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Title: An exploration of the effect of mergers and acquisitions on long-run value creation of acquiring companies within South Africa

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DECLARATION

I, Kerry-Lee Gurr, declare that

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Abstract

There are limited opportunities for companies to expand and grow organically, which is why mergers can play an important role in expansion for an entity. There are two perspectives which can be viewed in terms of a company obtaining value creation through a merger or acquisition transaction, namely, through an increase in the profitability of the company and an increase in shareholder wealth. The focus of this study will be based on the creation of long-term shareholder wealth. The analysis will therefore be conducted from the perspective of an investor and thus lead to the relevant ratios selected for analysis.

This area of study is important due to the quantum of investments made resulting in significant potential value creation or destruction. Businesses that have been hampered by a recession which causes economic strain as a result of reduced consumer spending and are therefore enticed by the option of merging with a larger business, or rather forced to become acquired by a larger business. The larger businesses have the ability to sustain themselves during the pressures exerted on them by a recessionary climate and thus are able to continue without economic assistance through a merger.

The purpose of this study is to determine the long-run (5 years post-acquisition) effects on the financial performance of the acquiring company to ascertain whether the financial performance is enhanced by virtue of the merger. By conducting a quantitative study on the financial ratios over the pre-acquisition and post-acquisition periods in the long run of the acquiring entity, there can be further investigation to identify any trends over the long-run. The study will contribute to the body of knowledge in mergers and acquisitions by addressing short-comings of previous studies such as using short periods of analysis (less than 3 years) which resulted in insignificant findings and the use of external indicators (example, share prices) which are driven by uncontrollable forces other than the intended measure of internal value creation; and applying the relevant methodologies.

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Chapter 1: Introduction

It is accepted that one of the most important objectives of an entity is to maximize wealth by generating a profit. (Denning, 2011). The philosophy that growth perpetuates success is well-established among entrepreneurs and thus is a driving force behind many business strategies. (Norberg-Johnson, 2003). Given the desire to make as much profit as possible, it appears that entities would endeavor to forge a path that ensures and promotes growth of the entity.

There are limited opportunities for entities to expand and grow organically, which is why mergers can play an important role in expansion for an entity. Mergers have become a viable and attractive alternative to internal growth. (Sharifi, 2005). There are two perspectives which can be viewed in terms of a entity obtaining value creation through a merger or acquisition transaction, namely, through an increase in the profitability of the entity and an increase in shareholder wealth. The focus of this study will be based on the creation of long-term shareholder wealth. The analysis will therefore be conducted from the perspective of an investor and thus lead to the relevant ratios selected for analysis.

Extensive analysis has been conducted (Woods, 2007) on the reasons for merger success or failure in individual cases. A small number of studies (Boglarsky, 2005; Marks, 2001; Matthews, 2000) have combined the analysis that was obtained from these individual studies to create a comprehensive and complete list of such factors, e.g. quick integration of divisions, retain key employees and creating a unifying vision. A small number of studies (Bijlsma-Frankema, 2004; Epstein, 2005; Haransky, 1999; Matthews, 2000) have included how the synergistic benefits can be maximized. Merger failures have been explored far more compared with merger successes as well as the contributing factors that assist in a merger being successful, but there have been few studies (Bruner, 2002; Epstein, 2005; Healy et al, 1992) that analyse whether mergers offer value to the acquiring entity in the long-run, which is why I intend to analyze the long-run operating financial performance of acquiring entities engaging in merger and acquisition transactions.

1.1 Background

Although South Africa has not been as severely affected by the economic recession as some other countries, mergers are a relevant topic within the context of South Africa. Harrison (2009) says that South African businesses have the opportunity to acquire businesses that operate not only in South Africa, but internationally. This leads to an endless expansion opportunity, provided that South African businesses have available capital to invest in such a transaction; identify these opportunities and have the appropriate attitude to risk. Mergers and acquisitions have recently become topical in both South Africa and around the world as evidenced by the number of articles that have been published (Van Der Merwe, 2017; Omarjee, 2017; Mutulu 2014). The acquisition of Massmart by Walmart has highlighted the concept of mergers of businesses and has raised many questions on the said topic, such as how does the Competition Commission impact such transactions, are mergers / acquisitions beneficial for the acquirer, what is the impact of mergers on employee morale? It has also been predicted by global law firm, Baker McKenzie, that the mergers and acquisitions market in South Africa is expected to increase by 66% over the next two years (DeFranco et al., 2017).

Due to the poor state of the economy at the time of writing this research study, it is perceived to be advantageous for large entities, which have the ability to invest, to consider acquiring smaller businesses at a price that is lower than when the economy is thriving. 51% of respondents to a survey conducted by Deloitte (Harrison, 2009) saw the economic downturn as an opportunity for the merger with other entities at a discounted value. An acquirer would benefit more from purchasing an acquiree at a discounted value as there is a greater potential to derive and maintain sustainable synergistic benefits that translate into improved financial performance. It is known that mergers are used as a tool to create growth, however, it has been debated whether mergers create long-term shareholder wealth (Halfar, 2011).

1.2 Why do Entities Engage in Mergers and Acquisitions?

Studies have shown that entities find mergers and acquisitions as a method to facilitate growth and expansion. There could be a variety of strategic goals that an entity wishes to achieve such as protecting their current market share; obtaining access to new markets through products / services thereby expanding their market share; the draw of utilizing economies of scale (Ray, 2015). Synergy is often expected to be obtained by acquiring entities which is supported by Ficery, Herd and Pursche (2007) who stated that executive management teams who are involved in merger and acquisition transactions are of the belief that shareholders could sustain synergistic benefits from such a transaction because there are many examples where business combinations exist and as a result, can generate additional cash flows from additional revenue streams as well as through reducing the operating costs. Synergy derived from mergers and acquisitions is defined as "the present value of the net additional cash flow that is generated by a combination of two entities that could not have been generated by either entity on its own" (Ficery et al., 2007, p. 35). Some entities engage in mergers and acquisitions with the view that through the transaction they will be diversifying some of the risk included in their current portfolio (Ray, 2015).

There are various types of synergy that an acquirer may be targeting as per the findings of Andrade et al, (2001) who categorized synergistic benefit into three main categories:

1. Financial synergy
    - This occurs when the financial results of the combination of the two entities is greater than if the entities were to operate independently.
2. Operational synergy
    - This type of synergy is derived when two firms have competencies in differing areas of operations (for example, production, marketing, distribution, research etc) which then helps to achieve operating efficiencies when such competencies are combined.
3. Managerial synergy
    - An increase in creativity and innovation can generate an improved overall performance and lead to success of an entity.

While synergy may form a major driver in an entity making a decision to enter into a merger or acquisition transaction, there are a multitude of other reasons that an entity may find such a transaction to be beneficial.

According to Haleblian et al (2009), reasons for an entity to enter into a merger or acquisition transaction can be broadly classified into four main categories as follows:

1. Value creation which encompasses market power, efficiency, resource deployment and market discipline. Synergy could also form part of the value creation category.
2. Managerial self-interest which includes increased compensation, hubris (feeding their own ego) and target defence tactics.
3. Environmental factors such as environmental uncertainty, regulations, imitation, resource dependence and network ties.
4. Firm characteristics for example acquisition experience and firm strategy and position.

While merger and acquisition transactions have traditionally been perceived to create value as well as generate synergistic benefits, Vazirani (2012) found that such perceptions do not always come to fruition when undertaking the transaction, despite the beliefs that such benefits would be derived.

1.3 Success and Failure Factors

There have been a number of various factors identified by researchers over various studies that contribute to the success or failure of a merger and acquisition transaction. These factors have been further classified as pre-transaction factors and post-transaction factors.

The pre-transaction factors include the following identified by Laveren et al. (2017) in a comprehensive research study encompassing previous findings:

- Choosing the correct partner to lead negotiations and relay accurate information
- Mutual trust between the management personnel from both sides of the transaction
- Due diligence must be effectively carried out to ensure that the valuation of the transaction is accurate
- Experience from previous merger and acquisition transactions would play a vital role to avoid any prior pitfalls incurred
- Communication between all parties, including employees, must be robust, dynamic and honest in nature to ensure transparency

The post-acquisition factors identified by Laveren et al. (2017) as the outcome of a comprehensive study is as follows:

- There must be an achievable, detailed and structured plan to be carried out in terms of the transaction
- One of the most crucial factors identified in the post-acquisition period as further emphasized by Gomes (2013) is the implementation and execution of the plan.
- The speed at which the integration takes place
- Communication features during both the pre-acquisition and the post-acquisition periods. Communication throughout the post-acquisition phase is important regarding the implementation of the plan and clearly communicating the steps and progress between management and employees.
- The strategic fit will have an impact on the success of the transaction as if the acquirer and the acquiree have similar strategies then fewer adjustments would be required.

Hoang et al. (2008) noted from the perspective of acquisition advisory firms that the most significant success factors were as follows:

- Maintaining clear goals, objectives and scope of the transaction
- The competence of the management team as well as their commitment and buy-in to the transaction
- Effective exchange of information and communication between the parties
- Appropriate time management and deadlines
- Detailed planning and implementation

Often whilst individuals enter into any transaction with the view that it will be a successful engagement, there are instances where failure will occur. Some of the failure factors include the following as per Siegenthaler (2009):

- Lack of preparation by the management team
- Lack of common vision for the merged entity and how the convergence will take place
- Poor due diligence carried out at the pre-acquisition phase
- Underestimation in terms of the integration team resources required to carry out the plan
- Poor governance and a sound decision-making structure which can lead to confusion and a lack of clarity
- Whilst it has been ascertained that communication is a factor for a successful transaction, the lack of communication can be detrimental. Communication must be relevant to the various stakeholders and tailored as such.
- Poor management regarding the implementation of the plan can extend the timeline for the integration and be a costly exercise
- Tough decisions are often required to be made during an integration process. A delay in making such decisions can result in an unfavourable outcome of the transaction
- Weak leadership that does not corroborate the vision and values of the entity will cause a loss of credibility amongst the employees

It is the view of Weber et al. (2014) that while there is potential for merger and acquisition transactions to be a profitable venture, there can often be issues that arise on the post-acquisition phase whereby hidden costs are incurred, thereby negating the profitability aspect of the transaction. Weber et al. (2014) went on further to discuss the unpredictable factors such as how consumers of the entities may react and how their buying patterns may change as well as other external stakeholders.

1.4 Research Problem

This area of study is important due to the quantum of investments made resulting in significant potential value creation or destruction. Businesses that have been hampered by a recession which causes economic strain as a result of reduced consumer spending and are therefore enticed by the option of merging with a larger business, or rather forced to become acquired by a larger business. The larger businesses have the ability to sustain themselves during the pressures exerted on them by a recessionary climate and thus are able to continue without economic assistance through a merger. Mergers and acquisitions of other entities can also eliminate competition such as the recent horizontal acquisition of Massmart Holdings by Walmart. There have been a number of different measurement bases used when performing analyses and studies of mergers and acquisition transaction which include strategic management measures, economic measures and objective measures (such as financial, accounting or strategy). (Vazirani, 2012). Due to the large number of measures that could be used to determine the success or failure of a merger and acquisition transaction, there has been mixed results among studies conducted.

There have been various studies (many that have covered a short run period and few that have covered a long run period) conducted to ascertain whether there are financial benefits to acquiring entities that engage in mergers and acquisitions. There has been a large variation in the time periods used for the studies as well as differing research methodologies which have yielded mixed results. It has been noted that interest has piqued in the areas of academia as well as entities engaging in such transactions within the realm of mergers and acquisitions. (Cartwright, 2006). The topic of mergers and acquisitions has attracted a multi-disciplinary review of research reflecting the complexity of these transactions. It was determined that the most significant discipline that had carried out research in the mergers and acquisitions topic was management and finance with less significant research being performed by the accounting, economics and sociology disciplines. (Haleblian et al., 2009). The analysis performed in this study aims to contribute towards the body of knowledge from an accounting discipline perspective.

MergerMarket (2018), performs data collection and specialized analysis of mergers and acquisitions on a global scale. MergerMarket (2018), reported that there were a total of 411 merger and acquisition transactions that took place in the Middle East and Africa (with South Africa contributing to 101 of the merger and acquisition transactions with a total value of US$ 6.2 billion) over the preceding twelve months (2017 year). These transactions totaled US$ 59.4 billion in value which despite being a significant amount, this statistically meant a 34.2% decrease when compared to 2016. The decrease in merger and acquisition transactions was largely contributed by Africa which had a 48.7% decrease in activity from 2016. South Africa had a particularly bad year in that the country achieved its lowest value since 2003 (being a value of US$ 4.2 billion), with political instability being cited as the main reason for the lack of investment in such transactions. The 101 merger and acquisition transactions that were contributed by South Africa reflects 39 fewer deals than that of 2016 and a 70.2% decrease in the value of such transactions and activity. The deal value for the industrials and mining sector had increased significantly from 2016 (more than doubling) which was largely attributed to the takeover by Mobileye in Israel. The energy, mining and utilities sector remained insignificantly changed from the prior year. The financial services sector drastically decreased (more than half) since 2016. The telecoms sector had increased slightly from 2016 whilst the technology sector had decreased slightly.

Bruner (2002) evaluated a number of long run research studies which had a large range of research event window periods, performance metrics used to analyse the data, as well as different sample sets based on research limitations or variables isolated. He found that “most transactions are associated with results that are hardly consistent with optimistic expectations”, (Bruner, 2002). Bruner (2002), generally found that from an acquirer’s perspective, the results from merger and acquisition transactions were even amongst the three outcomes where value had been destroyed, value had been conserved and value had been created. This shows that only 33% of the transactions examined by Bruner (2002) resulted in value creation whilst 67% did not yield value creation for the acquirer.

Smit and Ward (2007) motivated that when comparing short run studies of mergers and acquisitions to long run studies, the results from a long run study would be more accurate due to the time taken to implement a merger, retrenchment of unnecessary staff, elimination of duplicate departments, disposal of excess assets and the corresponding effect to reflect in the financial statements. Smit and Ward (2007) defined a long run period as an event period that exceeds two years from the announcement date (two years post-acquisition). The emphasis on long run studies was also supported by Andrade, Mitchell and Stafford (2001) by affirming that the economy and opportunities for engage in merger and acquisition activities varies in the differing economic climates, initially showing a decline in value and then over a period of three to five years, an increase in value as economies of scale are implemented within the business model. It was noted by Smit and Ward (2007) regarding an acquirer generating value through potential synergistic benefits are realized over a period of time after the merger or acquisition takes place, creating a need for evaluation of the financial performance over the long run.

Whilst Smit and Ward (2007) analysed the share price performance around the announcement date, there was no direct comparison between the pre-acquisition and post-acquisition performance window periods. This resulted in no significant findings being made by the study in terms of the impact of mergers and acquisitions on the value of the acquiring entity. A long run study is required to make a meaningful analysis of the impact on value creation of the merger.

1.5 Research Objectives

The purpose of this research study is to determine the long-run (five years post-acquisition) effects on the operating financial performance of the acquiring entity to ascertain whether the financial performance is enhanced by virtue of the merger. By conducting a quantitative study on the financial ratios over the pre-acquisition and post-acquisition periods in the long run of the acquiring entity, there can be further investigation to identify any outcomes or trends over the long-run. The study will contribute to the body of knowledge in mergers and acquisitions by addressing short-comings of previous studies such as using short periods of analysis (less than three years) which resulted in insignificant findings and the use of external indicators (example, share prices) which are driven by uncontrollable forces other than the intended measure of internal value creation; and applying the relevant methodologies.

1.6 Research Questions

- Do mergers and acquisitions result in financial benefits to acquiring entities in the long run?
- Are perceived synergistic benefits realized in the form of performance benefits accruing to acquiring entities?
- Are there any clearly distinguishable trends in the value creation or destruction of acquiring entities in the long-run?

1.7 Conclusion

The aim of this research study is to ascertain the effect of merger and acquisition transactions that take place within South Africa, on the operating financial performance of the acquiring entity and whether they create or destroy value of the acquiring entities in the long run. The research study will be performed by comparing the pre-acquisition and post-acquisition operating financial performance of the acquiring entity using financial indicators from the perspective of an investor and this drives the particular key performance ratios that will be used in analysis.

1.8 Definitions

"Acquirer" for the purposes of this research study is defined as the entity which is purchasing another entity.

"Acquiree" for the purposes of this research study is defined as the entity that is being purchased by another entity.

"Announcement date" for the purposes of this research study is defined as the date upon which the acquirer confirms (thereby creating public awareness) that they intend to make a formal offer for an acquiree.

"Completion date" for the purposes of this research study is defined as the date when the merger or acquisition transaction is signed off and completed.

"Event window periods" are defined as:

> [-5; +5] = representing 5 financial years, or 1 260 trading days, or 60 months prior to the completion date and 5 financial years, or 1 260 trading days, or 60 months post to the completion date.

"Financial benefits / Value creation" for the purposes of this research study is defined as an improvement in the key financial ratios from the pre-acquisition period to the post-acquisition period.

"Intrinsic value" for the purposes of this research study is defined as the actual worth of the acquirer based on both the tangible and intangible aspects of the entity. This value is not necessarily the same as the market value of the acquirer.

"Key financial ratios" for the purposes of this research study includes:

- Cumulative abnormal return on share prices (CAAR)
    - Actual return of acquirer – expected return of acquirer
    - Individual abnormal returns is calculated as: $AR_t = R_t - E(R_t)$
            - AR_t = Abnormal return for the acquirer in the period t
            - R_t = Actual return for the acquirer in the period t
            - $E(R_t)$ = Expected return for the acquirer in the period t
        - Expected return for stock is calculated as: $E(R_t) = \alpha + \beta Rm_t$
            - $E(R_t)$ = Expected return for the acquirer in the period t
            - α = Intercept term
            - β = Regression constant
            - Rm_t = Return on the market for the period t

            - Average abnormal return is calculated as: $AAR_t = \frac{1}{n} \sum AR_t$
                - AAR_t = Average abnormal return for the period t
                - AR_t = Abnormal return for the acquirer for the period t
                - N = Sample size
            - Cumulative abnormal return is calculated as: $CAR_t = CAR_{t-1} + AR_t$
                - CAR_t = Cumulative abnormal return at the period t
                - CAR_{t-1} = Cumulative abnormal return at the period t - 1
                - AR_t = Abnormal return for period t
            - Cumulative average abnormal return is calculated as: $CAAR_t = CAAR_{t-1} + AAR_t$
                - $CAAR_t$ = Cumulative average abnormal return at the period t
                - $CAAR_{t-1}$ = Cumulative average abnormal return at the period t – 1
                - AAR_t = Average abnormal return for the period t
- Return on equity (ROE)
    - Earnings before interest and tax / (Total Assets – Current Liabilities)
- Earnings per share (EPS)
    - Profit after tax / Number of equity shares in issue
- Cash flow return on assets (ROA)
    - Cash flow from operations / Total Assets

"Long run" for the purposes of this research study is defined as the event window period of 5 years prior to the completion date and 5 years after the completion date.

"Pre-acquisition period" for the purposes of this research study is defined as the event window period of 5 years prior to the completion date as the accepted definition of long-run based on the literature review.

"Post-acquisition period" for the purposes of this research study is defined as the event window period of 5 years after the completion date as the accepted definition of long-run based on the literature review.

Chapter 2: Literature Review

The literature review performed will discuss the various academic methodologies underpinning the purpose and performance of merger and acquisition activities from an accounting perspective.

Mergers and acquisitions have been studied over two different window periods, one being over the short term (which is generally considered to be two years pre and post-acquisition or shorter) and the second time period being over the long term (which is generally considered to be three years pre and post-acquisition or longer). There are two main types of measurement comparisons that have been used as a benchmark to determine whether value has been created by the merger or not, namely:

- External indicators (share prices, intrinsic value and operating financial performance) and
- Internal indicators such as return on assets, return on capital and return on equity.

Most studies have used entities that are listed on the Johannesburg Stock Exchange as the information for these entities would be readily available for the intended research.

Mergers and acquisitions are often a transaction that results in conflict due to differing goals of management and shareholders such as personal interests, strategic motives, or economic reasons being potential drivers. (Figueira et al, 2007).

2.1 Types of Mergers and Acquisitions

There are a number of different types of mergers and acquisitions that can take place. Firstly, we must ascertain the difference between a merger and an acquisition. According to Luenendonk (2015), a merger is defined as a transaction that takes place where two entities combine or "merge" to form an entirely new entity. It is generally considered rare for mergers to take place as opposed to acquisitions. An acquisition is defined as a transaction that takes place whereby the acquirer absorbs the operations of the acquiree which then ceases to exist. There are three main considerations that must be undertaken by the acquirer when engaging in a merger or acquisition transactions:

- An acquirer should be willing to take on the relevant risk as well as the capital investment as soon as possible during the process in an effort to obtain the maximum benefit.
- Prudence should be exercised by diversifying risk by investing in a multitude of different transactions as some ventures will succeed and others will fail.
- Management must maintain a diligent personality that is able to cope well with changing dynamics within an organization. Diligence from management must be paired with resilience and patience throughout the process. (Howson, 2017).

2.1.1 Horizontal

This type of transaction is considered to be horizontal in nature when it takes place between entities within the same industry as well as the same stage of production. (Rozen-Bakher, 2018). This type of merger or acquisition is generally done with competitors in an effort to eliminate competition as well as to benefit from economies of scale. Duplicate and redundant operations would be eliminated and the average cost per unit would decrease due to the smaller increase in costs relative to the larger increase in production volumes. Horizontal mergers tend to generate more exponential synergistic benefits due to the increase in market share having removed a competitor. (Borad, 2016).

2.1.2 Vertical

This type of transaction is considered to be vertical in nature when it takes place between entities who produce different goods or services for the same finished product, ergo, they are both within the same value chain but at a different stage of production. (Luenendonk, 2015). Both entities taking part in the transaction typically operate with the same industry's supply chain system. Vertical mergers tend to generate synergistic benefits as it is expected that the two entities would operate more efficiently and effectively as a single entity. (Borad, 2016). It is also believed that by merging with an entity within the same supply chain, this ensures a secure supply of goods, avoiding any disruption in the supply as well as restrict supply to competitors. A higher profit margin is achieved by such a merger as the manufacturer's share of profits is eliminated from the ultimate cost. (Luenendonk, 2015).

2.1.3 Conglomerate

This type of transaction is considered to be a conglomerate in nature when it takes place between entities involved in completely unrelated industries. This type of conglomerate would be deemed as pure in nature as involves entities who do not have anything in common. (Borad, 2016). The reason for an entity entering into a conglomerate transaction would be in an effort to diversify risk between differing industries thereby reducing their overall risk. (Luenendonk, 2015).

2.1.4 Market Extension (Mixed Conglomerate)

This type of transaction is considered to be a market extension in nature when it takes place between entities who trade in the same products but in different markets. The purpose for such a transaction would be to obtain the benefits of a larger market and an extended client base. (Borad, 2016). The products sold by each entity generally complement one another and thus are of interest to the same customer base. Such products could be sold easier on a package basis thereby increasing sales and overall profits. The extension into other products would serve as a method for diversification for the entities, thus reducing their overall risk. (Luenendonk, 2015).

2.1.5 Product Extension (Mixed Conglomerate)

This type of transaction is considered to be a product extension in nature when it takes place between entities who trade in products that are related to each other and who operate in the same market. The purpose for such a transaction would be to obtain access to an extended client base by grouping their products together. (Mustapha, 2017). The products sold by each entity generally complement one another and thus are of interest to the same customer base. Such products could be sold easier on a package basis thereby increasing sales and overall profits. The extension into other products would serve as a method for diversification for the entities, thus reducing their overall risk. (Luenendonk, 2015).

2.2 Event-time study window period

There is a significantly high number of studies that have focused primarily on the short-run analysis of the acquiring entity's financial performance. None of the studies performed over the short-run period have yielded any significant results and typically no definitive conclusion has been reached by these studies. Based on the evaluation of long run studies undertaken by Bruner (2002), there were differences in research event window periods, variances in the performance metrics used and the characteristics in sample sets resulting in a need for further conclusive research to be conducted on whether acquisitions create or destroy value over a long-run time span (Bruner, 2002). The need for further research in this area which is focused on the long-run as opposed to the short-run was confirmed by Smit and Ward (2007) who noted that significant financial benefits are expected to become apparent past the two year acquisition period. It is supported by KPMG (2013) that "many clients report being able to achieve their full synergy run-rate by two to three years after deal close". The synergy run-rate refers to the realisation of the benefits being reflected in the financial performance of the acquirer. Any expected synergistic benefits derived from merger and acquisition transactions, are typically realised a number years after the transaction is concluded and thus the financial performance of the acquiring entity needs to be analysed over a longer window period than the short-run (Smit and Ward, 2007).

2.3 Share price performance studies

During the period of 1985 to 2000, there was a boom within the mergers and acquisitions activity among companies. (Pryor, 2001). The magnitude of the activity that took place during the period was much greater than previous booms due to more dominance of capital markets and an increase in shareholder value through the use of worldwide information and communication technologies that became available. (Holmstrom, 2001). The increased activity in mergers and acquisitions triggered many studies to be conducted on the phenomenon.

The smallest statistically significant negative cumulative abnormal return (-4%) was determined by Rau and Vermaelen (1998) which shows that the merger destroyed value instead of creating value. Rau et al. (1998) performed the study in the event window period of three years post-acquisition and the study included 3 968 mergers taking place during 1980 to 1991. The largest statistically significant negative cumulative abnormal return (-14.3%) was determined by Loughran and Vijh (1997) which shows that the merger destroyed value instead of creating value. Loughran et al. (1997) performed the study in the event window period of three years post-acquisition and the study included 434 mergers taking place during 1970 and 1989. The short run event window period resulted in marginally positive returns, the reason for which is expected to be the market reaction (share price increase) as a consequence of the merger or acquisition transaction announcement and the perceived value in this by the shareholders or potential shareholders (Bruner, 2002).

Bruner (2002) published a study based on share price performance of acquiring entities for the period 1978 to 2001 covering 44 global event studies. The study only included 11 event studies which were analysed in excess of one year post-acquisition (which is less than three years and thus considered to be a short-run study) and 6 of these event studies generated significantly negative returns revealing that in this study, based on the sample of entities evaluated, approximately half of the mergers resulted in a destruction of value rather than value creation. Bruner (2002) also reviewed a number of studies that were conducted on mergers and acquisitions in terms of the cumulative abnormal returns on the share price of acquirers reporting negative cumulative abnormal returns resulting in 12 of the 17 studies yielding significantly negative results on a short-run basis. Bruner (2002) reviewed a number of studies that were conducted on mergers and acquisitions in terms of the cumulative abnormal returns on the share price of acquirers reporting zero or positive cumulative abnormal returns resulting in 10 of the 14 studies yielding significantly positive results on a short-run basis. Overall, from Bruner's (2002) review of past studies conducted, we ascertain that 17 out of 31 (55%) studies reflected negative cumulative abnormal returns for the acquirer in the short-run and 14 out of 31 (45%) studies reflected zero or positive cumulative abnormal returns for the acquirer in the short-run.

Capron (2002) undertook a study to determine when acquirers earn abnormal returns. The study comprised a sample of 101 acquirers engaging in horizontal mergers and acquisitions which yielded a cumulative abnormal returns of -0.34 which was consistent with results from previous studies thus corroborating the idea that similar entities (on the basis of a horizontal merger) is not a significant condition for the acquirer to derive synergistic benefits.

A study conducted by Kyei (2008) for the period 2000 to 2002 covering 14 South African acquiring firms listed on the Johannesburg Stock Exchange were analysed in excess of one year post-acquisition. The study yielded insignificant results, however, a difference was noted in the average cumulative abnormal returns based on the payment method used (share based or cash based), with positive returns being generated for the share based payment method, whilst negative returns were generated for the cash based payment method. This is in contrast with the study performed by Mushidzhi and Ward (2004) who stated that "Returns earned by the shareholders of targets acquired using cash are significantly higher than those earned by the shareholders of share-acquired targets." This is consistent with the findings from Huang and Walkling (1987), Davidson and Cheng (1997) and Wansley et al. (1983)". The study conducted by Mushidzhi and Ward (2004) included 57 entities over the period of March 1998 to December 2002 with an event window of ten days post-acquisition.

Laabs and Schiereck (2010) performed a long run study in the event window period of three years post-acquisition and the study included 164 acquisitions. The study performed by Laabs et al. (2010) yielded insignificant results supported by an insignificant average cumulative abnormal return of 1.37%.

Halfar (2011) performed a long run study in the event window period of three years post-acquisition and the study included 29 acquisitions listed on the Johannesburg Stock Exchange. The study covered mergers that took place between 2000 and 2009 and the metrics used in the study included share price performance (using average abnormal return and cumulative average abnormal return), operating financial performance (using the cash flow return on all assets) and intrinsic value performance. Halfar (2011) used various methods to analyse the share price performance including calculating the average abnormal return which revealed that on average, the abnormal return for both the pre-acquisition period and the post-acquisition period were effectively zero. There was no conclusive evidence that merger and acquisition transactions create or destroy value. Halfar (2011) also used the cumulative average abnormal return to determine share price performance which declined during the pre-acquisition period, however, there was an increase after the announcement date, although the overall effect was slightly positive at three years post-acquisition. Halfar (2011) analysed the operating financial performance using the industry-adjusted cash flow return on all assets, which revealed that the financial performance was slightly positive in the post-acquisition period, however, the result remained insignificantly different from zero thus concluding that merger and acquisition transactions neither create nor destroy shareholder value. Intrinsic value performance was also used by Halfar (2011) and found that one year post-acquisition resulted in a decline in intrinsic value, year two resulted in a claw-back in intrinsic value and year three resulted in positive intrinsic value being created.

Rani (2012) performed research into the short-term abnormal returns and long-term financial performance in terms of mergers and acquisitions. It was found that the shareholders of the acquiring entity often earn the highest returns the earlier they sell in relation to the announcement date of the merger or acquisition transaction.

Dilshad (2013) performed an analysis on a sample of 18 acquiring banks engaging in horizontal mergers and acquisitions. The results revealed that merger and acquisition transactions taking place within the banking industry often yield positive net present values for acquirers over the short-term.

Viljoen (2013) focused on cross border mergers and acquisitions that took place in the South African market whereby the acquirers were listed on the Johannesburg Stock Exchange. The findings over a sample of 44 entities revealed abnormal returns of 2.78 defined as being an insignificant positive result.

2.4 Operating financial performance studies

Healy et al. (1997, p 46) stated that post-acquisition accounting financial performance measures reflect the actual economic benefits derived by merger and acquisition transactions, whereas share prices after the announcement of a merger represents investors' expectations as well as other uncontrollable external forces. Healy et al. (1992) studied the long-run operating financial performance of the acquirer for a five year period post-acquisition. The study covered 50 of the largest US mergers that took place between 1979 and 1984. The study was conducted by comparing the financial performance, through the use of return on assets of the acquiring entity against the industry performance. The results of the study indicated that there were significant improvements in asset productivity. Proposed reasons for the improvement in asset productivity are that new opportunities may present themselves to use existing assets after the merger or policies of the acquirer are adopted, resulting in an elimination of resources that do not generate an adequate return.

The study performed by Ghosh (2001) covered 315 mergers that took place between 1981 and 1995. Ghosh (2001) used a similar definition of operating cash flows as that of Healy et al. (1992) where operating cash flows were calculated as sales minus cost of sales, minus selling and administrative costs, plus depreciation and goodwill amortization costs (EBITDA). Ghosh (2001) adopted a standard change model (comparing a set of ratios from pre-acquisition period and comparing the same ratios to the post acquisition period) of the cash flow return performance for both the pre-acquisition period of three years and the post-acquisition period of three years compared to the industry. Ghosh (2001) found that the average pre-acquisition acquiring firm's cash flows exceeded the average pre-acquisition industry-adjusted cash flows by a significant amount of 2.89%. Ghosh (2001) also found that the average post-acquisition acquiring firm's cash flows exceeded the average post-acquisition industry-adjusted cash flows by a significant amount of 3.5%. It was noted, however, that when comparing the pre-acquisition performance with the post-acquisition performance, an insignificant increase of 0.66% was realized which shows that while insignificant, some value was deemed to be created by the merger.

Andrade et al. (2001) noted that there is significant merit in using operating financial performance measures to determine whether value is created or destroyed as opposed to share price appreciation because the beneficial aspects of merger and acquisition transactions are realized through cash flows and general operations. It was acknowledged that the value creation / destruction would also be reflected in share prices, however, the value creation / destruction cannot be separated from the society perception and investor confidence, political climates and other external uncontrollable forces.

Smit (2005) used operating financial performance (a comparison of an industry-adjusted cash flow return on all assets (including the premium paid)) of the acquiring entity as an additional measure to determine whether mergers and acquisitions create or destroy shareholder wealth in the long run. The results from the study were insignificant and inconclusive overall with Smit (2005) quoting the following from Roll (1986), "we still do not understand the motives behind mergers and tender offers or whether they bring an increase in market value".
Bruner (2002) undertook an alternative method by performing a review of accounting studies using measures such as return on assets, return on capital and return on equity. There were a total of 15 studies reviewed by Bruner (2002) and some of the studies included Healy et al. (1997), Healy et al. (1992) and Ghosh (2001). He found that "most transactions are associated with results that are hardly consistent with optimistic expectations", (Bruner, 2002).

Smit and Ward (2007) evaluated 27 mergers over a two years pre-acquisition period and two years post-acquisition period using operating financial performance (using an industry adjusted cash flow return on all assets (including the premium paid)) analysis. Smit and Ward (2007) used a similar formula to Healy et al. (1992) to calculate an industry-adjusted cash flow return on all assets, however, Smit and Ward (2007) included the premium or goodwill paid as part of the assets in the ratio.

The results of the study conducted by Smit and Ward (2007) yielded that the average pre-acquisition acquiring firm's cash flows exceeded the average pre-acquisition industry-adjusted cash flows by an insignificant amount of 0.15%. The average post-acquisition acquiring firm's cash flows exceeded the average post-acquisition industry-adjusted cash flows by an insignificant amount of 0.43%. It was noted, however, that when comparing the pre-acquisition performance with the post-acquisition performance, an insignificant increase of 0.28% was realized. The results of the study conducted by Smit and Ward (2007) were similar to the results discovered by Ghosh (2001) whereby the acquiring firms outperformed the industry averages during both the pre-acquisition and post-acquisition periods, although the comparison between the pre-acquisition period performance and the post-acquisition period performance was insignificant suggesting that value was neither created nor destroyed by the merger.

Halfar (2011) noted that "Smit and Ward (2007) finally concluded that based on the operating financial performance of acquiring firms before and after large acquisitions, large acquisitions, on average, do not result in any improvement or deterioration in acquiring firm performance."

2.5 Intrinsic value studies

There have been some studies conducted using one of three measures to derive the intrinsic value of the acquiring entity, namely:

- Using share prices or
- a residual income model or
- the fundamental value of the firm.

Most of these studies provided mixed results with most of them showing a moderate positive change over time. It is noted that when performing a study based on share prices, this implies the assumption that the change in share prices denote the intrinsic value of a firm. An alternative method to use when determining the economic impact of a merger on the acquiring firm would be to use an accounting methodology, in particular, the use of a residual income calculation (Ma et al, 2011).

Guest, Build and Runsten (2010) performed a study in the event window period of 3 years post-acquisition and the study included 303 mergers taking place during 1985 to 1996. Guest et al. (2010) used a residual income model to calculate the changes in intrinsic value of the acquirer. Guest et al. (2010) took the study further by also comparing the changes in the residual income with the changes in the share price as well as changes in profitability over both the long run and short run periods. The residual income model used by Ohlson (1995) was adapted by Guest et al. (2010) to determine whether value is created or destroyed by mergers and acquisitions. Guest et al. (2010) determined that value creation would be realized when intrinsic value post-acquisition exceeds the intrinsic value pre-acquisition. The results of the study performed by Guest et al. (2010) showed that there was an insignificant change in the intrinsic value of the acquirer three years post-acquisition, which differed to the results on profitability which yielded significantly positive results in terms of value creation in contrast to the results on the share price which yielded significantly negative results. This highlighted the different measurement bases and the fact that the results based on profitability which is internally generated and more accurately reflects the impact of the merger as opposed to share prices which reflect the impact of the merger, perceptions of society and investor confidence, political climate and other external uncontrollable forces.

Papadakis (2010) substantiated the viewpoint that there are conflicting results in terms of using operating financial performance measures in assessing merger and acquisition transactions. It was determined that the return on assets appears to be the most reliable measure for merger and acquisition transactions as it removes the effects of premiums or discounts paid as a result of the acquirers bargaining power. Papadakis (2010) also established that when using return of assets as a measurement analysis tool, the post-acquisition period should be included at a minimum of two years as this would be the point at which the benefits of a merger or acquisition transaction would start to come to fruition. Most studies that have selected the return on assets as an analytical tool for mergers and acquisitions used a post-acquisition period of three to five years in order to allow the benefits to come to fruition in the relevant numerator and denominator being assessed. This would place the study being conducted within these parameters as one of the measurement bases will be using the return on assets and the proposed post-acquisition period is for five years.

Ma et al. (2011) performed the study in the event window period of three years post-acquisition and the study included 1 077 mergers taking place during 1978 to 2002. Ma et al. (2011) followed the residual income model used by Ohlson (1995) as well as additional techniques used by Lee, Myers and Swaminathan (1999). Ma et al. decided to exclude the two month period after the announcement date due to delays in finalizing and completing the deal. In line with the residual income model used by Ohlson (1995), Ma et al (2011) calculated the level of the acquirer's intrinsic value as a ratio to the entity's book value as well as market value for a three year pre-acquisition and post-acquisition period. Ma et al. (2011) found an insignificant average change in the intrinsic value of 0.0054 over the three years post-acquisition period.

Table summarising literature review

Author	Period	Sample Size	Location	Results
Healy et al. (1992)	1979 - 1984	50	US	Whilst the merged entities showed significant abnormal improvement in asset productivity, there were no significant increases in the cash flows.
Ghosh (2001)	1981 - 1995	315	Australia	When comparing the pre-acquisition performance with the post-acquisition performance, an insignificant increase of 0.66% was realized which shows that while insignificant, some value was deemed to be created by the merger.
Andrade et al. (2001)	1973 - 1998	3688	US	Economy and opportunities for engage in merger and acquisition activities varies in the differing economic climates, initially showing a decline in value and then over a period of three to five years, an increase in value as economies of scale are implemented within the business model.
Bruner (2002)	1978 - 2001	44	Global	17 out of 31 (55%) studies reflected negative cumulative abnormal returns for the acquirer in the short-run and 14 out of 31 (45%) studies reflected zero or positive cumulative abnormal returns for the acquirer in the short-run
Capron (2002)	1988 - 1992	101	US and European	Cumulative abnormal returns of -0.34 which was consistent with results from previous studies thus corroborating the idea that similar entities (on the basis of a horizontal merger) is not a significant condition for the acquirer to derive synergistic benefits.
Mushidzhi and Ward (2004)	2001 - 2003	57	South Africa	Returns earned by the shareholders of targets acquired using cash are significantly higher than those earned by the shareholders of share-acquired targets
Smit (2005)	2004 - 2014	57	South Africa	Insignificant and inconclusive overall with Smit (2005) quoting the following from Roll (1986), "we still do not understand the motives behind mergers and tender offers or whether they bring an increase in market value".
Smit and Ward (2007)	2001 - 2003	27	South Africa	When comparing the pre-acquisition performance with the post-acquisition performance, an insignificant increase of 0.28% was realized.

Kyei (2008)	2000 - 2002	14	South Africa	Insignificant results, however, a difference was noted in the average cumulative abnormal returns based on the payment method used (share based or cash based), with positive returns being generated for the share based payment method, whilst negative returns were generated for the cash based payment method.
Laabs and Schiereck (2010)	1981 - 2007	230	Europe, North America, South America, Asia	Insignificant results supported by an insignificant average cumulative abnormal return of 1.37%.
Guest et al. (2010)	1985 - 1996	303	UK	Insignificant change in the intrinsic value of the acquirer three years post-acquisition, which differed to the results on profitability which yielded significantly positive results in terms of value creation in contrast to the results on the share price which yielded significantly negative results.
Papadakis (2010)	1997 - 2003	50	Greece	Substantiated the viewpoint that there are conflicting results in terms of using operating financial performance measures in assessing merger and acquisition transactions. It was determined that the return on assets appears to be the most reliable measure for merger and acquisition transactions as it removes the effects of premiums or discounts paid as a result of the acquirers bargaining power. Papadakis (2010) also established that when using return of assets as a measurement analysis tool, the post-acquisition period should be included at a minimum of two years as this would be the point at which the benefits of a merger or acquisition transaction would start to come to fruition
Halfar (2011)	2000 - 2009	29	South Africa	Industry-adjusted cash flow return on all assets, which revealed that the financial performance was slightly positive in the post-acquisition period,

				however, the result remained insignificantly different from zero thus concluding that merger and acquisition transactions neither create nor destroy shareholder value
Ma et al. (2011)	1978 - 2002	1077	US	Insignificant average change in the intrinsic value of 0.0054 over the three years post-acquisition period.
Rani (2012)	2003 - 2008	398	India	Shareholders of the acquiring entity often earn the highest returns the earlier they sell in relation to the announcement date of the merger or acquisition transaction.
Dilshad (2013)	2001 - 2010	18	Europe	Merger and acquisition transactions taking place within the banking industry often yield positive net present values for acquirers over the short-term.
Viljoen (2013)	2000 - 2013	44	South Africa	Abnormal returns of 2.78 defined as being an insignificant positive result.

2.6 Conclusion on Literature Review

The literature review has revealed that there are a large number of methodologies adopted in an effort to measure the success of a merger or acquisition transaction including short-term analysis, long-term analysis, various operating financial performance ratios, assessments based on share prices etc.

There have been many studies and research undertaken within the realm of merger and acquisition transactions which have yielded conflicting results as to whether the acquirer has benefited from the transaction.

Based on the short-term and long-term methodologies, it is accepted that whilst short-term studies may be less effected by factors other than the merger and acquisition transaction, it does require a long-term view to reflect the benefits that are to be gained from the synergy derived. This therefore supports the use of a long-term approach when performing this study which is considered to be a period of approximately five years based on the literature review.

A variety of measurement bases have been used to determine the success of merger and acquisition transactions. It appears that dependent on what the acquirer is aiming to achieve from the transaction at the outset, would drive what the acquirer would use to measure whether the transaction has been successful or not. Stemming from a financial accounting background and given the lack of research performed in this discipline, this study chooses to view the success or failure of a merger or acquisition transaction from an accounting perspective. The most common used basis for assessing financial performance is using ratios for operating financial performance. A review of the operating financial performance measurement ratios found that the most common and most reliable measurement bases seemed to be the cash flow return on assets, earnings per share and the return on equity. These measurement bases appeared to hold the least bias in terms of accounting adjustments.

The literature review supports the methodology that will be adopted for the purposes of this study.

Chapter 3: Methodology

3.1 Research Methods

The intention of this research is to analyse a cause and effect relationship that takes place for acquiring entities engaging in merger and acquisition transactions. The cause leg of the relationship when an acquirer enters into a merger or acquisition transaction with the effect leg of the relationship being the impact the merger or acquisition transaction has on the long run operating financial performance of the acquirer. When a cause and effect relationship is analysed, a causal study needs to take place (Blumberg, Cooper and Schindler, 2008). The study will aim to identify the impact of the merger or acquisition transaction on operating financial performance using a direct comparison between the pre-acquisition results and the post-acquisition results. Base years of 2005 and 2010 will be used to identify the merger and acquisition transactions that took place during these years, using the benchmark of the completion date. The transactions identified in 2005 will be analaysed for the period 2000 to 2005 (pre-acquisition period) and 2005 to 2010 (post-acquisition period). The transactions identified in 2010 will be analysed for the period 2005 to 2010 (pre-acquisition period) and 2010 to 2015 (post-acquisition period).

The literature review provided a basis regarding the types of studies that had been conducted in this area of expertise. The literature revealed a number of different event time window period studies ranging from a short-term point of view and a long-term point of view. Refer to the conclusion on the literature review on page 27 which provides further substantiation on why the particular methodology was chosen, given the literature on the subject. The literature review aided in the selection of the most convincing forms of financial ratio analysis and favoured a long-term event time window period for the analysis of merger and acquisition transactions. Given the background obtained from the review of the literature on mergers and acquisitions, the following hypotheses are proposed:

Hypothesis 1:

H_0: The null hypothesis is that mergers and acquisitions do not result in financial benefits to acquiring entities in the long run.

H_1: The alternate hypothesis is that mergers and acquisitions result in financial benefits to acquiring entities in the long run.

This will be determined through the following ratios:

- Cumulative Abnormal Returns on Share Prices (Pre-transaction) $<$ Cumulative Abnormal Returns on Share Prices (Post-transaction)
- Return on Equity (Pre-transaction) $<$ Return on Equity (Post-transaction)
- Earnings per Share (Pre-transaction) $<$ Earnings per Share (Post-transaction)

Hypothesis 2:
H_0: The null hypothesis is that synergistic benefits are not realized in the form of performance benefits accruing to acquiring entities.
H_1: The alternate hypothesis is that synergistic benefits are realized in the form of performance benefits accruing to acquiring entities.

This will be determined through the following ratio:

- Cash Flow Returns on Assets (Pre-transaction) $<$ Cash Flow Returns on Assets (Post-transaction)

Hypothesis 3:
H_0: The null hypothesis is that there are not clearly distinguishable trends in the value creation or destruction of acquiring entities in the long-run.
H_1: The alternate hypothesis is that there are clearly distinguishable trends in the value creation or destruction of acquiring entities in the long-run.

3.2 Data Collection Process

There are two methods of data collection which can be catergorised as primary or secondary data. Primary data collection occurs to gather new information whilst secondary data collection occurs when utilizing information that has previously been collected. (Aggoud and Bourgeois, 2012). The following sources will be used for the collection of secondary data with reference to this dissertation: Bloomberg, McGregor BFA, MergerMarket, journal articles and the annual financial statements of the selected entities.

The research study conducted will be historical as it involves the analysis of data based on transactions that have occurred in the past. The research study is of a quantitative nature whereby data from financial statements will be used to calculate various ratios and therefore qualitative tools will not be utilized for the purposes of this study.

The listing of merger and acquisition transactions that were completed in 2005 and 2010 was obtained through Bloomberg which was available through the UKZN network using the Bloomberg terminal. Thereafter the relevant ratios were extracted using Bloomberg and supplemented by information from publicly available annual financial statements and share prices to complete any missing ratios.

3.3 Data Collections Tools

The financial parameters that will be measured and analysed include cumulative abnormal return on share prices, return on equity, earnings per share, and the cash flow return on assets. Healy, Palepu and Ruback (1997) recommended that a study from an accounting perspective be undertaken that measures a firm's operating cash flows after adjusting for the performance of the industry, using the financial ration analysis, more specifically, the return on assets, over the stipulated event window period. It is accepted that this technique results in an accurate reflection of the operating financial performance measurement methodology that overcomes the adjustments and biases in relation to accounting treatments, financing methods, the engagement of assets employed to generate a return including industry and external economic factors (Healy et al., 1997).

It is known that event studies are sensitive to external and uncontrollable events within the event window period, which would therefore result in a bias or distortion of the results desired by the researcher (Aktas et al., 2007). Long run event studies are naturally more sensitive to various impacts on the acquirer unrelated to the merger or acquisition transactions as opposed to the short run event studies (Rau and Vermaelen, 1998).

3.4 Procedure to follow

Step 1: Identify the mergers and acquisition transactions for Johannesburg Stock Exchange Listed entities that took place in 2005 and 2010 based on the completion date. Listings of said transactions will be obtained from Bloomberg.

Step 2: The financial information required for the calculation of ratios will be obtained from Bloomberg using the ticker for each of the identified entities that incurred such transactions as per step 1. It is vital that the acquiring entity was in existence for five years prior to the merger or acquisition transaction as well as for five years after the transaction.

Step 3: Calculate the intended ratios for the identified transactions in step 1 should this information be missing.

Intended ratios include:

- Cumulative abnormal return on share prices
  - Actual return of acquirer – expected return of acquirer
- Return on equity
  - Earnings before interest and tax / (Total Assets – Current Liabilities)
- Earnings per share
  - Profit after tax / Number of equity shares in issue
- Cash flow return on assets
  - Cash flow from operations / Total Assets

Step 4: Analysis of the results obtained in step 3 for comparison between the transactions identified in step 1 as well as the outcomes of other relevant studies.

Analysis of the results will include:

- Assessment of the mean for each measurement base identified in step 3.
- Assessment of the standard deviation for each measurement base identified in step 3.
- Assessment of each measurement base in the post-acquisition phase with comparison to the pre-acquisition phase to determine whether there was an improvement or a decline in the results.

3.5 Sample Method

The sample method will involve including all significant merger and acquisition transactions for Johannesburg Stock Exchange Listed entities that occurred in the period from 2005 and 2010 (Refer to Appendix 1 and Appendix 2). This will ensure that a window period of five years pre-acquisition and post-acquisition would be available for analysis. The transactions for the 2005 base year will be analysed from 2000 to 2005 (pre-acquisition period) and from 2005 to 2010 (post-acquisition period). The transactions determined for the 2010 base year will be analysed from 2005 to 2010 (pre-acquisition period) and from 2010 to 2015 (post-acquisition period).

3.6 Population

The population of entities includes all Johannesburg Stock Exchange listed entities that engaged in merger and acquisition activities with the completion date taking place during the year 2005 and during the year 2010.

3.7 Sample Criteria

A sample size will include the sum total of all the merger and acquisition transactions of Johannesburg Stock Exchange listed entities within South Africa that had completion dates taking place in 2005 (32 transactions meeting the criteria) and 2010 (66 transactions meeting the criteria) is considered adequate for a master's dissertation in relation to the depth of the study for each merger selected. The acquiring entities must be in existence for five years preceding the merger or acquisition transaction and five years after the completion of the transaction.

Chapter 4: Results and Discussion

4.1 2005 Mergers and Acquisitions

The access of Bloomberg was facilitated and all mergers and acquisitions in South Africa were selected with a completion date of 2005. The listing yielded results of 80 transactions being completed within the parameters of 1 January 2005 to 31 December 2005 which was extracted to an excel spreadsheet and sorted in descending "Announced Total Value", refer to Appendix 1.

4.1.1 2005 Mergers and Acquisitions Ratios

Acquirer Name	Cumulative Abnormal Returns on share prices		Return on Equity		Earnings per share		Cash flow returns on assets	
	2000	2010	2000	2010	2000	2010	2000	2010
Sanlam Ltd	-0.0041	-0.0012	12.0418	17.9838	0.839	2.804	1.2448	1.5868
New Bond Capital Ltd	-0.0167	0.003	66.93	-4.0452	1.6804	-0.26	17.243	-2.4596
Mutual & Federal Insurance Co Ltd	0.0079	-0.0035	100.735	11.6521	0.076	0.442	8.246	8.1553
Simmer & Jack Mines Ltd	0.0621	-0.0248	-0.8535	-74.9207	-0.0007	-1.3757	-0.4732	-57.2603
FirstRand Ltd	3.8236	-0.0039	24.8799	37.1357	0.657	3.727	1.4467	2.6395
Barclays Africa Group Ltd	0.0073	-0.0077	18.9053	15.197	3.7653	11.333	1.3068	1.1746
JD Group Ltd / South Africa	0.0111	-0.0036	21.6899	10.0351	3.0092	3.0401	10.7596	5.5046
Massmart Holdings Ltd	0.703	-1.0056	20.1763	22.559	0.914	4.121	4.9841	5.5577
Invicta Holdings Ltd	0.0071	-0.0098	14.7781	23.1911	0.4229	4.6333	7.1201	5.5225
Verimark Holdings Ltd	0.0457	-0.0387	-191.118	48.693	-13.1	0.315	-170514	21.6949
Randgold & Exploration Co Ltd	0.0066	-0.0038	220.544	225.1434	0.46	10.32	1.4274	108.6148
AVI Ltd	0.001	-0.0059	16.7052	24.0843	1.0927	2.319	9.3993	12.7347
AH-Vest Ltd	0.044	-0.0256	28.1446	-14.6913	0.0278	-0.024	7.766	-5.5452
Standard Bank Group Ltd	0.0042	-0.0032	11.454	4.1034	2.9119	2.399	3.2178	2.1985
AECI Ltd	0.0087	-0.0055	8.2656	14.5922	1.5721	5.59	4.1324	5.9188
Petmin Ltd	0.0103	0.0081	1.5838	7.8936	0.0277	0.175	0.8458	5.9627
Spearhead Property Holdings	-0.0003	-0.0052	13.285	14.7375	2.209	2.7264	5.22	5.3245
Afgri Ltd	0.0024	0.0025	10.3438	10.3044	0.6277	0.58	6.9163	2.3092

Hudaco Industries Ltd	0.0059	-0.0035	18.4521	19.2361	1.711	7.45	8.9537	6.0462
Argent Industrial Ltd	0.0287	-0.013	15.0306	4.2817	0.427	0.59	8.7094	2.686
Iliad Africa Ltd	0.0391	-0.0121	29.2749	5.1587	0.344	0.388	11.8718	2.6315
Astrapak Ltd	0.0225	-0.0044	25.7439	10.1798	0.4432	0.737	10.1184	4.7963
Winhold Ltd	0.0401	-0.0122	14.6954	10.1851	0.109	0.198	3.2656	3.674
Murray & Roberts Holdings Ltd	0.0091	-0.0019	21.8262	-33.2892	1.3669	-4.7661	8.4421	-8.5293
Grindrod Ltd	0.0348	-0.0136	16.1216	13.4586	0.1304	1.716	4.7615	6.3255
Value Group Ltd	0.009	-0.0078	18.0861	19.0551	0.102	0.545	8.3076	8.1865
Transpaco Ltd	0.0156	-0.0042	-0.5535	26.0419	-0.0118	2.165	-0.2501	13.9376
Bauba Platinum Ltd	0.1008	-0.0324	-267.616	-2091.0585	-7.3	-0.599	-41.5781	-269.7974
Shoprite Holdings Ltd	-0.0055	0.0113	-17.966	-38.2434	-0.121	-0.0126	-17.2237	-15.2325
Set Point Group Ltd	0.0167	0.0114	12.516	12.123	0.039	0.029	3.4964	11.8441
Control Instruments Group	0.0218	-0.0181	22.4545	35.7737	0.227	2.42	12.2587	20.8367
Tiger Brands Ltd	0.0057	-0.0042	-79.0287	17.5141	-6.0317	0.5725	-55.8	3.1146

4.1.2 Mean

The mean for each analytical ratio is derived by finding the average using an excel spreadsheet. The mean is calculated by adding all the ratios together and then dividing by the total number of entries.

4.1.2.1 Cumulative Abnormal Returns on Share Prices

Abnormal returns are often triggered by events, in particular to this study, the event would be the announcement of a merger or acquisition venture by an acquiring entity. It is a tool that is used by investors to assess whether they should be buying or selling shares in the particular entity. Bagley (2010). The cumulative abnormal returns figure provides insight into the relationship between the expected value of a share price within the context of the market performance and the actual value of the share price. Lyon (1999).

The mean for the sample selected in terms of the cumulative abnormal returns on share prices was derived as 0.1584 for the year 2000 and -0.03875 for the year 2010 showing an overall decline in the post-acquisition period. This would reflect that the transaction was not beneficial to the acquirer in terms of the cumulative abnormal returns on share prices.

4.1.2.2 Return on Equity

The return on equity is a measure that is often used by investors to ascertain whether they have generated a sufficient return on their investment, given the risk taken to invest in that particular entity. (Easton et al, 2002). A number of studies have included the return on equity as a measure to use whilst performing an analysis on their selected sample.

Salter and Weinhold (1979) performed a study on a sample size of 16 entities using the return on equity and return on assets as the measurement bases and found that the return on equity was significantly lower than that for the New York Stock Exchange. Mueller (1980) also used the return on equity as a measurement basis along with the return on assets and the return on sales across a sample size of 287 entities, finding that entities that engaged in merger and acquisition transactions were ultimately less profitable.

Herman and Lowenstein (1988) solely used the return on equity to assess 100 entities and found that the return on equity increased for the acquirers in the post-acquisition period.
Seth (1990) seemed to concur with the other studies done up to this point finding that over a sample of 102 entities, there was an increase in the equity value in the post-acquisition period.

The mean for the sample selected in terms of the return on equity was derived as 7.1102 for the year 2000 and -49.873 for the year 2010 showing an overall decline in the post-acquisition period. This would reflect that the transaction was not beneficial to the acquirer in terms of the return on equity.

4.1.2.3 Earnings per Share

The earnings per share is a measure that reflects how much profit or loss an entity made for the particular period in relation to the number of shares they have in issue. It shows the profitability of the entity and from this, the shareholders can envisage how much of the earnings the entity is distributing in the form of a dividend with the remainder being retained by the entity for the purpose of reinvestment and expansion of the business. (Bragg, 2017).
Chatterjee and Meeks (1996) performed an analysis on 144 entities assessing the profitability returns and found that transactions that occurred in the time period pre-1985 showed no significant increases in profitability returns in the post-acquisition phase whilst transactions that occurred in the time period post-1985 showed significant increases in profitability returns in the post-acquisition phase.

The mean for the sample selected in terms of the earnings per share was derived as -0.04291 for the year 2000 and 2.0093 for the year 2010 showing an overall improvement in the post-acquisition period. This would reflect that the transaction was beneficial to the acquirer in terms of the earnings per share.

4.1.2.4 Cash Flow Returns on Assets

The return on assets analysis tool appeared to be the most widely used in the assessment of mergers and acquisitions. The cash flow return on assets reflects the amount that is earned by the entity in "real terms" without any accounting adjustments / bias / judgements in relation to the assets that the entity employs to generate the cash flow to the entity. (Bragg, 2015).

Meeks (1977) used return on assets as an assessment measure across a sample size of 233 entities resulting in a finding that the return on assets decreased in the post-acquisition period.

Mueller (1980) used a few measurement bases with the return on assets being one of the forms of analysis over 287 entities and found that entities engaged in merger and acquisitions transactions were less profitable as a result.

Ravenscraft and Scherer (1987) used only the return on assets as a form of assessment on 471 entities and found that there was a decline in the return on assets for the aquiree's and that a negative relationship existed between the operating return on assets and tender offer activity.

Healy et al (1992) performed an analysis over 50 entities and found that whilst the merged entities showed significant abnormal improvement in asset productivity, there were no significant increases in the cash flows.

Dickerson et al (1997) analysed a total of 144 entities using the return on assets measure which is a study in line with the current research in that it looked at a window-event period of five years post-acquisition. The research revealed that the return on assets of the acquirer is lower than for non-acquirers for the first five years in the post-acquisition period.

Parrino and Harris (1999) analysed 197 entities using the operating cash flow return as an assessment tool and found that there was a significant increase in operating cash flow returns in the post-acquisition period.

Gosh (2001) performed a study on 315 entities and used the return on assets operating cash flow to analyse the selected sample. The study revealed that there was no change identified in the return on assets in the post-acquisition period.

The mean for the sample selected in terms of the return on assets was derived as -5326.81 for the year 2000 and -2.58894 for the year 2010 showing an overall improvement in the post-acquisition period. This would reflect that the transaction was beneficial to the acquirer in terms of the return on assets.

4.1.3 Improvement / Decline in ratios

The four selected measurement bases were calculated for merger and acquisition transactions that were completed in 2005. The ratios were calculated for the pre-acquisition period (2000) and the post-acquisition period (2010). Where the cumulative abnormal return, return on equity, earnings per share or cash flow returns on assets was greater in 2010 than in 2000, an improvement was noted. Where there was a decrease in the performance measure from 2000 to 2010, a decline was noted.

Key: Improvement – ✔

Decline - ✘

Acquirer Name	Cumulative Abnormal Returns on share prices	Return on Equity	Earnings per share	Cash flow returns on assets
Sanlam Ltd	✔	✔	✔	✔
New Bond Capital Ltd	✔	✘	✘	✘
Mutual & Federal Insurance Co Ltd	✘	✘	✔	✘
Simmer & Jack Mines Ltd	✘	✘	✘	✘
FirstRand Ltd	✘	✔	✔	✔
Barclays Africa Group Ltd	✘	✘	✔	✘
JD Group Ltd / South Africa	✘	✘	✔	✘
Massmart Holdings Ltd	✘	✔	✔	✔
Invicta Holdings Ltd	✘	✔	✔	✘
Verimark Holdings Ltd	✘	✔	✔	✔
Randgold & Exploration Co Ltd	✘	✔	✔	✔
AVI Ltd	✘	✔	✔	✔
AH-Vest Ltd	✘	✘	✘	✘
Standard Bank Group Ltd	✘	✘	✘	✘
AECI Ltd	✘	✔	✔	✔
Petmin Ltd	✘	✔	✔	✔
Spearhead Property Holdings Ltd	✘	✔	✔	✔
Afgri Ltd	✔	✘	✘	✘
Hudaco Industries Ltd	✘	✔	✔	✘
Argent Industrial Ltd	✘	✘	✔	✘
Iliad Africa Ltd	✘	✘	✔	✘
Astrapak Ltd	✘	✘	✔	✘
Winhold Ltd	✘	✘	✔	✔
Murray & Roberts	✘	✘	✘	✘

Holdings Ltd				
Grindrod Ltd	✗	✗	✔	✗
Value Group Ltd	✗	✔	✔	✗
Transpaco Ltd	✗	✔	✔	✔
Bauba Platinum Ltd	✗	✗	✔	✗
Shoprite Holdings Ltd	✔	✗	✔	✔
Set Point Group Ltd	✗	✗	✗	✔
Control Instruments Group Pty Ltd	✗	✔	✔	✔
Tiger Brands Ltd	✗	✔	✔	✔

The total number of transactions that resulted in an improvement of the cumulative abnormal returns on share prices was 4 out of 32 (13%), with the majority of entities resulting in an overall decline in performance at 28 out of 32 (87%).

The total number of transactions that resulted in an improvement of the return on equity was 15 out of 32 (47%), with majority of the entities resulting in an overall decline in performance at 17 out of 32 (53%).

The total number of transactions that resulted in an improvement of the earnings per share was 25 out of 32 (78%) being the majority with a smaller percentage of entities resulting in a decline in performance at 7 out of 32 (22%).

The total number of transactions that resulted in an improvement of the cash flow returns on assets was 15 out of 32 (47%), with majority of the entities resulting in an overall decline in performance at 17 out of 32 (53%).

It appears that overall, majority of the transactions were not successful in the long-term post-acquisition period. The result is that three (cumulative abnormal returns on share prices, return on equity and return on assets) of the four indicators revealed a decline in the performance of the acquiring entities in the post-acquisition period. The only indicator not showing a decline in performance is the earnings per share, however, this measure is subject to accounting adjustments.

4.2 2010 Mergers and Acquisitions

The access of Bloomberg was facilitated and all mergers and acquisitions in South Africa were selected with a completion date of 2010. The listing yielded results of 112 transactions being completed within the parameters of 1 January 2010 to 31 December 2010 which was extracted to an excel spreadsheet and sorted in descending "Announced Total Value", refer to Appendix 2.

4.2.1 2010 Mergers and Acquisitions Ratios

Acquirer Name	**Cumulative Abnormal Returns on share prices**		**Return on Equity**		**Earnings per share**		**Cash flow returns on assets**	
	2005	**2015**	**2005**	**2015**	**2005**	**2015**	**2005**	**2015**
Vukile Property Fund Ltd	0.3019	-0.0822	14.11	14.5758	2.2956	2.4955	9.55	9.6458
Nedbank Group Ltd	0.0069	0.0075	11.35	22.61	1.1665	1.2786	19.0438	15.1236
Wal-Mart Stores Inc	0.052	-0.8328	21.8998	18.1475	2.68	4.58	8.6947	7.291
RMB Holdings Ltd	0.0298	-0.0899	16.378	20.5917	3.008	5.357	16.772	19.867
American Tower Corp	-0.2848	-0.4531	16.923	14.8168	1.61	1.42	3.192	2.8445
OM Holdings Ltd	0.9568	-2.9419	-41.1473	-82.9761	0.016	-0.1734	-22.4981	-11.476
ArcelorMittal South Africa Ltd	0.0407	-0.2742	28.6312	-50.5059	12.6326	-21.52	20.5444	-26.9894
Aon PLC	-0.2189	-0.4654	14.0691	22.0313	2.27	4.93	2.6175	4.8892
Nyota Minerals Ltd	2.5537	-2.9454	4.28	3.84	-75.104	-200.49	-127.538	-277.8978
Redefine Properties Ltd	-0.2929	-1.0609	11.442	13.703	-0.406	1.4252	5.936	8.3364
Rubis SCA	-0.1743	-0.7026	7.1118	11.9013	0.6515	2.065	2.987	5.653
FirstRand Ltd	-0.2121	-0.0218	30.8812	23.6853	1.716	4.024	1.7456	2.0742
Alphabet Inc	-0.1166	-0.631	23.7349	14.1183	2.655	23.11	21.5735	11.8186
Pearson PLC	0.8346	-0.6241	19.6103	13.2817	0.782	1.012	8.8024	7.1466
Andulela Investment Holdings Ltd	3.1284	-3.1023	-1.743	-5.6163	4.95	-0.2468	2.272	-2.1218
Bauba Platinum Ltd	-1.8602	-4.7278	-18.1006	-3.6435	-0.29	-0.0169	-6.8997	-3.1682
FLSmidth & Co A/S	0.8949	-0.852	18.3705	5.3744	9.1016	8.6	5.3799	1.6603
Sabvest Ltd	-0.3957	0.9157	19.8972	31.346	0.714	10.039	18.9049	25.1716

Alviva Holdings Ltd	-0.2407	-0.9565	34.0489	18.819	0.303	2.071	10.2082	7.9644
Grindrod Ltd	-0.5567	-1.2135	61.4487	-7.7995	1.857	-1.898	22.7362	-3.9396
DRDGOLD Ltd	-0.1158	-0.6234	-17.4967	4.3164	-0.35	0.15	-4.8825	2.5164
Petra Diamonds Ltd	-0.3114	-0.2054	-27.1215	9.9678	-0.1311	0.1038	-18.5749	4.0643
Kapsch TrafficCom AG	-0.0506	-0.3734	27.0635	14.4343	1.023	2.39	7.7078	6.0416
Emirates Telecommunications	-0.2061	-0.6561	29.3402	19.2141	0.4894	0.95	19.1545	6.4718
Myrexis Inc	-0.1093	0.2983	-2.43	-0.39	-27	-25.0215	-27.7031	-25.6718
DSV A/S	-0.3347	-0.213	3.4099	12.09	5.1073	7.9992	19.592	23.0222
Tullow Oil PLC	1.1772	-2.0408	29.5979	-28.9418	0.2712	-0.9675	12.2042	-9.0894
Net 1 UEPS Technologies Inc	-0.7093	-0.7083	34.2443	15.0846	1.05	1.72	26.2243	6.3907
Tiso Blackstar Group SE	0.7817	0.5628	11.682	10.5693	0.09	-0.1581	13.863	10.1636
Brimstone Investment Corp Ltd	0.4655	-0.6712	43.7626	-23.8751	0.914	-2.848	23.6531	-8.9695
Jasco Electronics Holdings Ltd	-0.3948	-1.0351	18.1538	6.556	0.262	0.063	11.6642	2.0517
Rockwell Diamonds Inc	-1.1298	-1.166	-144.792	-140.388	-0.98	-0.5179	-337.615	-44.0111
Transpaco Ltd	-0.1462	-0.5306	13.1662	22.3381	0.584	3.327	6.3432	13.6632
Tawana Resources NL	-0.2599	-0.0129	-36.3122	-190.477	-0.7867	-0.0855	-35.8792	-177.5782
CWT Ltd	0.9176	0.17	9.5725	13.5756	0.022	0.1814	5.0808	2.4457
Labat Africa Ltd	3.6974	0.3813	-32.8193	-11.582	-0.103	0.0042	-9.6448	4.203
Imperial Holdings Ltd	-0.0528	-0.0882	14.7	15.81	6.6816	4.499	24.6504	15.5987
Kirloskar Brothers Ltd	-0.0293	-1.7572	54.7017	-2.4941	25.3042	-3.04	17.9255	-0.9488
IG Group Holdings PLC	0.3487	-0.7218	23.1365	26.1958	0.1088	0.4494	9.2633	22.287
Santova Ltd	-5.6783	-2.7364	4.5508	16.0608	0.02	0.345	1.0482	5.5461
Grand Parade Investments Ltd	-0.2542	-0.3027	-0.25422	-0.30279	81.5019	8.5735	2.0098	0.4301
Famous Brands Ltd	0.1065	-0.3367	0.10652	-0.33674	31.5794	36.8483	0.995	5.29
G4S PLC	0.2888	-0.3007	0.2888	-0.3007	10.2802	1.0172	0.076	0.005
Vunani Ltd	-0.3916	0.2069	-0.3916	0.2069	-197.56	2.3826	-29.1827	0.0538
Harmony Gold Mining Co Ltd	0.0557	-0.1097	0.0557	-0.1097	1.6287	3.4552	0.96	2.18
Dresser-Rand Group Inc	-0.2516	0.2345	-0.2516	0.2345	13.7387	9.4465	0.92	1.6

Sage Group PLC/The	-0.0334	0.6542	-0.0334	0.6542	15.6217	23.8405	0.1181	0.1811
Bureau Veritas SA	0.1191	0.0363	0.1191	0.0363	73.7195	23.1743	0.3775	0.58
Standard Chartered PLC	0.6063	-0.5267	0.6063	-0.5267	15.6823	-4.9882	1.3565	-0.919
Hudaco Industries Ltd	0.1093	-0.4983	0.1093	-0.4984	22.3637	21.1029	5.017	11.64
Ingenuity Property Investments Ltd	3.8067	-1.8575	3.8067	-1.8575	24.8044	18.2277	0.075	0.184
Investec Ltd	0.05411	0.3089	0.0541	0.3089	27.28	9.6933	0.547	0.385
Deutsche Telekom AG	-0.2665	0.8749	-0.2665	0.8749	6.9061	16.5217	0.74	0.71
Securitas AB	-0.0674	0.3443	-0.0674	0.3443	7.0356	20.4831	2.33	6.67
Barclays Africa Group Ltd	-0.2525	-0.3094	-0.2525	-0.3094	27.704	16.6657	14.289	16.924
Marico Ltd	0.2207	-0.1697	0.2207	-0.1697	49.0206	37.0355	0.9432	5.53
Purple Group Ltd	-2.5879	-0.2312	-2.5879	-0.2312	18.5338	11.5394	0.0702	0.0351
Unicorn Capital Partners Ltd	0.4264	-2.9392	0.4264	-2.9392	8.0809	-57.4885	0.1837	-0.5646
DataTec Ltd	0.7273	0.1958	0.7273	0.19584	12.173	4.6965	0.4	0.193
Ossur HF	0.0686	-0.0876	0.0686	-0.08767	2.7729	11.3523	0.0113	0.115

4.2.2 Mean

The mean for each analytical ratio is derived by finding the average using an excel spreadsheet. The mean is calculated by adding all the ratios together and then dividing by the total number of entries.

4.2.2.1 Cumulative Abnormal Returns on Share Prices

The mean for the sample selected in terms of the cumulative abnormal returns on share prices was derived as 0.079836 for the year 2005 and -0.63328 for the year 2015 showing an overall decline in the post-acquisition period. This would reflect that the transaction was not beneficial to the acquirer in terms of the cumulative abnormal returns on share prices. This finding is consistent with that of the 2005 base year.

4.2.2.2 Return on Equity

The mean for the sample selected in terms of the return on equity was derived as 10.03615 for the year 2005 and 1.665725 for the year 2015 showing an overall decline in the post-acquisition period. This would reflect that the transaction was not beneficial to the acquirer in terms of the return on equity. This finding is consistent with that of the 2005 base year.

4.2.2.3 Earnings per Share

The mean for the sample selected in terms of the earnings per share was derived as -0.20964 for the year 2005 and -1.85291 for the year 2015 showing an overall decline in the post-acquisition period. This would reflect that the transaction was beneficial to the acquirer in terms of the earnings per share. This finding is not consistent with that of the 2005 base year, which found an overall improvement on a cumulative basis of the sample selected.

4.2.2.4 Cash Flow Returns on Assets

The mean for the sample selected in terms of the return on assets was derived as -0.9553 for the year 2005 and -4.12291 for the year 2015 showing an overall decline in the post-acquisition period. This would reflect that the transaction was not beneficial to the acquirer in terms of the return on assets. This finding not consistent with that of the 2005 base year, which found an overall improvement on a cumulative basis of the sample selected.

4.2.3 Improvement / Decline in ratios

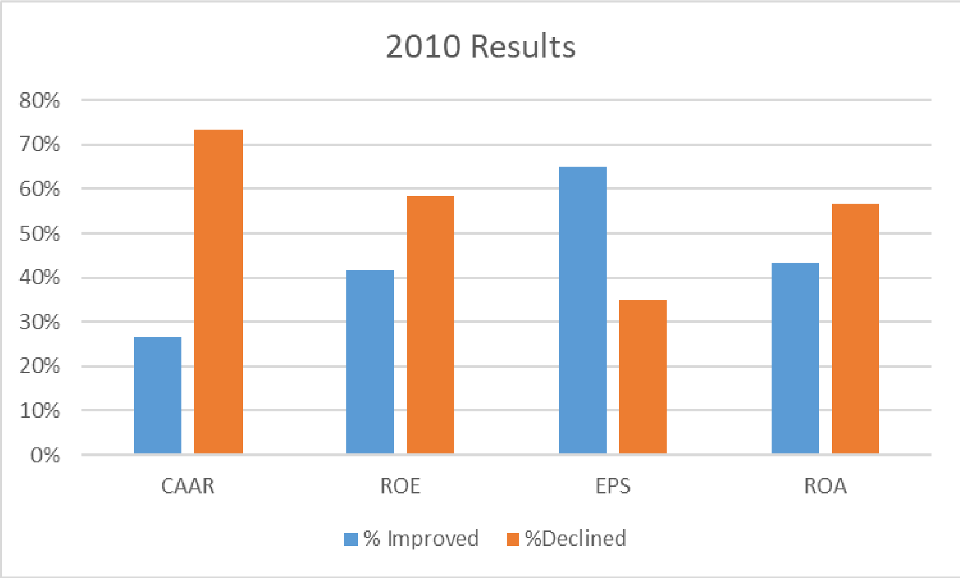
The four selected measurement bases were calculated for merger and acquisition transactions that were completed in 2010. The ratios were calculated for the pre-acquisition period (2005) and the post-acquisition period (2015). Where the cumulative abnormal return, return on equity, earnings per share or cash flow returns on assets was greater in 2015 than in 2005, an improvement was noted. Where there was a decrease in the performance measure from 2005 to 2015, a decline was noted.

Key: Improvement – ✔

Decline - ✘

Acquirer Name	Cumulative Abnormal Returns on share prices	Return on Equity	Earnings per share	Cash flow returns on assets
Vukile Property Fund Ltd	✘	✔	✔	✔
Nedbank Group Ltd	✔	✘	✔	✘
Wal-Mart Stores Inc	✘	✘	✔	✘
RMB Holdings Ltd	✘	✔	✔	✔
American Tower Corp	✘	✘	✘	✘
OM Holdings Ltd	✘	✘	✘	✔
ArcelorMittal South Africa Ltd	✘	✘	✘	✘
Aon PLC	✘	✔	✔	✔
Nyota Minerals Ltd	✘	✘	✘	✘
Redefine Properties Ltd	✘	✔	✔	✔
Rubis SCA	✘	✔	✔	✔
FirstRand Ltd	✔	✘	✔	✔
Alphabet Inc	✘	✘	✔	✘
Pearson PLC	✘	✘	✔	✘
Andulela Investment Holdings Ltd	✘	✘	✘	✘
Bauba Platinum Ltd	✘	✔	✔	✔
FLSmidth & Co A/S	✘	✘	✘	✘
Sabvest Ltd	✔	✔	✔	✔
Alviva Holdings Ltd	✘	✘	✔	✘
Grindrod Ltd	✘	✘	✘	✘
DRDGOLD Ltd	✘	✔	✔	✔
Petra Diamonds Ltd	✔	✔	✔	✔
Kapsch TrafficCom AG	✘	✘	✔	✘
Emirates Telecommunications	✘	✘	✔	✘

Myrexis Inc	✔	✔	✔	✔
DSV A/S	✔	✔	✔	✔
Tullow Oil PLC	✖	✖	✖	✖
Net 1 UEPS Technologies Inc	✔	✖	✔	✖
Tiso Blackstar Group SE	✖	✖	✖	✖
Brimstone Investment Corp Ltd	✖	✖	✖	✖
Jasco Electronics Holdings Ltd	✖	✖	✖	✖
Rockwell Diamonds Inc	✖	✔	✔	✔
Transpaco Ltd	✖	✔	✔	✔
Tawana Resources NL	✔	✖	✔	✖
CWT Ltd	✖	✔	✔	✖
Labat Africa Ltd	✖	✔	✔	✔
Imperial Holdings Ltd	✖	✔	✖	✖
Kirloskar Brothers Ltd	✖	✖	✖	✖
IG Group Holdings PLC	✖	✔	✔	✔
Santova Ltd	✔	✔	✔	✔
Grand Parade Investments Ltd	✖	✖	✖	✖
Famous Brands Ltd	✖	✔	✔	✔
G4S PLC	✖	✖	✖	✖
Vunani Ltd	✔	✔	✔	✔
Harmony Gold Mining Co Ltd	✖	✔	✔	✔
Dresser-Rand Group Inc	✔	✖	✔	✖
Sage Group PLC/The	✔	✔	✔	✔
Bureau Veritas SA	✖	✖	✔	✖
Standard Chartered PLC	✖	✖	✖	✖
Hudaco Industries Ltd	✖	✖	✔	✖
Ingenuity Property Investments Ltd	✖	✖	✔	✖
Investec Ltd	✔	✖	✖	✖
Deutsche Telekom AG	✔	✔	✖	✔
Securitas AB	✔	✔	✔	✔
Barclays Africa Group Ltd	✖	✖	✔	✖
Marico Ltd	✖	✖	✔	✔
Purple Group Ltd	✔	✖	✖	✖
Unicorn Capital Partners Ltd	✖	✖	✖	✖
DataTec Ltd	✖	✖	✖	✖
Ossur HF	✖	✔	✔	✔



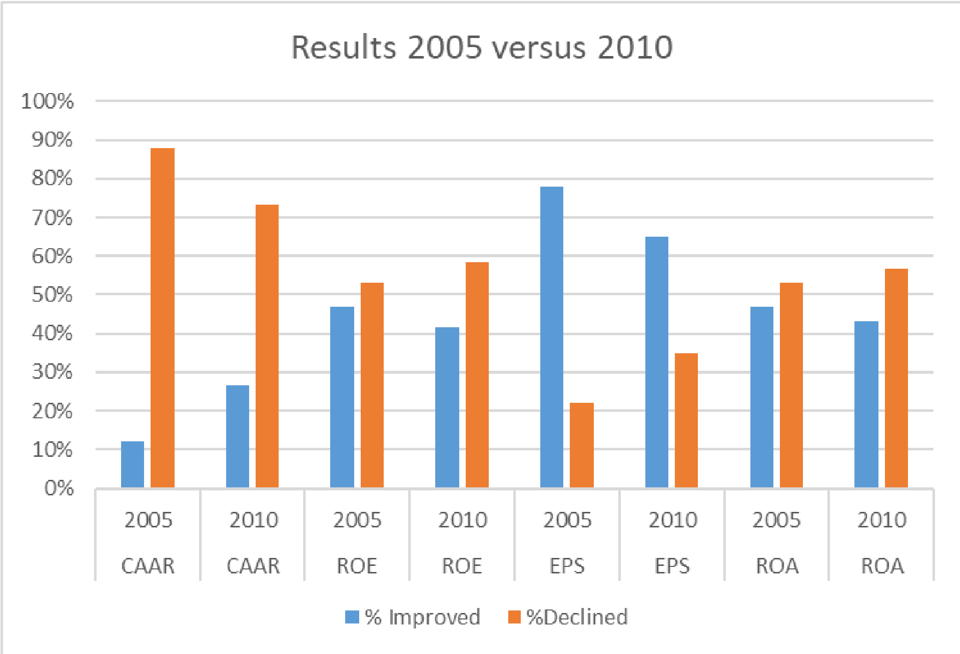
The total number of transaction that resulted in an improvement of the cumulative abnormal returns on share prices was 16 out of 60 (27%) (2005: 13%), with the majority of entities resulting in an overall decline in performance at 44 out of 60 (73%) (2005: 88%). This finding is consistent with that of the 2005 base year.

The total number of transactions that resulted in an improvement of the return on equity was 25 out of 60 (42%) (2005: 47%), with the majority of entities resulting in an overall decline in performance at 35 out of 60 (58%) (2005: 53%). This finding is consistent with that of the 2005 base year.

The total number of transactions that resulted in an improvement of the earnings per share was 39 out of 60 (65%) (2005: 78%), with a decline in performance being noted by 21 out of 60 (35%) (2005: 22%). This finding is consistent with that of the 2005 base year.

The total number of transactions that resulted in an improvement of the cash flow returns on assets was 26 out of 60 (43%) (2005: 47%), with the majority of entities resulting in an overall decline in performance at 34 out of 60 (57%) (2005: 53%). This finding is consistent with that of the 2005 base year.

It appears that overall, majority of the transactions were not successful in the long-term post-acquisition period. The result is that three (cumulative abnormal returns on share prices, return on equity and return on assets) of the four indicators revealed a decline in the performance of the acquiring entities in the post-acquisition period. The only indicator not showing a decline in performance is the earnings per share, however, this measure is subject to accounting adjustments. These findings were consistent between the 2005 and 2010 base years.


Results 2005 versus 2010
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2005 CAAR
2010 CAAR
2005 ROE
2010 ROE
2005 EPS
2010 EPS
2005 ROA
2010 ROA
% Improved
%Declined

Chapter 5: Conclusions and Recommendations

5.1 Findings from the Study

Based on the results, it appears that the performance of acquiring entities declines in the long-term in the post-acquisition period. These results were consistent between three of the four selected indicators and were consistent between the 2005 and 2010 base years. The three indicators which revealed a decline in the performance of the acquirer were the cumulative abnormal returns on share prices, return on equity and return on assets. The most significant decline indicator appeared to be the cumulative abnormal returns. The only indicator which did not reflect a decline in performance of the acquirer was the earnings per share.

5.2 Findings from the Literature

It is important to note that often the inputs for the earnings per share can be manipulated and include various assumptions. (Wayman, 2010). It is thus appropriate that the indicators less subject to accounting adjustments, estimates and assumptions provide a real picture of the performance of the entity. The literature review (Table as per page 28) shows a large number of studies performed within the area of mergers and acquisitions with largely inconclusive results, however, Bruner (2002) found similarly that a negative effect on performance was noted across 55% of studies reviewed for acquirers in the post-acquisition period, being consistent with the findings of this study.

5.3 Limitations

- The study is restricted to entities that are listed on the Johannesburg Stock Exchange, making the financial information readily available.
- The study is restricted to the time period from 2000 to 2015 with reference to the relevant event-time study window periods.
- The study is restricted to acquiring entities that had been in existence for five years before the merger or acquisition transaction as well as remaining in existence for five years after the transaction.
- The study selects only a few key ratios to be used in the analysis and does not include various efficiency, solvency and liquidity ratios. This limits the analysis of the overall performance of the entity.
- The study is restricted to South Africa and thus all entities within the sample operated under the same economic climate, making results difficult when comparing on a global scale.
- Whilst various adjustments have been made to isolate the results in relation to the merger and acquisition transaction, it is impossible to eliminate all other effects on the drivers of the selected measurement bases used in the analysis. Furthermore, the longer the event-time window period, the more susceptible the drivers are to be effected by influences other than the merger and acquisition transaction. Despite this impact on the drivers of the analytical tools used, a long-run period is still deemed appropriate due to the length of time benefits of the merger and acquisition transaction take to come to fruition and reflect in the financial figures.
- The ratios and differences have been calculated to determine whether there has been any value created as a result of the transaction, however, the significance of the statistical gauge has not been extrapolated to represent the rand value significance.
- During the period selected for study, an economic crisis and recession took place which may have impacted the results obtained.

5.4 Conclusions

The selected performance indicators over the pre-determined period appears to result in an overall decline in the performance of the acquiring entities, despite common beliefs that entities would obtain synergistic benefits through the merger and acquisition process. There are a large number of factors that could impact the performance of entities over a long term period as well as the manner in which a merger or acquisition transaction takes place, including the implementation thereof.

5.5 Recommendations

A study could be conducted in other countries using a similar methodology to establish whether the result is evident across countries. The time period could be extended to determine whether this would impact on the outcome of the results.
Other financial accounting ratios and finance tools could be used to extend the analysis further of the performance of the acquiring entities.
Studies could be focused on a particular type of merger or acquisition such as horizontal, vertical, conglomerate, market extension or product extension to ascertain whether the type of merger has any impact on the success of the transaction.
A study could use the information provided in this research study to quantify the rand value significance of the merger or acquisition transaction.
The study could be further scrutinized by group the various entities within the sample into various industries with the intention of determining whether any pattern exists.

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Appendix 1

2005 Listing of Mergers and Acquisitions

Acquirer Name	Target Name	Announced Total Value (Million)
Business Venture Investments No 790 Ltd	Afrox Healthcare Ltd	3531,16
Liberty Group Ltd	Capital Alliance Holdings Ltd	3434,49
Sanlam Ltd	African Life Assurance Co Ltd	2101,01
New Bond Capital Ltd	Certain businesses & assets / Mvela	2016,54
Ellerine Holdings Ltd	Relyant Retail Ltd	1888,25
ApexHi Properties Ltd	Prima Property Trust	1157,68
Growthpoint Properties Ltd	Tresso ppty portfolio	1125,05
Cipla Medpro South Africa Ltd	Cipla Medpro Holdings Pty Ltd	1100
Peermont Global Ltd	Caesars Gauteng	818,9
Massmart Holdings Ltd	Servistar Pty Ltd	750
FirstRand Ltd	Sage Group Ltd	642,4
Republic of South Africa	Videocon Mozambique Rovuma 1 Ltd	595
Barclays Africa Group Ltd	South African Branch Business	578
Peermont Global Ltd	Tusk Casino Resorts and Hotels Group	511,5
JD Group Ltd / South Africa	Connection Group Holdings Ltd	489,63
Massmart Holdings Ltd	Moresport Holdings Ltd	403,8
Monyetla Property Fund Ltd	15 pptys portfolio	371,25
Freestone Property Holdings Ltd	Property letting enterprises	354,89
Invicta Holdings Ltd	Bearing Man Ltd / South Africa	333,95
Vukile Property Fund Ltd	MICC Property Income Fund Ltd	306,41
Verimark Holdings Ltd	Verimark Holdings Pty Ltd	300
Joint Venture	Mining & smelting assets	276,16
Randgold & Exploration Co Ltd	Viking Pony Properties 359 Pty Ltd	266,22
AVI Ltd	A&D Spitz Pty Ltd	260
Joint Venture	Unnamed Target	232,07
Management Group, Izingwe Capital, Actis Africa Fund 2 LP	Peters Papers	220
FirstRand Ltd	Sovereign Health Pty Ltd	190
FirstRand Ltd	African Life Health Pty Ltd	175,8
Spearhead Property Holdings Ltd	Erf 170 Roggebaai / Cape Town	170,84
AECI Ltd	2 Chemical businesses	150
Vukile Property Fund Ltd	MICC Property Income Fund Ltd	148,07
Fidentia Holdings Ltd	m Cubed Life Ltd	139
Petmin Ltd	Springlake Holdings Pty Ltd	132,95
Royal Bafokeng Nation	Senwes Ltd	123
Acucap Properties Ltd	East Rand Value Mall	118,5
Afgri Ltd	Daybreak Farms Pty Ltd	110
Aflease Gold and Uranium Resources Ltd	Weltevreden gold mine	109,87

Growthpoint Properties Ltd	City Mall	105
Amrite Investments Pty Ltd	Sasani Ltd	99,65
Foskor Ltd	Phalaborwa phosphoric acid plant	95
iFour Properties Ltd	Palm Springs Shopping Centre	94,52
Prima Property Trust	SBSA ppty portfolio	92,04
J&J Enterprises	Criterion Equipment	75
Samsac Holdings Pty Ltd	Select Personal Protective Equipment Pty Ltd	67,4
Hudaco Industries Ltd	Powermite businesses / The	65
Double Ring Trading 338 Pty Ltd	Certain assets of Set Point Instruments	56,3
Argent Industrial Ltd	Tool Room Services Co	54,99
Argent Industrial Ltd	Xpanda Security Pty Ltd	54,94
Astrapak Ltd	Hilfort Plastics Ltd	53,79
Winhold Ltd	Inmins Ltd	52,71
Bacarac Trading 4 Pty Ltd	Drilling Business / South Africa	49,89
Mutual & Federal Insurance Co Ltd	Credit Guarantee Insurance Co	48,65
SA Taxi Finance Holdings Pty Ltd	Commercial Vehicle Finance Division	45
AH-Vest Ltd	Retailer Brands Ltd	44,55
Telkom SA SOC Ltd	South African phone activities	41,77
One Africa Ltd	New Kleinfontein Mining Co	32,55
Globus Investment Pty Ltd	6 pptys portfolio	31,48
Grindrod Ltd	Sea Munye Port Holdings	30
Beige Holdings Ltd,Thebe Health Care Pty Ltd,Mothebe Investments Pty Ltd	Quality Products Pty Ltd	26,59
RMB Corvest Pty Ltd	Highbury Monarch Communications Pty Ltd	23,8
Mobicom Corp	Global Asset Tracking Technologies Pty Ltd	23,69
Value Group Ltd	Countrywide Footwear Carriers Pty Ltd	22,5
Transpaco Ltd	Britepak Trading Ltd	18,5
Fidentia Holdings Ltd	Automated Outsourcing Services Ltd	18,5
Magnolia Ridge Properties 194 Pty Ltd	Nedbank Circle ppty / Durban	18
Indigo Flower CC	Certain rose farming ops	18
Fidentia Holdings Ltd	m Cubed Unit Trust Management Co Ltd	16,5
Bauba Platinum Ltd	Absolute Colleccions Pty Ltd	12
Southern Superfoods Pty Ltd	Coffee Tea & Chocolate Co	11
Fidentia Holdings Ltd	Policy Exchange Proprietary Ltd	10
Thabex Ltd	Minnex Exploration Ltd	8,97
Abrina 353 Pty Ltd	Proprint House / Durban	8,75
iFour Properties Ltd	Petrol station / South Africa	8,02
Set Point Group Ltd	Letaba Holdings Pty Ltd	4,73
Famous Brands Ltd	Trufruit Pty Ltd	4,61
Seven Falls Trading 155 Pty Ltd	Tawana's South African projects	3,24
Tisec Ltd	FSK Electronics Group	2,81
African Dawn Capital Ltd	Bhenka Financial Services Pty Ltd	1,88
Private Investor	Securipark Pty Ltd	1,5
Consortium	Andulela Investment Holdings Ltd	0,35

Appendix 2

2010 Listing of Mergers and Acquisitions

Acquirer Name	Target Name	Announced Total Value (Million)
Vukile Property Fund Ltd	Sanlam Properties' Asset Management Business	34310,98
Capital Property Fund Ltd	Pangbourne Properties Ltd	15012,57
Wal-Mart Stores Inc	Massmart Holdings Ltd	14600,53
Vedanta Resources PLC	Lisheen Mine,Black Mountain Mining Pty Ltd,Skorpion Zinc Mine	10037,14
Hyprop Investments Ltd	Attfund Retail Ltd	8986
RMB Holdings Ltd	OUTsurance Insurance Co Ltd	3750
American Tower Corp	Certain Assets	2918,84
Shanduka Group Pty Ltd	Incwala Resources Pty Ltd	2800
Kansai Paint Co Ltd	Kansai Plascon Africa Ltd	2544,56
African Petroleum Corp Ltd	African Petroleum Corp Ltd/South Africa	2085,81
Old Mutual PLC	Mutual & Federal Insurance Co Ltd	1798,42
Nedbank Group Ltd	IBL Asset Finance and Services Ltd	1780
China Development Bank,Jinchuan Group Co Ltd	Wesizwe Platinum Ltd	1776,46
Jupiter Mines Ltd	Tshipi Kalahari Manganese Project	1645,55
OM Holdings Ltd	Tshipi Kalahari Manganese Project	1561,98
Village Main Reef Ltd	Buffelsfontein Gold Tailings,Simmer & Jack Mines Ltd Buffelsfontein Gold Mine,Hartebeest Tailings Gold Mine,Simmer & Jack Mines Ltd Hartebeest Gold Mine,Buffelsfontein Harties Mine,Buffelsfontein Harties Tail,Tau Lekoa Gold Mine	1334,24
Wai Chun Mining Industry Group Co Ltd	Certain Assets	1212,7
Queensgate Hotel and Leisure Ltd	Certain Assets	1207
Samsung C&T Corp/Old,Hyundai Corp,Hyundai Heavy Industries Co Ltd	Ambatovy Nickel Mine	1031,11
ArcelorMittal South Africa Ltd	Imperial Crown Trading 289 Pty Ltd	800
Avusa Pty Ltd	Universal Print Group Pty Ltd,Hirt & Carter Pty Ltd	788,47
Dangote Industries Ltd	Dangote Cement South Africa Pty Ltd	779
Business Connexion Group Ltd	Destiny Electronic Commerce Pty Ltd,Accsys Pty Ltd,UCS Solutions Ltd,CEB Maintenance Africa Ltd,UCS Technology Services Ltd	699,22
Optimum Coal Holdings Pty Ltd	Koornfontein Coal Mine	670
Simmer & Jack Mines Ltd	Tau Lekoa Mine	600

Aon PLC	Glenrand MIB Ltd	596,05
Helios Towers Africa LLP	Certain Assets	554,2
Coal of Africa Ltd	Chapudi Coal Project	536,9
Redefine Properties Ltd	Land & Building	500
Rubis SCA	Certain Assets	480,61
Coal of Africa Ltd	Nucoal Mining Pty Ltd	467
FirstRand Ltd	Barnard Jacobs Mellet Holdings Ltd	450
RMB Corvest Pty Ltd	AutoZone	435
Continental Coal Ltd	Mashala Resources	406,3
Alphabet Inc	Aardvark	382,04
Capital Harvest Pty Ltd	Certain Assets	371,8
Pearson PLC	CTI Education Group of South Africa	346,5
Wesco Investments Ltd	Agnes Gold Mining Pty Ltd	300
Santam Ltd	Indwe Broker Holdings Group Ltd	263,4
Andulela Investment Holdings Ltd	Pro Roof Steel Merchants Pty Ltd	252
Afgri Ltd	Substantially all assets	228
Bauba Platinum Ltd	Bauba A Hlabirwa Mining Investments Pty Ltd	207,78
Village Main Reef Ltd	Lesego Platinum Mining Ltd	193,6
FLSmidth & Co A/S	Roymec Ltd	177,36
CVI Energy Corp Ltd	Velvogen Pty Ltd	176,53
Sabvest Ltd	Set Point Group Ltd	172,45
Sycom Property Fund	Tyger Hills Office Park	171,24
Alviva Holdings Ltd	Axiz Technology Pty Ltd	170,89
Mayibuye Group Pty Ltd	Blue Financial Services Ltd	162,98
Grindrod Ltd	Fuelogic Pty Ltd	160
Excellerate Holdings Ltd	JHI	135
Remgro Ltd,Zeder Investments Ltd	Capevin Holdings Ltd	127,62
AMCOL International Corp	Bonmerci Investments 103 Pty Ltd	124,86
Myrexis Inc	Litha Healthcare Holdings Ltd	114,2
Lonrho PLC	Fresh Direct Ltd	97,67
DRDGOLD Ltd	Ergo Mining Pty Ltd	82,1
Coal of Africa Ltd	Limpopo Coal Co Pty Ltd	79,04
Petra Diamonds Ltd	Certain Assets	78,5
Jubilee Platinum PLC	Thos Begbie Holdings	75,53
Kapsch TrafficCom AG	TMT Services and Supplies Ltd	75
Emirates Telecommunications Group Co PJSC	Atlantique Telecom	75
Net 1 UEPS Technologies Inc	MediKredit Integrated Healthcare Pty Ltd	74
Tullow Oil PLC	East African Rift Basins of Kenya and Ethiopia	72,35
Net 1 UEPS Technologies Inc	FIHRST Management Services Pty Ltd	70
Tiso Blackstar Group SE	Litha Healthcare Group Ltd	59,9
First Strut Pty Ltd	Wire Systems Technology Pty Ltd	59,72
Remgro Ltd,Zeder Investments Ltd	Capevin Investments Ltd	59,43
Maghreb Minerals PLC/Old	Sallies Ltd	53,89
Brimstone Investment Corp Ltd	Lion of Africa Holdings Co Pty Ltd	52,37
Challenger Energy Ltd	Bundu Oil & Gas Exploration Pty Ltd	39,13

Jasco Electronics Holdings Ltd	Spescom Ltd	37,03
Pacific American Coal Ltd,Muva Metals Pty Ltd	Nickel Sulphate Plant	36,3
Slip Knot Investments 777 Pty Ltd	Property in Korsten Port Elizabeth	36
Afrimat Ltd	Glen Douglas Dolomite Pty Ltd	35
Command Holdings Ltd	Comwezi Security Services Pty Ltd	34,3
Rockwell Diamonds Inc	Rockwell Diamonds Inc Blue Gum Diamond Deposit	33,5
Mkhombi Investments Pty Ltd	Turquoise Moon Iron Project	30
Allied Technologies Ltd	Swist Technology Solutions Pty Ltd	30
Village Main Reef Ltd	Cons Murch Mine Pty Ltd	30
ARB Holdings Ltd	Paragon Electrical Group	30
Transpaco Ltd	Disaki Cores and Tubes Pty Ltd	30
Optimum Coal Holdings Pty Ltd	Koornfontein Coal Mine	30
New Dawn Mining Corp	Central African Gold Ltd	28,93
Tawana Resources NL	Certain Assets	28,77
Stonewall Mining Pty Ltd	Transvaal Gold Mining Estates Ltd	25
CWT Ltd	Aquarius Shipping International Pty Ltd	22,5
Labat Africa Ltd	Primrose Gold Metallurgical,ERPM Gold Metallurgical	20,37
AdaptIT Holdings Ltd	ITS Holdings Pty Ltd	19,86
B&W Instrumentation and Electrical Ltd	Pontins Proprietary Ltd	19,73
Kirloskar Brothers Ltd	Braybar	18,17
UCS Eye Investments Ltd	CQuential	18
Aqua Transport and Plant Hire Pty Ltd	Road Surfacing business	18
IG Group Holdings PLC	IdealCFD Financial Services	17,75
Zaptronix Ltd	I to I Technology Solutions Ltd	17,6
Magic Software Enterprises Ltd	Magix Integration Pty Ltd	17,11
Industrial Credit Co Africa Holdings Ltd	First Light Administration Services Pty Ltd	16,42
Santova Ltd	Aviocean Pty Ltd	14,57
Cape Sawmills Properties Ltd	Sign & Seal Trading 154 Ltd	11
Lithium Australia NL	Capricorn Iron Pty Ltd	10,1
Salt Lake Potash Ltd	UCG Technology IP	7,22
Management Group,BlueBay Asset Management LLP,Capitau SA Partnership	Foodcorp Pty Ltd	6,37
Nyota Minerals Ltd	Ethiopian regional tenements	6,04
Worldwide Natural Resources PLC	Coal Fines Resources SA Ltd	5,59
AdaptIT Holdings Ltd	Apply IT Pty Ltd	4,95
IQuad Group Ltd	Kagiso Treasury Solutions Pty Ltd	3,58
Private Investor,MitonOptimal International Ltd	Midas Capital International Ltd,Midas Capital Asset Management Pty Ltd	3,31
IQuad Group Ltd	Export Credit Exchange Pty Ltd	2,32
Marmota Ltd	Wynbring uranium project	2,29
Xceed Resources Ltd	Focus Coal Investments Pty Ltd	1,98

Korea Resources Corp	Vlakplaats Coal Mine	1,8
Thabex Ltd	Monastery Holdings	1,8
Trust Co Ltd	Western Breeze Trading 23 Pty Ltd	1,5