the company to raise capital and affords investors the platform to buy and sell shares.

The JSE Exchange (JSE), the largest stock exchange in Africa and the only stock exchange in South Africa until 2016, has had companies being listed and delisted from the exchange over time. The delisting was either voluntary in that those who control the company decided to remove its shares from the JSE, or the delisting is involuntary in that the company is for various reasons forced to delist. The reasons companies delist involuntarily include financial distress (liquidation), merger, acquisition and failure to comply with the listings requirements.

The purpose of this research is to investigate the factors that contribute to continuous listing and delisting of companies from the JSE. This research analysed companies that were listed and remained listed on the JSE and the companies that were listed and eventually delisted on the JSE during the period 1 January 2006 to 31 December 2015.

The research hypothesised company's ROA, operating profit margin, share turnover, share price change, debt/assets, market capitalisation and EBITDA as independent variables that differentiate between continuous listing and delisting of companies on the JSE.

From the results of the study, companies that were delisted had a higher debt ratio compared to companies that remained listed. Furthermore, companies that were delisted had lower averages of return of assets, operating profit margin, market capitalisation and earnings before interest tax and depreciation, share turnover, Tobin's Q ratio and share price change compared to companies that remained listed during the period under study.

DECLARATION

I, Jack Howard Phalane, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

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Jack Howard Phalane

Signed at ___________________________

On the _______ day of _____________________ 2017

DEDICATION

This research is dedicated to: my mother (Emily Phalane) for the love and support throughout my life and for doing everything she could to ensure that I get education; to my children Jack and Jessica; and to my special wife, Jacqueline Phalane for walking this journey with me. Mrs P, thank you for remaining the pillar of my life and of the Phalane clan when I had to juggle work, family and school commitments. Your support is invaluable!

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to investigate the factors that contribute to continuous listing and delisting of companies from JSE Exchange (JSE hereafter). Such factors have a bearing on regulatory and economic decisions made by regulators, investors, listed companies and companies that intend listing on the JSE. For regulators, they need to determine adequate conditions and requirements that should be met by any company that intends listing on the JSE for investors to be comfortable that their investments are protected (Carpentier & Suret, 2011). Investors largely rely on the integrity of the companies listed on the stock exchange and the reliance is sustained by the relevant stock exchange ensuring that the listed companies meet the listings requirements and standards (Macey, O'Hara, & Pompilio, 2005).

This research sample comprises companies that were listed and remained listed on the JSE and the companies that were listed and eventually delisted on the JSE during the period 1 January 2006 to 31 December 2015.

1.2 Context of the study

The JSE was the only licenced capital market in South Africa until 2016 when the Financial Services Board, being the regulator of stock exchanges in South Africa, granted stock exchange licences to new companies known as ZAR X Proprietary Limited and 4 Africa Exchange Proprietary Limited. The JSE was established in 1887 and it is the largest and most sophisticated stock exchange in the African continent (Okeahalam & Afful, 2006). Being the sole stock exchange in South Africa for such a long time meant that the JSE had no competition and competition is important as it is said to be an incentive for reform (Ramos, 2003). The licencing of ZAR X Proprietary Limited and 4 Africa Exchange Proprietary Limited creates competition for the JSE and it also widens the listings market in South Africa. Furthermore, it may serve as an alternative listing platform for companies that delist on the JSE. The role of the JSE is that of regulating company listings (new and old listings) and ensuring that listed companies comply with the JSE Listings Requirements (Yartey, 2008).

Due to its market capitalisation, the JSE is ranked 19th in the world and is seen as a channel for non South Africans to invest in listed companies in Africa ("JSE Overview," 2016). Companies can be listed on the JSE’s main board or the Alternative Exchange.

A stock market that is developing and functioning well is important for a developing economy like South Africa and the continent. Stock markets constitute an important part of a financial system and a financial system that functions well is important for economic growth (Garcia & Liu, 1999). A stock market facilitates investment, creates liquidity in that it acts as a platform for investors to buy and sell shares quickly, gives investors the ability to diversify their investment portfolios, makes funding cheaper and improves resource allocation (Arestis, Demetriades, and Luintel (2001); Garcia and Liu (1999)). A stock market also allows listed companies to raise capital through the issue of equity, it makes information about companies accessible and stimulates investors to research and monitor the performance of listed companies (Levine & Zervos, 1996).

The performance of a stock market like the JSE can serve as a catalyst for investment and economic growth and can influence the level of investment in a continent (Adjasi & Biekpe, 2009). Therefore, what takes place on the JSE has an economic impact within South Africa and beyond.

The JSE enables South Africans, non South Africans and brokers to buy and sell shares for their own account (Yartey, 2008). The buying and selling of shares on the JSE is done through an automated electronic system known as STRATE (Share Transactions Totally Electronic). One other characteristic of the JSE is that it has a system (SENS or stock exchange news service) that is used by listed companies to disseminate any corporate news and sensitive information relating to their activities which information has or is likely to affect the movement of the share market. Typical information that is disseminated through SENS include information on merger activities between companies, raising of capital through the issue of shares (rights offer) and dissemination of information is price sensitive (cautionary announcement) (JSE, 2015). The use of SENS is aimed at: ensuring that there is market transparency; and improving investor confidence in the JSE as a stock exchange and the companies listed on the JSE (Yartey, 2008).

According to the JSE (2015), the JSE has the authority to list, suspend and terminate listings and enforce the rules of the listing. Furthermore, the JSE has the power to grant, refuse or delist any securities listed on the JSE. This power can only be exercised in accordance with the JSE Listings Requirements. Consequently, a company that is listed on JSE can either be delisted by the JSE due to non compliance by such company with the JSE Listings Requirements or the company voluntarily delisting from the JSE.

There are different reasons why companies delist from JSE and these include delisting because of scheme of arrangement, minority offer, conditional offer, unconditional offer, voluntary delisting and failure to comply with the listings requirements. Delisting due to "minority offer" involves majority shareholder(s) making an offer to and acquiring shares of the minority shareholders of the company and thereafter delisting the company. Conditional offer involves the making of an offer to shareholders of a company subject to certain conditions being met. In the case of a delisting the main condition is that the shareholders holding a certain percentage of the shares accept the offer and once accepted the company will be delisted. An unconditional offer is an offer that is made to the shareholders without conditions attached to the offer. A voluntary delisting takes place when a company voluntarily decides to delist on the JSE. When a JSE listed company fails to comply with the JSE Listings Requirements, the JSE may delist such a company (JSE, 2015).

The most common reason for a delisting on the JSE is delisting because of 'scheme of arrangement'. The South African Companies Act of 2008 defines a scheme of arrangement as an arrangement between a company and its shareholders by way of consolidation of shares, expropriation of shares from shareholders, exchange of shares for other shares or repurchase by the company of its own shares.

In terms of a scheme of arrangement a person or entity that wishes to acquire another company (the target company) can enter into negotiations with the shareholders of the target company and if shareholders of the target company who hold 75% of the shares agree to the target company being acquired, such agreement will then be binding on the remaining shareholders even if they did not approve the scheme of arrangement or the acquisition unless a court of law rules otherwise, if approached by remaining shareholders holding at least 15% of the shares in the target company.

Although the JSE and the companies delisting or being delisted always provide a high level explanation for delisting, most of these reasons do not go into the details regarding, the root causes or the determinants for the delisting other than to categorise the delisting reasons or to state the listing is not longer beneficial to the company. Previous studies conducted classify the delisted companies into two categories - voluntary delisting and involuntary delisting (e.g. Onesti, Romano, Favino, and Pieri (2014); and Sanger and Peterson (1990)). Regardless of the reasons given by the JSE for a delisting, such delisting will either be a voluntary or involuntary delisting.

In general, voluntary delistings follow the conclusion of public takeover bids, the listed entity being merged into another legal entity or the listed entity voluntarily requesting to be delisted in compliance with the relevant legislation (Onesti et al., 2014). Conversely, involuntary delistings take place in presence of weak trading and/or free float, insolvency proceedings, accounting irregularities, frauds or other similar circumstances.

There are various reasons why companies delist. Previous study found that profitability, liquidity of a company's share, market capitalisation, leverage and growth opportunity have been noted as the determinant factors of company delisting (Benny & Hutagaol, 2013). These factors and other factors such as size of a company, tax benefits, governance structures, undervaluation of a firm and the listing costs have also been noted (Onesti et al. (2014); He, Chong, Li, and Zhang (2010); Wang, Lin, and Hsu (2013); and Baker and Kennedy (2002)).

1.3 **Problem statement**

Companies list on the exchange to raise capital, to create market for their shares and provide shareholders with the platform to convert their wealth into cash (Ritter & Welch, 2002). Without a reputable platform for a shareholder to sell shares, it becomes difficult for a shareholder in a company to be able to sell shares and thus convert the paper wealth (in a form of shares) into cash. The other reasons why companies list on the exchange can be summarised as follows: companies list so that they can open borrowing opportunities (i.e. borrow cheaply) specifically in instances where companies are experiencing growth in sales; companies wish to rebalance their accounts after a period of high investment and growth; companies wish to reduce their debt exposure; founding shareholders wanting to sell their companies or shares; and when companies are of the view that their listed counterparts or peers in the same sector or industry are overvalued and thus want to take advantage of the overpricing (Pagano, Panetta, & Zingales, 1998).

To list on the exchange, companies have to meet certain requirements, most of which are onerous particularly for small, up and coming companies. In addition, the process itself is very costly as it involves the expertise of sponsors and audit firms. It is, therefore, logical to assume that companies that list on the exchange want to remain listed over a long time to ensure that the benefits of listing outweigh the costs. The problem is that, overtime we have seen more and more companies getting delisted from the exchange while more and more companies remain listed but it is not clear what are the factors that actually influence both status of the company on the exchange. While continuous listing is viewed positively, the delisting could pose a major problem for the shareholders as it may result in complete destruction of shareholder value. It may also pose a problem in so far as stock market development and economic growth is concerned. One of the things that is used to measure market development is the size of the stock market (i.e. market capitalisation) (Levine & Zervos, 1996). Taking into account the fact that there is a positive relationship between stock market development and economic growth, a stagnating or regressing stock market due to company delistings, will impact the country's economic growth negatively (Levine & Zervos, 1996). It is imperative that companies know the factors that influence their continuous listing or delisting from the exchange so that they can manage their status effectively and minimize losses and destruction of value. Furthermore, it is imperative for regulators and policy makers to also know the factors that influence companies' continuous listing or delisting from the exchange so that they can ensure that the stock market is regulated in a way that encourages development and consequently, economic growth.

1.4 Research objectives

The objective of this research is to establish the factors that influence the continuous listing and the delisting of firms from the JSE.

1.5 Significance of the study

Various studies regarding delistings and factors causing delistings have been conducted elsewhere in the world, many of which have been conducted in the United States (Benny and Hutagaol (2013); Baker and Kennedy (2002); He et al. (2010); Marosi and Massoud (2007); Martinez and Serve (2011); Sanger and Peterson (1990); and Thomsen and Vinten (2007)). These studies classify delistings as voluntary and involuntary; identify reasons for delistings and survival in the specific country as including share liquidity, market capitalisation, company growth, company leverage, profitability; tax benefits or regime, costs of being listed or compliance costs, financial distress and mergers and acquisitions. None of these studies considers the applicability of their findings in the African continent, including South Africa.

The legal and listings regimes in South Africa may be similar to others elsewhere in the world but are not the same. In addition, the economic and listings conditions in South Africa are different from the conditions in Europe and the United states. The studies conducted reveal differences in the United States, Germany and continental Europe especially in instances where delistings are caused by a hostile takeover; and these studies also show that there are varying numbers of hostile takeovers in these countries (Michelsen & Klein, 2011). Germany for example, has its own peculiarities in so far as the reasons for delistings are concerned when compared to US and continental Europe (Michelsen & Klein, 2011). Accordingly, the study will widen the research to include South Africa and establish factors causing delistings and survival within the South African listings and economic environment.

1.5 Benefits of the study

The study may provide guidance to companies interested in listing on the JSE, companies listed on the JSE, investors and regulators. The guidance may involve providing insight to companies that intent listing of the JSE as to what would characterise a successful listing and the timing and reasons for a delisting. The latter may also be beneficial to companies that are already listed. In this regard, it may be that a delisting, if timed properly, may be in the best interest of the company and all its stakeholders; listed companies may gain some insight in terms of what they can do to sustain their listings. The study may also assist investors and shareholders in deciding which companies they can invest with, when to invest and/or sell shares in listed companies. The study may also benefit the regulators and policy makers. The objectives of the regulators and policy makers are to maintain the credibility of the market and the economy through the formulation and enforcement of policy. Understanding the reasons for delisting and sustaining listings will assist the policy makers in formulating policies that maintain the credibility of the market and the economy.

1.6 Research methodology

The research will use accounting and financial data obtained from INet BFA, the JSE and the public domain. Logistic regression model will be used to determine the factors that influence the listing and delisting status of the companies.

1.7 Structure of the thesis

This research consists of 5 Chapters. Chapter 2 presents the literature review which is mainly based on similar studies conducted elsewhere including the United States, Europe, Canada and South America. Chapter 3 outlines research methodology including data used and the research design. Chapter 4 presents the results from the analysis in chapter 3. Chapter 5 discusses the results and concludes the thesis.

1.8 Delimitations of the study

- The study focused only on companies listed and delisted on the JSE main board and not the JSE's Alternative Exchange. Companies listed on the JSE's Alternative Exchange are small and medium entities whereas companies listed on the JSE's main board are large and well established.

- The study focused on whether the determinant factors depend on the size of the company.

- The study considered the determinant factors of a delisting and surviving a delisting from other countries outside South Africa without necessarily comparing those factors with companies listed and delisted on the JSE.

- The study did not focus on whether companies that were delisted derived value for the shareholders post the listing and/or what happened to the shareholders of the delisted companies. This is mainly because once the company is delisted, the market no longer places value on the delisted shares.

- This study did not focus on whether or not the companies that remain listed derive value for the shareholders.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter discusses various factors that determine company's delisting or survival on a stock exchange. The studies reviewed are based largely on delistings on stock exchanges in various countries but largely in the United States of America and Europe.

The chapter will be divided into seven main sections i.e. introduction, classification of delistings, factors that influence firm's delisting, diminishing benefits of being listed versus listing costs, share price, market capitalisation and share liquidity, size of a firm and conclusion. Section 2.2 discusses the classification of delistings. Section 2.3 discusses involuntary delistings. Section 2.4 presents the various factors that have been identified as determinants of company survival and delisting in various jurisdictions.

2.2 Classification of delistings

This study analyses the determinants of company survival and delisting on the JSE. Companies that survive are those that remain listed on the JSE and delisted companies are those that cease to trade their shares on the JSE. From the studies already conducted, delistings are either voluntary or involuntary.

A voluntary listing is more of a choice or decision made by those who control or manage the company (Onesti et al., 2014). Although this form of delisting is deemed to be voluntary, there are factors that motivate such a choice and decision. In general, voluntary delisting takes the form of public takeover bids, the listed entity being merged into another legal entity or the listed entity voluntarily requesting to be excluded or delisted from the stock exchange in compliance with the relevant legislation (Onesti et al., 2014).

Firms delist voluntarily in different manners and for various reasons. These include going private as a result of a decision by controlling shareholders that they no longer want the firm to remain listed. In the United States and the United Kingdom, most firms went private through leverage buyouts (LBOs) (Djama, Martinez, & Serve, 2012). LBOs are defined as the acquisition of shares of a listed firm by private equity investors using substantial borrowing and subsequent to such acquisition, the firm being delisted from a stock exchange (Djama et al., 2012).

The decision to go private is dictated by the cost associated with the listing vis-a-vis the benefits thereof. If the cost of listing outweighs the benefits of remaining listed, the logical decision is to go private (Djama et al., 2012). The issue of cost versus benefit as a trigger for a delisting is also shared by Martinez and Serve (2011) who studied European listed firms that went private during the period 1995 – 2005.

Martinez and Serve (2011) conducted their study under the European institutional buyout offers with squeeze out (BOSO) framework and revealed that firms delisted via BOSO showed week performance a year prior to the delisting when matched with firms listed in the same business sector; delisted firms demonstrated lower liquidity; firms that are mature but showing weak performance and no growth opportunities cannot afford the listing status. Martinez and Serve (2011) affirm that firms that do not have large investments or future growth opportunities are more likely to go private. Furthermore, they state that the costs of remaining listed contribute towards the decision of whether a firm should remain listed or not (Martinez & Serve, 2011).

The listing costs include annual listing fees, brokerage fees, audit fees and issuing of notices to shareholders and compliance costs. Many firms go dark because management wants to hide poor future prospects and/or financial distress (Martinez & Serve, 2011). The likelihood that a firm will go private should increase if the firm performs and continues to perform poorly (Martinez & Serve, 2011).

It is worth pointing out that delisting by companies from a stock exchange is in itself not bad hence the need to understand the reasons for the delisting. A delisting may be triggered by a merger and acquisition; and mergers and acquisitions are part of economic activities and constituents of corporate governance in developed stock markets (Thomsen & Vinten, 2007). Depending on the circumstances, mergers and acquisitions may be regarded as a sign of economic vitality (Thomsen & Vinten, 2007).

2.3 Involuntary delisting

Unlike voluntary delisting, involuntary delistings take place amidst weak trading and/or free float, insolvency proceedings, accounting irregularities, fraud or other similar circumstances relating to a firm (Onesti et al., 2014).

Firms delist involuntarily because of financial distress or as a result of a merger or an acquisition. In the case of a merger of one company with another and/or the acquisition of one company by the other, the ultimate result is a change in shareholding (Djama et al., 2012). Furthermore, firms delist due to non compliance with the applicable laws and regulations. One of the reasons for non compliance is the cost associated with compliance.

It is also noted that certain efficient mechanisms internal to a firm, like good corporate governance, can protect a firm from delisting, hence firms whose corporate governance practices and structures are weak are more likely to go private as this would reduce conflicts between insiders (management) and outsiders (shareholders) (Djama et al., 2012).

2.4 Factors that influence firm's delisting

There are various factors that influence firm delisting. These factors are discussed in section 2.4.1 to section 2.4.5 below.

2.4.1 Company takeover and distress

Firms delist due to takeovers and distress (Baker & Kennedy, 2002). Takeover delisting can be friendly, hostile or leveraged buyout and distress delisting can be as a result of financial distress, bankruptcy or liquidation. Signs of an impending financial distress can be seen when the company's auditors issue a going concern opinion. Furthermore, financial distress is noticeable when the firm, as a borrower, fails to repay amounts owing when due (Dahiya & Klapper, 2007).

Wang et al. (2013) are of the view that if companies are issued with an initial going concern opinion by its auditors, there is a high probability that such companies will experience a financial crisis in the future. A going concern opinion is issued by auditors when the company faces a probability of a liquidation in the foreseeable future.

Hypothesis1: A company that experiences a sustained financial crisis or distress is likely to be delisted.

2.4.2 Profitability and poor performance

The survival of a firm depends largely on its financial performance. Previous study found that on average, delisting firms suffer long-term declines in value before a final "kick" at the end of their lives (Baker & Kennedy, 2002). It was also observed that firms that perform poorly are unlikely to survive a delisting (Baker & Kennedy, 2002). The study further shows that firms that delist due to financial distress are, on average, smaller, less profitable, and more highly leveraged than firms that delist due to takeover (Baker & Kennedy, 2002). Such firms also have a lower proportion of tangible assets (property, plant, and equipment is a smaller proportion of total assets) (Baker & Kennedy, 2002).

Financial characteristics of a company have an influence as to whether the company survives or is delisted be it by way of an acquisition, going private or going bankrupt (He et al., 2010). Generally, companies that go bankrupt are less profitable, show a slow asset growth, perform poorly financially and underperform relative to the market (He et al., 2010). Bankruptcy is one of the triggers of firm restructuring and, in some instances, when companies are faced with the risk of going bankrupt, they actively engage in a merger or acquisition with other companies (Bhattacharjee, Higson, Holly, & Kattuman, 2009).

It has been noted that that the likelihood of a firm going bankrupt is increased by leverage level and capital intensity, but is decreased by the firm's liquidity level and growth prospect; market variables are more useful in predicting bankruptcy than financial ratios; and the smaller the firm size and stock return, the greater the chance for the firm going bankrupt; and a drop in profitability and a rise in growth rate contribute to the sharp decline in survival rate of firms (He et al., 2010).

It is not impossible that high performing firms may be targets for acquisitions and resulting in a delisting, but there is limited evidence suggesting same (Jain & Kini, 1999).

Hypothesis 2: Low profitability and underperformance increases the probability of a delisting and high profitability and positive performance increases the probability of survival.

2.4.3 Diminishing benefits of being listed versus listing costs

The decision to list a firm is motivated by the apparent benefits associated with a listing. The benefits of a listing are improved liquidity, visibility, transparency, and capital raising opportunities (Chaplinsky & Ramchand, 2008).

Carpentier and Suret (2011) conducted a study on foreign firms listed in the United States stock markets and found that foreign firms were listed in the United States so as to enjoy the increased benefits of the listing compared to the costs. In the case of the United States of America, the increased benefits of being listed were tested by the introduction of the Sarbanes-Oxley Act (SOA) in 2002. The SOA required companies listed in the United States to comply with various reporting requirements. The SOA introduced new disclosure rules and auditing standards that firms had to comply with. In addition, the SOA introduced criminal penalties for fraud relating to governance and this substantially increased the auditing costs (Djama et al., 2012). Firms had to increase their internal resources to enable them to comply with the reporting requirements set by the U.S. Securities and Exchange Commission (Djama et al., 2012).

Similar studies were also conducted in regard to regulatory and reporting requirements and codes in Europe where it was found that the adoption of these corporate governance regulations are associated with an increased frequency at which firms are delisted in the form of mergers and acquisitions and firms going private (Djama et al., 2012).

Companies go private for various reasons. These reasons include new shareholders of a company adopting a view that it is financially beneficial to operate the company as a private entity and out of the public environment as this would mean less disclosure, not accounting to the large public investors and less costs associated with listing and compliance with corporate governance rules and regulations (Thomsen & Vinten, 2007). In some cases, where the majority shareholder of a company is a private equity fund or incumbent managers, they may find it easier to manage the company out of the listings environment and without minority shareholders (Thomsen & Vinten, 2007).

Based on these studies, the diminishing benefits and the resultant increase in the costs of being listed may lead to a delisting. Firms therefore remain listed on a stock exchange if they are able to meet the regulatory requirements and the benefits of being listed continue to outweigh the costs (Chaplinsky & Ramchand, 2008).

Hypothesis 3: The higher the listing costs relative to the listing benefits, the higher the probability of the firm being delisted.

2.4.4 Size of a firm

A further determinant factor of company survival on a stock exchange is the size of a firm (Chaplinsky & Ramchand, 2008). (He et al., 2010) posits that the probability of the firm going bust decreases with its size. The size of a firm is also linked to poor performance and growth opportunities. Thus, if a firm is small, performs poorly, has low growth prospects and the costs associated with regulatory compliance are onerous, such a firm is likely to go dark (Djama et al., 2012).

It therefore follows that size matters with regard to surviving a delisting. Larger companies, like small companies, do face tough economic conditions and challenges but due to their sheer size and resources, they are able to withstand a decline in value hence they survive (Hensler, Rutherford, & Springer, 1997). Effectively, larger companies are able to ride the economic wave until the economic conditions take a positive turn.

The potential delisting of a firm due to size and associated poor performance are not the only determinant factors. The other factor is the link between size and acquisition. As discussed above, delisting of a firm can be as a result of a merger or acquisition. If a firm is big, it is less likely that it will be a target of a merger or acquisition. It is easier for small firms to be acquired as costs for acquiring a small firms are small relative to acquisitions involving bigger firms (Thomsen & Vinten, 2007).

The other factor that has been found to trigger companies to go private is the availability of free cash flow (Jensen, 1986). Free cash flow is defined as "cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital" (Jensen, 1986, p2). The reason why some companies go private as a result of free cash flow is the conflict of interest between shareholders and the managers. The conflict arises in a situation where the shareholders expect to be paid dividends from the free cash flow whereas the managers are reluctant to pay dividends to shareholders as this reduces resources under their control and management (Jensen, 1986). Companies with substantial free cash flow or high potential for generating cash flow but showing a low growth prospects are candidates for going private (Jensen, 1986). This also applies to listed companies with high cash flow but low growth prospects.

The conflict that exists between managers and shareholders is unlikely to take place where managers have a significant shareholding in the company. In such instances, decisions of the managers will be aligned with the interests of the shareholders and the survivability of the company will be high (Hensler et al., 1997).

Hypothesis 4: The firm's growth opportunities decreases its delisting probability.

2.4.5 Share price, market capitalisation and share liquidity

The share price has also been identified as one of the determinant factors of firm survival or delisting. Empirical results from studies conducted in the US show that the mortality or delisting is related to the stock price, thus, the death or delisting rate is higher for stocks with lower prices (Djama et al., 2012).

Companies with a smaller market capitalisation or whose share price shows a decline are also likely to be delisted. Chaplinsky and Ramchand (2008) attest to the view that a proportionately higher share trading volume is a determinant of a company surviving in the US market. It is also a requirement of stock exchanges like the NYSE that a listed firm meets or has “a minimum market value for shares outstanding”, failing which a company will be delisted by the relevant stock exchange (Gary, Sanger & Peterson, 1990, p.262). Some of the additional NYSE requirements that may lead to a delisting if not met are the total number of shareholders, the number of publicly traded shares and the average closing price of a share over a 30-day trading period (Macey et al., 2005).

The value of a share may therefore lead to an involuntary delisting if the share price fail to meet the minimum market value set by the stock exchange. On the other hand, the value of a share may lead to a voluntary delisting or a company going dark if a company views its shares as undervalued by the market and sees little benefit in staying listed (Marosi & Massoud, 2007).

An illiquid share may be a driver for a delisting (Thomsen & Vinten, 2007). If a share is illiquid or not liquid, it means that such a share is not easily saleable as there are few trades in relation to such a share. The price of an illiquid share is likely to be low and discounted which defeats the purpose of having the share listed and erodes shareholder value (Thomsen & Vinten, 2007). Investors generally invest in listed companies whose share price is expected to grow as this will create growth in shareholders wealth or assets.

Hypothesis 5: There is a high probability for a firm with a smaller market capitalisation or decline in share price to be delisted.

Chapter summary

This chapter considered the various studies that were conducted by various scholars with the aim of identifying the determinant factors of a company delisting or survival. It became apparent that a company delisting is either voluntary or involuntary. In as much as a company delisting can be voluntary or involuntary, such delisting is likely to be triggered by the firm's performance, profitability, growth and size, share price and market capitalisation.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the methodology that is used in the research. The chapter is structured as follows: Section 3.2 presents data and data sources. Section 3.3 discusses the research design used to achieve the objectives set out in chapter 1. Chapter summary concludes the chapter.

3.2 Data and data sources

The aim of this research is to determine the factors that differentiate between continuous listing and delisting from the JSE. The research sample comprises companies that were listed and delisted on the JSE's main board between 1 January 2006 to 31 December 2015. The research does not include firms listed on the JSE's Alternative Exchange (Altx) as Altx is aimed at small to medium firms that are in a growth phase, most of which do not meet the criteria required to list on the JSE's main board (JSE, 2015).

By December 2005, there were 308 companies listed on the JSE Main board and this number increased to 395 companies by 2015. On average, 20 companies per year were delisted from the JSE during the research period. The data used for the study was obtained from the *JSE website,* the *JSE's capital markets division* and *INet BFA*. Other data was extracted from company's annual reports and JSE SENS announcements made by the companies under study. A company would be included in analysis if it has a full data vis a vis: ROA, operating profit margin, share turnover, share price change, debt/assets, market capitalisation and EBITDA. Companies that did not have requisite data relating to the study were excluded from the research.

3.3 Research design

The study uses quantitative approach to analyse the reasons why some firms remain listed whereas others are delisted from the JSE. Logistic regression model is used to determine the factors that influence a delisting or survival of a delisting (Benny & Hutagaol, 2013). The dependent variable in this model is dichotomous and take a value of 0 if a company is continuously listed and a value of 1 if a company is delisted.

The independent variables that differentiate between continuous listing and delisting of firms on the JSE are hypothesised as including firm's ROA, operating profit margin, share turnover, share price change, debt/assets, market capitalisation (size) and EBITDA. The logistic regression model is presented as follows:

$$logit(p) = \beta_o + \beta_1 ROA + \beta_2 ST + \beta_3 \%\Delta SP + \beta_4 DR + \beta_5 Q + \beta_6 MC + \beta_7 EBITDA$$

where

p = the probability of delisting and $logit(p)$ = $ln\left(\frac{p}{1-p}\right)$

β_o = the intercept of the regression model

$\beta_1, \beta_2, \cdots, \beta_7$ = regression coefficients

ROA = return on assets, calculated as ((profit before interest and tax – total profit of extraordinary nature)/total assets) X 100

OPM = operating profit margin, calculated as ((profit before interest and tax –

total profit of extraordinary nature)/turnover) X by 100

ST = shares turnover for the year, measured as the number of shares traded for the year, divided by the number of shares in issue for the firm

$\%\Delta SP$ = percentage change in share price for the year

DR = debt to assets, calculated as total debt divided by total assets

Q = Tobin's q ratio calculated as company's market value divided by value of assets

MC = Market capitalisation of the firm calculated as number of shares issued to shareholders X the share price

$EBITDA$ = Earnings before interest tax depreciation and amortisation

The continuously listed and delisted firms are also compared to establish the characteristics of and any differences between these firms. In conducting the comparison, t-tests are used to assess the statistical significance of the differences between the listed and delisted firms under study (Martinez & Serve, 2011). These differences will be determined based on the size of each of the companies under study (market capitalization), earnings before interest tax depreciation and amortization (EBITDA), operating profit margin, return on assets, leverage ratio (i.e. debt/assets) and share turnover (Martinez & Serve, 2011).

Chapter summary

This chapter describes the research methodology used in the study. The chapter also presents the data and variables used in the study. The next chapter presents the research results.

4 PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the research results and is organised as follows: Section 4.2 presents the descriptive statistics of companies that remained listed and companies that were delisted on the JSE. Section 4.3 presents results of the logistic regression model and chapter summary concludes the chapter.

The sample of companies used in this study comprised companies that remained listed on the JSE throughout the period of study and companies that were listed at some stage during the period under study but were eventually delisted on the JSE.

4.2 Univariate analysis

Table 1 below presents the descriptive statistics relating to companies that remained listed on the JSE and those that got delisted over the sample period. Because the data was highly skewed, variables such as ROA, share turnover were winzorised while others such as market capitalization and EBITDA were transformed by log to control the impact of outliers. The analysis is based on the transformed data.

Table 1: characteristics of companies that were continuously listed and companies that were delisted from the JSE

Variables	No of obs	Mean	Median	Std dev	Minimum	Maximum	1st Quartile	3rd Quartile
Panel A: Characteristic of companies that are continuously listed								
ROA (1% trim)	1880	11.45%	10.90%	14.53%	-52.78%	59.69%	5.51%	18.15%
Operating Profit Margin (5% trim)	1880	16.87%	9.93%	28.05%	-36.38%	99.57%	4.44%	23.05%
Share Turnover (1% Trim)	1880	38.12%	27.54%	34.95%	0.00%	161.35%	11.19%	55.01%
Share price change (Upper 1% trim)	1880	11.26%	8.52%	43.09%	-99.42%	187.50%	-14.64%	32.75%
Debt/Assets	1880	0.47	0.46	0.25	0.00	1.96	0.28	0.64
Tobin Q (MV / Assets) (5% Trim)	1880	1.49	0.93	1.52	0.00	5.89	0.46	1.87
Log of Market Cap	1880	21.95	22.12	2.28	14.80	28.20	20.28	23.55
Log of EBITDA (Scaled and trimmed 1% before taking log)	1880	15.31	15.13	0.50	12.04	17.35	15.03	15.43
Panel B: Characteristic of companies that were delisted								
ROA (1% trim)	421	6.45%	8.03%	20.09%	-52.78%	59.69%	-1.49%	17.13%
Operating Profit Margin (5% trim)	421	6.37%	5.23%	27.32%	-36.38%	99.57%	-2.98%	13.62%
Share Turnover (1% Trim)	421	26.30%	20.42%	28.04%	0.00%	161.35%	7.08%	33.47%
Share price change (Upper 1% trim)	421	1.31%	0.00%	53.07%	-99.99%	187.50%	-31.67%	24.05%
Debt/Assets	421	0.52	0.50	0.29	0.01	1.75	0.30	0.69
Tobin Q (MV / Assets) (5% Trim)	421	1.05	0.56	1.35	0.00	5.89	0.29	1.10
Log of Market Cap	421	19.97	20.11	1.96	12.22	24.11	18.60	21.52
Log of EBITDA (Scaled and trimmed 1% before taking log)	421	15.03	15.02	0.75	0.00	15.95	15.00	15.09

Table 1, Panels A and B show that the mean of profitability measures, i.e. ROA and operating profit are higher (11.45% and 16.45% respectively) for companies that are continuously listed over the sample period whereas the profitability of companies that are delisted have a mean ROA and operating profit of 7.35% and 16.15% respectively. Not surprising, the results imply that companies that are continuously listed are more profitable than those that are delisted. The mean share price change of delisted companies is negative (mean =-4,55%) while the mean share price change of continuously listed companies is a positive 11,26%.

Table 1 further shows that the mean debt to asset is lower (0,47) for companies that are continuously listed over the sample period whereas the mean debt to asset of companies that are delisted is higher (0,52). This implies that companies which utilise higher levels of debt financing have a higher risk of being delisted.

The mean market capitalisation is lower (19.97) for delisted companies while the mean market capitalisation for continuously listed companies is higher (21.95). These results imply that companies that are continuously listed are bigger in size than those that are delisted.

The mean EBITDA of delisted companies is lower (15.03) for delisted companies while the mean market capitalisation for continuously listed companies is higher (15.31). This implies that companies that are continuously listed have higher earnings than those that are delisted. It also imply that companies that are continuously listed have better operations compared to those that are delisted.

Figures 1, 2 and 3 below presents graphically the differences between continuously listed and delisted companies on the JSE over time using profitability variables which include EBIDTA, operating profit and ROA.. Figure 1 shows that compared to continuously listed companies, delisted companies' EBITDA is way below that of continuously listed companies.

Figure 1: EBITDA for both listed and delisted companies over time

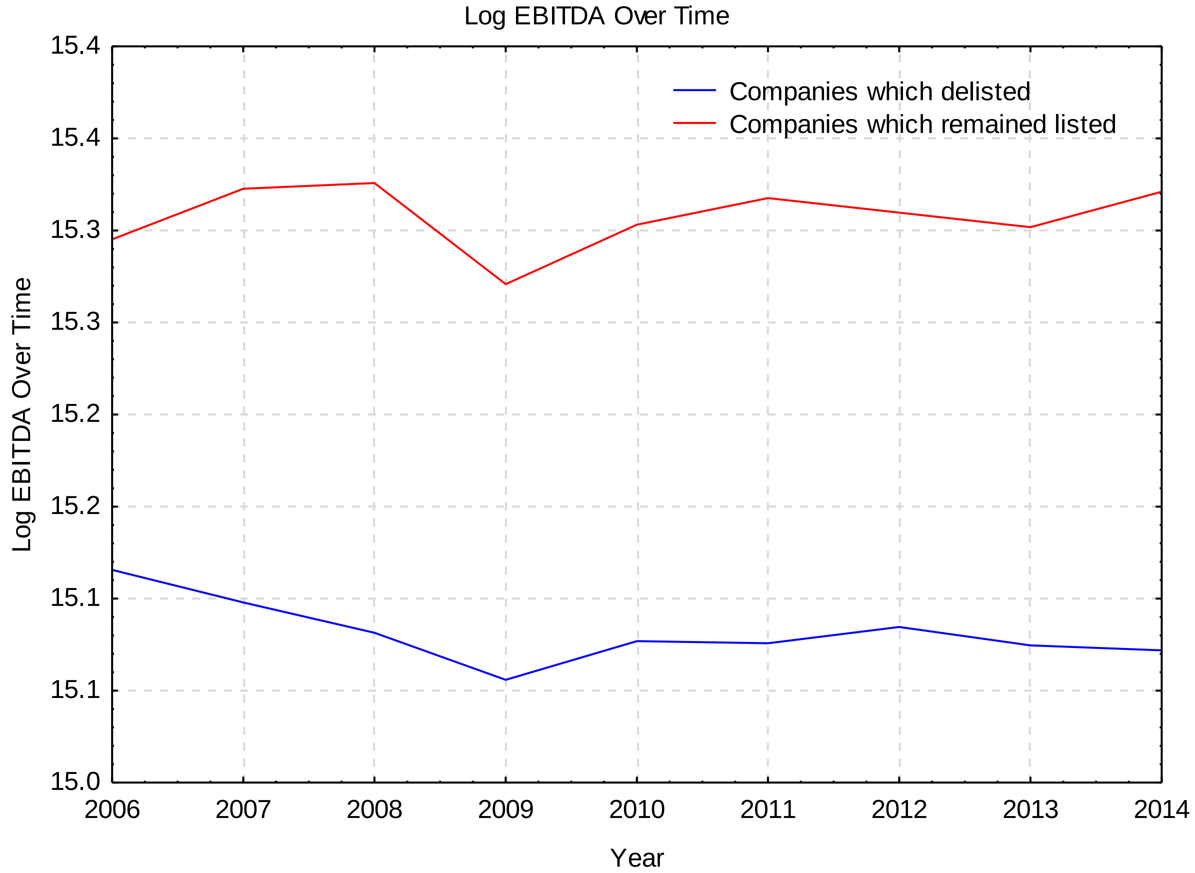
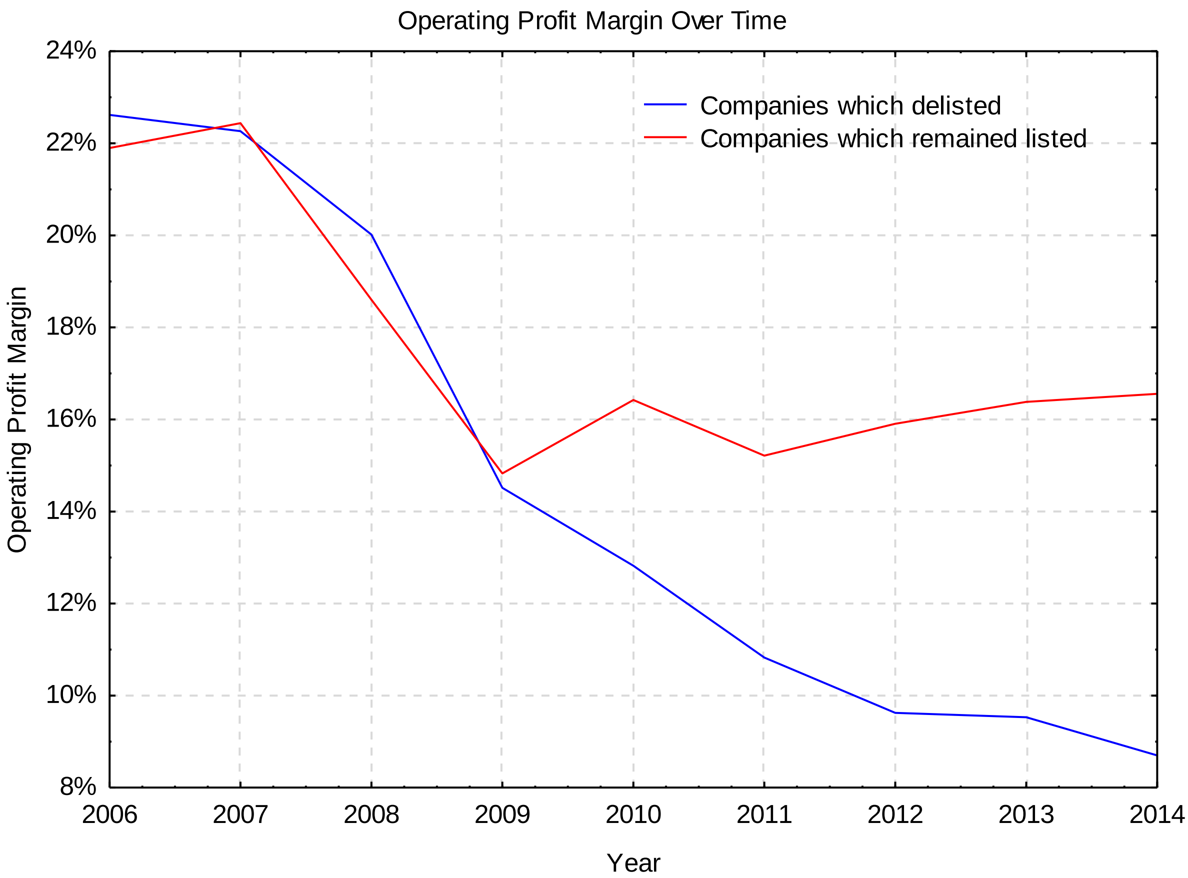


Figure 2 below shows that the operating profit of continuously listed and delisted companies fell steeply between 2006 and 2009 but continuously listed companies picked up after 2009 when the steep fall of the operating profit of companies that were eventually delisted is visible.

Figure 2: Operating profit margin for both listed and delisted companies over time



As with Figure 2 above, Figure 3 depicts a steep fall in return on assets over the sample period for delisted companies, indicating that once company's assets are not able to generate profit for the company, that company will eventually be delisted. The crossover of delisted and continuously delisted companies happen at the ROA of 12%.

Figure 3: Return on assets for both listed and delisted companies over time

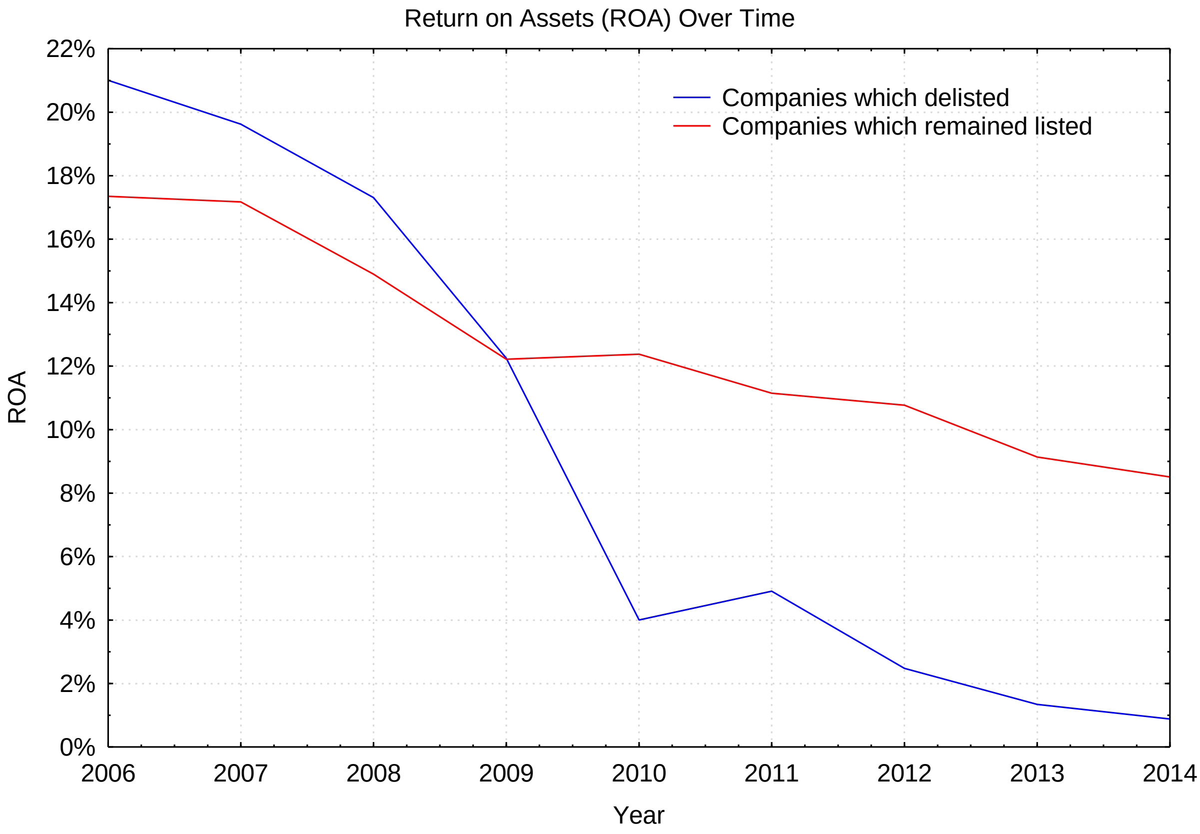


Table 2 presents characteristics of the delisted companies a year before delisting to get an idea of the state of these companies before they delist. The results show that a year prior to delisting, the % mean profitability measure and average share price change are negative at -0.86% (ROA), -2.54 (operating profit margin) and -6.98% (share price). Table 2 shows that the profitability of delisting becomes evident in the final year before delisting as compared to preceding years. Thus, these companies' share prices drop drastically (-6.98%) in the year before the delisting compared to preceding years (1.31%). The debt ratio of these companies also increases from 0.52 to 0.54 in the final year before delisting.

Table 2: characteristics of companies that were delisted about a year prior to delisting

Variables	No of obs	Mean	Median	Std dev	Minimum	Maximum	1st Quartile	3rd Quartile
Panel A: Characteristics of delisted companies a year before delisting								
ROA (1% trim)	66	-0.86%	3.67%	22.07%	-52.78%	59.69%	-8.17%	9.84%
Operating Profit Margin (5% trim)	66	-2.54%	1.69%	23.65%	-36.38%	99.57%	-17.51%	7.80%
Share Turnover (1% Trim)	66	22.17%	18.11%	23.41%	0.00%	106.80%	4.27%	30.43%
Share price change (Upper 1% trim)	66	-6.98%	0.00%	47.96%	-99.99%	87.38%	-37.43%	25.00%
Debt/Assets	66	0.54	0.55	0.30	0.01	1.43	0.30	0.69
Tobin Q (MV / Assets) (5% Trim)	66	0.89	0.47	1.35	0.00	5.87	0.20	0.89
Log of Market Cap	66	19.23	19.16	2.35	12.22	23.43	17.54	20.94
Log of EBITDA (Scaled before taking log)	66	15.05	15.01	0.15	14.87	15.95	14.99	15.05
Panel B: Characteristics of continuously listed companies a year before the delisted companies were delisted								
ROA (1% trim)	215	7.35%	9.13%	14.89%	-52.78%	59.69%	3.86%	14.26%
Operating Profit Margin (5% trim)	215	16.15%	8.96%	32.70%	-36.38%	99.57%	2.98%	20.47%
Share Turnover (1% Trim)	215	36.93%	27.73%	31.94%	0.00%	161.35%	10.98%	54.39%
Share price change (Upper 1% trim)	215	-4.55%	-8.20%	38.17%	-99.42%	144.00%	-28.09%	18.00%
Debt/Assets	215	0.46	0.42	0.27	0.00	1.65	0.27	0.63
Tobin Q (MV / Assets) (5% Trim)	215	1.44	0.78	1.69	0.00	5.89	0.31	1.80
Log of Market Cap	215	22.05	22.33	2.37	14.80	28.20	20.40	23.64
Log of EBITDA (Scaled before taking log)	215	15.31	15.16	0.54	13.02	17.35	15.02	15.52

4.3 Factors that differentiate the continuously listed companies from delisted companies

Logistic regression model was also used to determine the factors that differentiate between continuously listed and delisted on the JSE. The dependent variable in the model is the probability of continuous listing / delisting and the independent variables are ROA, operating profit, share turnover, share price change, debt/assets, Tobin's Q, market capitalization and EBITDA. The results are presented in Table 3 below

Table 3: Factors that differentiate between continuously listed and delisted companies.

Table 3 below presents the results of the factors that differentiates between continuous listing /delisting of companies form the JSE.

Variables	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	17.93	3.4383	5.2160	0.0000 *
ROA	0.55	0.4262	1.2970	0.1945
Operating Profit Margin	-0.75	0.3006	-2.4990	0.0125 *
Share Turnover	0.28	0.2217	1.2630	0.2068
Share price change	-0.20	0.1284	-1.5360	0.1245
Debt/Assets	0.75	0.2241	3.3430	0.0008 *
Tobin's Q (MV / Assets)	0.07	0.0544	1.2520	0.2104
Market Capitalisation	-0.36	0.0367	-9.9260	0.0000 *
EBITDA	-0.81	0.2365	-3.4210	0.0006 *
Nagelkerke R^2	20.07%			

Table 3 shows that a company will be delisted if the operating profit falls (estimate = -0.75), the debt to assets increases (estimate =0.75) the market capitalisation decreases (estimate -0.36) and EBITDA (estimate =-0.81) falls. Thus, all these factors are significant at 1% level in differentiating between continuously listed and delisted companies. Overall the results show that operating performance, market performance and levels of debt in a company are good indicators of whether the company will be delisted or will be continuously listed.

Chapter Summary

The descriptive statistics presented in this chapter shows the differences in the characteristics of companies that were continuously listed and those that were delisted on the JSE during the period under study. The results show that operating measures of delisted companies are lower compared to the profitability of companies that remained listed. Delisted companies also have a higher debt ratio compared to listed companies. The market performance of delisted companies is lower compared to that of listed companies.

The results of the logistic regression model show operating profit margin, debt to assets, market capitalisation and EBITDA as variables that are statistically significant in explaining factors that differentiate companies that continued to be listed and those that were delisted from the JSE during the period under study. The next chapter discusses the results and conclude the thesis.

CHAPTER 5 DISCUSSIONS and CONCLUSION

5.1 Introduction

The purpose of this chapter is to discuss and provide conclusion to the study as well as make recommendations. The chapter is organised as follows: Section 5.2 discusses the results in relation to the literature reviewed in chapter 2. Section 5.3 concludes the thesis. Section 5.4 presents recommendations and Section 5.5 makes suggestions for further work.

5.2 Discussion

The results in chapter 3 are discussed below in line with the hypotheses developed in chapter 3.

Hypothesis 1 for this study states that a company that experiences a sustained financial crisis or distress is likely to be delisted. This hypothesis was tested using the variables Debt/Assets and EBITDA. Debt/Assets ratio is used to measure a company's financial leverage, whereas EBITDA is used to measure a company's financial wellbeing.

The results of the summary of the statistics show that the mean for Debt/Assets for delisted companies was higher than that of companies that remained listed. These results show that Debt/Assets ratio of a company has a contribution towards a continuous listing or delisting of companies on the JSE.

Djama et al. (2012), Marosi and Massoud (2007), Martinez and Serve (2011) and Benny and Hutagaol (2013) support the view that financial leverage impacts a company's earnings and that financial leverage significantly affects the probability of being delisted or remaining listed.

Hypothesis 2 states that low profitability and underperformance increases the probability of a delisting and high profitability and positive performance increases the probability of survival. This hypothesis was tested using operating profit and ROA. ROA, like operating profit, is also a measure of profitability as it measures a company's profitability taking into account such company's assets.

The results show that in general the averages of the variables tested for companies that were delisted is significantly lower than the averages for companies that remained listed. Companies that were delisted had a lower mean for ROA compared to companies that remained listed. This signifies that the companies that were delisted were not as profitable compared to those that remained listed. This further implies that a lower ROA for a company contributes towards a company being delisted. These results support hypothesis 2 and emphasises the view that low profitability reduces the chances of a company surviving a listing (He et al., 2010).

Hypotheses 3 and 5 were tested using share turnover, share price and market capitalisation. Previous studies show that market capitalisation and share price contribute towards firms failing on a stock exchange (Djama et al., 2012). In this study, the results show that the mean for market capitalisation of companies that remained listed on the JSE was higher than the mean for companies that were delisted during the period under study. The characteristics of delisted companies on the JSE in regard to market capitalisation seem to support the results that were conducted outside South Africa.

Previous studies also identified share price as key in terms of avoiding failure or financial distress (He et al., 2010). Some companies see the benefits of being listed on a stock exchange as being able to grow their market capitalisation and/or share price. If this does not happen, being listed becomes a costly exercise and no longer beneficial when one takes into account all the direct costs associated with being listed. The companies that were delisted on the JSE during the period under study have depicted a lower share price and a lower marked capitalisation compared with those that remained listed. It therefore appears that these companies did not reap the benefits they envisaged when listing and were eventually delisted. This supports the hypothesis that the higher the listing costs relative to the listing benefits, the higher the probability of the firm being delisted; and the hypothesis that there is a high probability for a firm with a smaller market capitalisation or decline in share price to be delisted.

In order to test the hypothesis that a firm's growth opportunities decreases its delisting probability, Tobin's Q (Q ratio) was used as a variable. The use of this variable was also adopted in the previous study conducted by Benny and Hutagaol (2013) in order to measure the growth opportunity of a company.

Benny and Hutagaol (2013) found that a company's growth opportunity reduces the probability of a company being delisted but due to a lower p-value, this result was found to be insignificant. In this study, the results of the summary statistics supported hypothesis 4.

In general, the results of logistic regression model support the assertion that operating profit margin, Debt/Assets, market capitalisation and EBITDA are statistically significant in explaining whether companies are likely to delist from the JSE. The results of the regression model confirm hypotheses 1 (in relation to both variables, being EBITDA and Debt/Asset), hypothesis 2 (only in relation to the operating profit margin) and hypotheses 3 and 5 (only in relation to market capitalisation). From the results of the regression model, it appears that EBITDA, Debt/Asset, operating profit margin and market capitalisation have a significant influence and contribute towards companies continuing to be listed or being delisted on the JSE.

5.3 Conclusions of the study

The purpose of the study was to investigate the factors that contribute to continuous listing on and delisting of companies from the JSE. Profitability, liquidity of a company's share, market capitalisation, leverage and growth opportunity, size of a company and benefits (vis a vis costs) of being listed have been identified as factors contributing towards continuous listing and delisting of companies on the relevant stock exchange within the South African environment.

The results of the tests conducted in this study indicate that ROA, operating profit margin, share turnover, share price change, Debt/Assets, Q ratio, market capitalisation and EBITDA will have an impact of companies continuing to be listed or being delisted on the JSE.

5.4 Recommendations

It has become apparent during the research that a company is delisted from a stock exchange when its shares are formally delisted from the stock exchange. In the case of the JSE, with some of the companies (especially companies that are delisted involuntarily), the delisting process started with a suspension from the JSE. The suspension can last for over a year before a company is finally delisted. During the suspension period, there is not much data in regard to the company as its activities on the JSE are for all intents and purposes halted. For such companies, it is recommended that the JSE deem and report them to have been delisted when they were first suspended as opposed to when they were finally and formally delisted.

The results of the research indicate that companies listed on the JSE and those that want to be listed on the JSE need to carefully and continuously consider and work on their profitability, leverage, capitalisation, share price movement and liquidity of their shares as there seem to be a relationship between these variables and the continuous listing or delisting of companies on the stock exchange. In considering a company's performance in relation to these variables, companies that are listing can plan a delisting well in advance to avoid being forced into a delisting. A planned delisting is likely to preserve value for investors whereas an unplanned delisting may result in value being destroyed for the shareholders.

The performance of companies in relation to the variables discussed in this study can be used as a tool for investors to decide when to invest or disinvest in a listed company. It is recommended that investors consider these factors when making investment decisions and first understand the fundamental reasons behind a company's performance in relation to these variables before making a decision as to whether to invest or disinvest.

5.5 Suggestions for further research

It has become clear during the research that not all companies that are delisted cease to conduct business after a delisting. As much as there is no formal financial reporting about the performance of these companies after a delisting, some continue to operate successfully outside a listings environment. Future studies could analyse the specific delisting reasons for such companies and analyse the performance of those companies outside a listings environment.

Future studies could also look at the board and shareholding composition of companies that are delisted on the JSE to establish whether or not there are common characteristics that are shared by these companies in so far as shareholding and directorship are concerned. It may be that these companies have passive shareholders who do not hold the board accountable and/or members of the board are not suitably qualified to steer the companies in the path of economic success.

In determining the factors that contribute to the continuous listing and delisting of companies from the JSE, this study considered the following variables only: ROA, operating profit margin, share turnover, share price change, debt/assets, Q ratio, market capitalisation and EBITDA. Furthermore, the study was limited to companies listed on the JSE's main board and not the JSE's Alternative Exchange. Further studies could investigate whether there are other factors contributing towards continuous listing and delisting on the JSE, which factors can be tested against all the companies listed on the JSE, including those listed on the JSE's Alternative Exchange.

To avoid companies failing on the stock exchange, future studies can be conducted on the performance of delisted companies a few years prior to them being listed. In so doing, it can be established whether there are factors that are common to such companies which contribute towards such companies being delisted.

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