The effect of capital structure on dividends payout: the case of selected banks in South Africa

by

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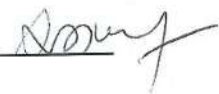
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DECLARATION

I, Marc Laudel ASSOM FILS, declare that the contents of this dissertation represent my own unaided work, and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

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ABSTRACT

The purpose of this study was to determine whether Banks operating in South Africa are paying dividends from changes in their capital structure. This study was motivated by prior literature which revealed that South African banks paid dividends from fair value revaluation. The multiple regression analysis was used to examine the nexus between debt-to-equity ratio, debt ratio and dividend pay-out. Data collected from audited financial statements over a period of eightyears wasanalysed using a statistical package for the social science software.

The empirical findings of this research indicated that in four of the five banks under investigation, there is no statistically significant relationship between dividend pay-out and debt ratios. Similarly, no significant relationship was found between dividend pay-out and debt-to-equity ratios. The aforementioned results imply that most South African banks are not paying dividends to their shareholders by altering their capital structure. . However, in one particular instance, the study results revealed that dividend payout is positively associated with capital structure indicators.

The findings of this study confirmed the position of the DividendPayout Ratio theory which states that dividend payouts should be from profits and should be paid only after the firm has invested in all possible profitable projects.

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GLOSSARY

Capital structure	distribution of debt and equity that constitutes the finances of a company
Dividend policy	Company approach to distribute profit back to shareholders

Keywords: Capital structure, debt, dividend policy

CHAPTER 1: ORIENTATION OF THE STUDY

1.1. Introduction

The main aim of management in any business organisation is to improve the firms' performance to satisfy its shareholders. In many cases, management tends to adopt undesirable practices in order to satisfy their shareholders. The purpose of this study is to investigate the relationship between dividends paid by banks operating in South Africa and changes in their capital structure. The motivation of this study stems from the study of Jager (2015) which shows that these institutions paid dividends from fair value revaluation. The fair value revaluation consists to revaluate fixe assets to the market value on a particular date. Therefore, if the revaluation of assets is above the current value, companies considere the excess from revaluation as a profit and pay dividends. That practice is presented by Jager as a malpractice because it does not show the real level of companies' health. It is in the same line that banks are perceived to satisfy shareholders by avoiding reducing or not paying dividends by altering their capital structure to use debt to pay dividends.The main objective of this study is therefore to investigate the nexus between debt ratio and debt-to-equity ratio on dividends pay-out using the multiple regression analysis. Audited financial statements from the Johannesburg Stock Exchange (JSE) and news reports for eight years (2009 to 2016) will be used to collect data. The outcome of this study will be significant to the South Africa Reserve Bank and the Financial Service Board who regulate the banking and non-banking activities in South Africa. Facing the risk of such pratices, reserve bank and financial service board should increase control over banks to avoid a financial crisis as the subprime crise that fragilised the global economy by its systemic risk.

1.2. Rational of the research

1.2.1. Background to the research problem

Capital structure decisions which are amongst the top ten puzzles in finance are very important to anyorganisation(Mwangi, 2014). Sound capital structure decisions can help a firm maximise its returns, and become competitive(Abor, 2014). However, the decision to have a structure that constitutes only equity, or a mix of debt and equity, exposes the firm to certain advantages and disadvantages. Firms with debt as part of their capital structure incur interest payments which create a tax shield; thus implying lower taxes; while on the other hand, equity implies paying dividends due to the presence of outstanding shares (Jiang, 2013). Modigliani and Miller (1963) (M&M theory) revised their theory of 1953 that pointed to

the fact that neither the value of a firm nor its profitability is affected by its capital structure. The principle behind the M&M theory (1953) was that two firms with the same asset value and similar operating activities will have similar market capitalisation and profitability irrespective of their capital structure. M &M (1953) illustrated that, if two pies have the same shape, it doesn't matter how the pie is sliced, their shapes stay the same. This theory can only be demonstrated in a situation of perfect market. A perfect market is defined as a market without taxes, bankruptcy cost and transaction cost. This theory led Aggarwal and Aung (2010) to investigate the effect of debt financing in dividend payout policies. The aim of Aggarwal and Aung's (2010) study was to investigate if an increase inthe proportion of debt affects profitability, which in turn affects dividend payouts. The authors found thata high dividend payout was directly correlated to higher debt ratio, which implies capital structure is inter-related with the dividend policy. In South Africa, the study of Jager (2015) revealed thatdividends from banks in South Africa are paid out from unrealised fair values between 2004 and 2008.

Finance literature suggests that dividend payments should be from profits. In other words, a firm can only pay dividends when it has made enough profit and has exhausted all profitable projects. Besides, dividend payments also depend on the life-cycle of the firm, and growing firms usually pay very little or not at all dividends signalling investments, whereas mature firms are more probable to pay more dividends because of fewer investment opportunities (Deangelo, 2006).

As already stated by the Department of the National Treasury (2011), South African citizens are daily affected in their economic activities by the local bank system. From a macro-economic perspective, the South African banking sector is the leading industry that positively impact job creation by propelling economic growth.

The recognition of the crucial place of the banking industry in the economy coupled with the relevance of capital structure, revealed the prominence to investigate how dividend payouts is affected by changes in capital structure using banks operating in South Africa.

1.2.2. Statement of research problem

The relevance of this research is triggered by South African banks that are perceived as paying out dividends when they alter their capital structure. The payment of dividends from changes in capital structure can create an accumulation of debt that can lead to a financial crisis. Moreover, such a practice sends a wrong signal on the company performance. Sheikh (2017) highlighted that changes in capital structure mix send a significant message to outside parties because cash-based variable cannot be replicated by non-profitable firms.

Up to date, many countries are still affected by the 2007 financial crisis due to excess debt in the financial system. South Africa, which is considered as the leading economy in Africa, had paid the price of the crisis. Banks are seen as the cornerstone of each economy, therefore they should be screened to avoid any further crisis in the future. Taking cognition of the above, this study seeks to close a gap by looking at the impact of the change in debt ratio, debt-to-equity ratio, on dividends payouts in South African banks.

1.3. Aim and hypothesis of the research

1.3.1.1. Aim

This research aims to determine whether banks operating in South Africa are paying dividends from changes in capital structure.

1.3.1.2. Hypothesis

Hypotheses used in this research are:

<u>Null hypotheses:</u>

H_{01}: There is no significant relationship between the debt ratio and dividend-payout ratio.

H_{02}: There is no significant relationship between the debt-to-equity ratio and dividend-payout ratio.

<u>Alternative hypotheses:</u>

H_{11}: There is a significant relationship between the debt ratio and dividend-payout ratio.

H_{12}: There is a significant relationship between the debt-to-equity ratio and dividend-payout ratio.

1.3.2. Research questions

1.3.2.1. The main question

To efficiently address the hypothesis of the research, the main question is proposed:

"What is the effect of capital structure on dividends payout in South African banks?"

1.3.2.2. Sub-questions

To adequately tease the main research question, the following sub-questions are proposed:

- What is the influence of debt ratio on the payout of dividends in South African banks?

- What is the influence of a debt-to-equity ratio on the payout of dividends in South African banks?

1.4. Delineation of the research

After the 2007 financial crisis, many nations in the world have strengthened their financial sectors, especially banks, by implementing new regulations.Global finance (2019) ranks the banking sector as the best performing sector in the economy, which has led to the focus of this study.Therefore, this study will focus only on selected banks operating in South Africa andare listed in the JSE.

CHAPTER 2: REVIEWOF PRIOR STUDIES

2.1. Introduction

This study aims to determine if banks pay dividends out of the change-of-capital structure. This section encompasses both the theoretical overview and the most relevant empirical studies that has been conducted pertaining to the influence between capital structure, dividend policy and profitability.

The merit of any research is only as good as the theory and the assumptions on which it rests. Finance has developed many theories on capital structure and the dividends policy. However, they were used to mainly explain the association between capital structure and firm's performance, management and risk involved. The dividends policy as one of the major aspects to satisfy shareholders brought much attention to looking at the payout of dividends and the retention ratio.

This chapter will be introduced in section 2.2 by the relevant theories on capital structure, dividends policy as well as philosophies and critiques related to those theories. This is followed by an elaborated literature review and empirical results of previous research on capital structure, dividends policy and profitability, and also identifying gaps in prior literature and research questions that stayed unanswered in section 2.3; before concluding with section 2.4.

2.2. Theoretical framework

2.2.1. Theory of capital structure

Capital structure is basically the source of financing companies. Capital structure presents debt and equity as portion of the capital. Capital is principally divided into equity and/or debt. Either a company decides to use only equity, or more equity than debt, as a source of finance. It has to be a strategic decision because the company and shareholders will be affected. The use of equity as a financing source compels companies to pay out dividends to shareholders while debt forces companies to pay interest to lenders. The decision as to the source of financing that is adopted is made by the managerial line under the approval of shareholders. Some theories adhere to the concept of capital structure.

2.2.1.1. Debt and taxes

According to Harris and Raviv (1991), the origin of the capital structure theory was first discussed by Modigliani and Miller (1958) in the paper famously known as the M & M theory. In 1958, the M & M theory after defining perfect capital market as a market without asymmetric information, bankruptcy costs, taxes, and agency costs, stated that in a situation of the perfect capital market, the capital structure decision has no effect on firms' value. This implies that, irrespective of the quantity of equity or debt component of the firm capital, the profit is not affected. The theory proposed by M&M in 1958 has been characterised to be unrealistic by many researchers. In 1963, M&M revised the 1958 theory under a new condition that corporations are taxed on earnings after interest. The new theory proposed by M&M in 1963 states that tax a shield makes levered firms more valuable than unlevered firms. This new theory led tothe belief that firms should have some amount of debt in their capital structure, which is not realistic because of the existence of bankruptcy costs, for instance. Miller (1977) was not limited to corporate tax to determine the value of a firm, and he made an important contribution to the M&M (1963) theory by considering personal taxes to show how leverage affects firms' value. However, Miller (1977) concluded that, in market equilibrium, corporate tax advantages are mitigated by the effects of personal taxes. That gives relevance to the M&M (1958) theory in which capital structure is irrelevant to firms' values.

2.2.1.2. Bankruptcy cost of debt theory

Gruber & Warner (1977) defined bankruptcy costs as costs incurredthrough financing with debt over equity. Most companies are going bankrupt for almost the same reasons; a lack of liquidity(Horváthová and Mokrišová, 2018). Firms will go bankrupt if they are not able to manage their short-term bills. Liquidity is different from having debt because –as long as banks can lend firms money even if that money serves to coverthe companies' old debts – companieswill not go bankrupt. However, in cases of not paying interest, banks can stop lending firms money; therefore companies mightbe in bankruptcy situations.Some companies raise equity to avoid going bankrupt after banks have denied giving them more money. Companies using strategies to raise more equity, or take on more debt to cover previous debt to avoid bankruptcy, will face difficulties sooner or later.

The M&M Proposition II stated that it is advantageous for companies to increase the level of debt compared to equity in their capital structure. However, that theory has been challenged due to the cost of bankruptcy which makes debt useful only to a certain extent because it can significantly affect a firm's cost of capital. Firms that add debt to their capital structure

must pay interest, which alters firms' earnings as well as cash flow. This leads to the conclusion that for each company there is a best mix in between debt and equity allowing interest paid to balance tax benefits in order to avoid debt to become risky for the company.

2.2.1.3. Trade-off theory

Under the circumstance of efficient marketing, the trade-off theory contradicts the M&M (1958) theory in highlighting the irrelevance of the cost of capital on capital structure, therefore on firm value too. In capital structure, the trade-off theory advocates that, imperfections in capital markets are created beyond the optimal capital structure as proposed by M & M (1958). These imperfections are higher taxes on dividends that lead to more leverage and higher financial distress that leads to more equity. Therefore, considering these two imperfections, a firm's management has to carefully analyse the benefits and cost of borrowings in order to increase their performance through an optimal capital structure.The presence of debt in capital structure can create agency cost.

2.2.1.4. Agency cost hypothesis

As already mentioned, management's objective is to improve a firm's performance with the aim being to satisfy its shareholders, which should be aligned with the firm's vision and mission. However, in certain instances, there appears to be conflicts between management and shareholders' interests, or else between shareholders and debt holders. Those conflicts are called 'agency cost'. To avoid managers from acting in their own interest over shareholders, some mechanisms are put in place and/or shareholders prefer independent directors to ensure fair control and monitoring. These mechanisms are costly for the firm which in turn reduce the return of shareholders. In a situation where management may work in the interests of shareholders, and the risk of default is significant, management may transfer value from a company's creditors to shareholders. In that case, there is an agency cost between the shareholders and debt holders. This situation can also exist if dividends are paid from issuing additional debt, which keeps the firm's value constant but decreases the overall market value of debt(Myers, 2001). The recognition of agency costs has an important contribution to the trade-off theory because the risk of default may influence the decision of managers on what amount of debt should be part of the capital. Research conducted by Jensen (1986), Jensen et al.(1992) and Marfo-Yiadom and Kwaku Agyei (2011) was consistent with this theory.

2.2.1.5. Pecking order theory

Firms principally refer to three types of financing sources: internal source, debt, and equity. According to Hall (1998), the correct practice in finance assumes that managers defend the existing shareholders' interests. Therefore investors conclude that, if managers decide to issue shares as a means of financing, this implies that those shares are overvalued – except if the present value of the new opportunities is more than the loss by transferring shares from old to new shareholders. Based on what has been said, it is concluded that there is a presence of asymmetric information that guidesthe pecking order of selecting the source of financing. However, the pecking order theory has been criticised. Myers (2001) highlighted the fact that there is no reserve for agency costs in the pecking order theory. Moreover, the theory fails to explain why financial tactics are not put in place to avoid consequences from weak information on the market.

Debt is a source of financing that is more appreciated than equity because it does not give the lender any claim on equity, leaving the ownership undiluted. Moreover, the lender is expecting to be paid back only the principal plus the interest agreed at the time the two parties became committed, even if the borrowing firm over-performs (Berglund and Parsonage, 2017). However, in a case of a variable loan rate, the amountthat firms have to pay back can be changing but stillit is not linearly related to the profit made. Nevertheless, debt can raise the break-even point and take firms into insolvency during difficult times.

Berglund and Parsonage (2017) highlighted the fact thatinterest on debt is deductible on company tax-returns, making the cost of associated with raising equity more expensive than that of debt. Furthermore, raising debt capital has less constraintcompared to equity capital in terms of regulation.

2.2.2. Theory on dividends payout

For companies to grow they should make a profit that is used through two main channels. The first channel is retention profit to increase the capacity of the company or to invest in new projects. The second channelis the profit payout to shareholderswhich can be reached via two different approaches: the first approach is directly distributing profit as dividends, and the second approach isto repurchase outstanding shares (Amidu and Abor, 2006).

Sanjeeva (2017) defines a dividend payout of a firm in corporate finance as the quantity of surplus of a firm that is distributed. Moreover, that surplus can be paid only after all debt suppliers are fully paid. Dividends are generally decided by the board of directors, but that rule is not a common practice;but there are exceptionssuch as Brazil and Chile where the

law obliges companies to give a minimum fraction of earnings to shareholders (Amidu and Abor, 2006).

Even if people regard dividends as cash, dividends can also be paid in shares and called share dividends.

2.2.2.1. M&M Dividend irrelevance hypothesis

Franc-Dabrowska (2006) found that there is a relationship between dividend policy and capital structures. That evidence is explained by the fact that the payout of dividends decreases the degree of capital financing using internal sources of financing, therefore in cases of financing needs, the company has more chances to look for external sources of financing. However, M&M (1961) revealed that, under certain conditions and in aperfect capital market, the relationship between a dividend policy and company value is no existent. However, this is not true in the real world because those conditions would be regarded as unrealistic. They defended their position by stating that basic earning powers and investment decisions are the elements to take into consideration to evaluate a firm instead of considering the way dividends are distributed. This implies that, whether shareholders take their dividends now or wait until later to sell their securities to get a capital gain, all remains the same. There have been some empirical studies, such as Benjamin et al. (2016) and Ampenberger et al. (2013). On the effects of dividend yield and dividend policy on common stock prices and returns which have shown that neither low-yield nor high-yield dividend payouts seem to influence market values.

2.2.2.2. Signalling hypothesis

This hypothesis points out that the announcement of dividendshas important information on future earnings of a firm. This information is known as a signal.

Some academicians argue that managers increase or decrease the payout of dividend ratiosfor several reasons. Whatever the reason is, the decrease of a payout ratio may signal financial difficulties, while an increase may signal that the firm is doing well and expects to carry on paying high dividends in the long run. These are signals that are used by investors as good or bad signs to appreciate the price of a firm's stock. The work of Travlos et al.(2001) presents consistent evidence on this hypothesis.

2.2.2.3. Clientele effects theory

Some investors are less interested in the future stock price when they acquire stocks. Instead, they are attracted by dividends when other investors in high tax brackets are attracted by the capital gain. Therefore, the amount ofa dividend payout will attract investors with a dividend preference. According to clientele effect theory, investors with dividend preferences believe that stock price is affected by a change of the dividends policy. At the other end of the spectrum, there are investors in high tax bracket who are attracted by low dividends, or no dividend, because they are capital-gain orientated. The work of Allen et al. (2000) and Short et al. (2001) was in support of that theory.

2.2.2.4. The bird in hand theory

The bird-in-hand theory summarises the proverb "A bird in the hand is better than two in the bush." In finance this is translated by investors' preference tosafe dividend paymentsrather than capital gain. Investors are risk-averse; they are more focussed on a dividend payout than on the future value of shares to decide if it is worthwhile to invest in a firm. Tanushev (2013) stated that *ceteris paribus* company shares with high dividend payouts are considered to be less risky and to sell at better prices than companies paying less or no dividends. The same idea is supported byJohn Williams (1938) who believed that the value of a share is based on its intrinsic value. Following the same logic, he concluded that the value of a share depends on the money it can bring in.Following the same logic, Goldon and Shapiro (1956) developed a model evaluating the share price based on discounting future dividends paid. Added to that, Lintner (1956) found that managers prefer keeping the future dividend to be paid equal or bigger than the previous dividend paid, even if the future profit is less than the previous one.

2.2.2.5. Free cash flow hypothesis

In case of projects with positive NPV (Net Present Value), investors can sacrifice their dividends to finance these projects. Specifically, shareholders should receive dividends merely when the firm has no project with positive NPV. Therefore, money paid as a dividend should be from a free cash-flow. Based on what was said, the decrease of dividends should be followed by an increase of a firm share price, and vice versa.

In practice, there is a slight difference in the way dividends are managed compared to the theoretical way. Theories are built on the way dividends are paid out in practice.

2.2.2.6. Residual dividends policy

Aligned with the previous hypothesis, the residual-dividends policy highlights that investors are willing to let go of their dividends if the return expected from the investment is at least equal to, or greater than, the opportunity cost. Therefore, dividend payments are largely dependent on earnings and, can only be paid if the earnings are bigger than what is needed to have an optimum capital structure. In the same way, and in regards to the residual dividend policy, dividends should not be paid when there is necessity finance via new common shares. Smith (2018) highlighted the fact that managers are not paying out all the cash remaining after funding all profitable investments, as recommended by the agency theory. Instead, managers pay shareholders' dividends that are closed to the previous dividends as actual earnings. As an explanation on managers' behaviour, one can list saving cash for coming investment opportunities, and constraint due to debt covenants. This practice is criticised by Jensen (1986) who believes that not giving to shareholders all the remaining cash, after funding all profitable investments, is acting to the detriment of shareholders because managers are inclined to invest saved cash on project with a negative net present value (NPV).

2.2.2.7. Stable and predictable dividends

One of the most important finance issues regarding dividends is their regularity and stability (Gugler, 2003). Some managers believe that dividends should not decrease except in a situation of great necessity. Investors do not like dividends to be unstable and unpredictable; they want to know how much to expect. Therefore, the payout ratio has to be at least constant, if not increased. This indicates profitability and a higher share value to the firm.

2.3. Review of prior studies

The scrutiny of the literature reveals that studies investigating the impact of capital structure on profitability have been receiving overwhelming interest. However, these studies present some shortcomings as it is shown that few studies have been conducted in investigating the effect of capital structures on dividends payout, and most particularly in South Africa. One of such studies was conducted by Abor (2014) who examined the profitability-capital structures nexus of listed firms on the Ghana stock exchange from 1998 to 2002. The results of the regression analysis confirmed that there is a positive relationship between a return on equity (ROE) and short-term debt to assets. There was also evidence of a negative association between ROE and long-term debt to assets. The results of the analysis led the author to conclude that debt is the major source of financing of profitable companies. Despite the

greatest contribution of this research, the authors did not look at dividend payout, which isthe aim of this study.

In another study, Aggarwal and Aung (2010) examined the relationship between the debt and dividends payout ratio in multinational firms. They recognised the interdependence between capital structure and dividends policy, which can be explained by the low retention ratio and high dividends payout, among many other different reasons proved by using simultaneous models. The results concluded that, there is positive relationship between debt and dividends payout for multinational firms. Despite the relevance of the study, this study was not conducted in South Africa and its findings may not be generalised.

In an Asian study, Ang et al. (1997) investigated the dividend policies and the capital structure of publicly traded firms in Indonesia. They noticed that during the period before 1983, most of the firms preferred loans from the state bank to any other source of funding, even more than the retention ratio. After the oil shocks in 1983, the government was no longer able to subsidise firms, therefore a new form of economic freedom appeared in 1988. This allows private banks to compete with state banks in terms of loan prices. The result of the study shows that firms have access to different sources of funds, equity market and banks. However, short and intermediate term debts are the most preferred when funds from the retaining ratio are not available. This research is very persuasive in terms of funding and the orientation of its analysis, but it allows a research of the same kind to be done in a different environment such as South Africa, with a narrower sample such as banks. Also, although informative, the relationship between the change of capital structure and dividends payout was not questioned.

In another informative study, Deangelo and Stulz (2015) investigated the reasonsfor increased leveragein the banking sector using a deposit debt model. They found that banks have a high level of leverage to accomplish their social duty, which is to supply debt to parties that do not have access to capital. With the development of technology and new sophisticated transactions related to banks' operations, banks need more debt to be able to satisfy liquid claims and to be competitive. The choice of increasingasset over debt has to be limited at some point to avoid over-sizing the banking sector.Under the model assumptions, the paper focusses on risk management used by banks to be able to issue more safe debt, and disagrees with the M&M theory because leverage, coupled with risk management, allowsbanks to be better off. Based on what has been said, there is no important regulation to limit leverage because debts are risk managed. Considering the relevance of this study, its findings are not relevant because banks do not have access to an M&M style of capital market. Furthermore, this study considers debt as a means to facilitate the operational activities in banks, but it did not investigate the impact of debt on dividend payouts.

In another study, Gul (1999) investigated the relationship between dividend policies, the investment opportunity set and capital structures of listed Japanese firms by using cross-sectional time series analysis method, with a one-year lag for the dependent variables. Five years of data are used for the research, from 1988 to 1992. The author found that :

- The debt/equity ratio and dividend yields are lower on high-growth firms compared to low-growth firms.
- Firms with lower growth opportunities have more debt because dividends are paid to remove cash from firms to reduce the agency cost of free cash flows.
- Regulated firms have more debt because regulation controls the issues between management and shareholders.
- There is no significance in the relation between dividends policy and an investment opportunity set.

The study of Kajola, Desu and Agbanike(2015)investigated thefactors influencing Nigerian dividend pay-out policy. A sample of twenty-five non-financial companies listed in Nigerian stock was used in a random-effect model. Kajola et al. (2015) found that profitability, leverage, and firm size are factors that significantly affect the dividend policy. Although informative, the study didn't investigate the relationship dividend payouts and between capital structures.

Nikolaos and Dimitrios (2003) explore the relationshionship between corporate dividends and past dividends orperformance or else effective management in the Greek market. The research was conducted with a sample of 149 Greek firms listed in the Athens Stock Exchange for the period 1996 till 2001. The test result pulled out the conclusion that divends payout are related to the performance and effective management. However, the study that companies avoid canging their dividends policy. Despite, the relevance of the founding, the study gives space to the current research because it was conducted in Greece and not in South Africa which.investigatedthe relationship between the dividends payout and past dividends as well as performance and management instead of capital structure.

In one of his article, Franc-Dabrowska (2006) declared that: "Decisions on the optimal choice of financing sources and dividend policy are some of the most difficult financial decisions". The same study focuses on the relationship between the capital structure theories and dividends payment policies in Poland during the period 2001 - 2006. The sampleconstituted thecompanies from agricultural and foodstuff sector listed in polish stock. Althoughthe results wereimpressive, they showed a positive relationship between hierarchy theory or substitution theory and dividend payment policies. The polish case results can not be generallised in

Africa and particulary in South Africa. The study found out that in situation of hierarchy theory as form of capital structure, firms prefer internal source of financing and limit the dividend payment.

From the above review, the following gaps have been identified:

- Some of the studies investigated the relationship between capital structure and profitability, rather than dividend payouts.
- The findings ofthe Ghanaian study cannot be generalised to South African listed banks because listed firms were used and not banks.
- Studies that investigated the relationship between debt (a measure of capital structure) and the dividend pay-out ratio were not conducted in South Africa and their findings may not be generalised.
- Some of the studies were conducted in 1998 and 2002 and are outdated.

Considering the above-mentioned, a gap in the literature exists, therefore the current study seeks to address this gap.

2.4. Conclusion

The literature on capital structure and dividends policy started with the theoretical overview which explained the different theories ofcapital structures and dividend policies. The next section, which was the review of prior studies, presented the different views on capital structures and dividend policies. From the literature, the research questions below remain unanswered:

- What is the influence of debt ratio on the payout of dividends in South African banks?

- What is the influence of a debt-to-equity ratio on the payout of dividends in South African banks?

CHAPTER 3: DATA AND METHODOLOGY

3.1. Introduction

The aim of this chapter is to highlight the different steps used in this study to address the following research objectives:

1. Determine the impact of debt ratio on dividends payout;

2. Determine the impact of debt-to-equity on dividends payout

To engage in the commitment of this section, this chapter will be introduced in section 3.1 by sampling. This is followed by research design and methodology in 3.2. In section 3.3 population and sampling are defined before detailing data-collection techniques in 3.4 and manual data processing in 3.5. Section 3.6 laid emphasis on statistical tests,followed by section 3.7 which focussed on ethical considerations that close the chapter.

3.2. Research design and methodology

3.2.1. Methodological assumptions

According to Amidu and Abor (2006), the methodological assumption is very important because it allows the buildingof the research strategy and the research approach. It is about the selection of the ontological and epistemological considerations that will lead to the adoption of a correct research process.

Epistemology concerns the acceptability of knowledge. It has two major approaches: positivism and subjectivism. Positivism describes acceptable knowledge as truth that is not affected by the person collecting information, and that follows some logic. This approach supports the notion that social science and natural-science are interrelated. Conversely, of subjectivisms support the belief that applied social sciences and natural science are unrelated.

For the purpose of this study, historical data on South African banks was collected and processed using the statistical software SPSS. Therefore, it becomes evident that the selection of the positivism approach is the way to go for this research process. To objectively analyse the data, scientific methods will be part of the process.

Ontology, which is another approach to view things the way they are and evaluate knowledge, is divided into two main divergent approaches: objectivism and constructivism.

Objectivism is a position asserting that the social reality has an existence that is autonomous to social actors, while constructivism is the recognition that social reality is constructed by a social actor's experience (Abor and al., 2006).

Considering that the research was based on historical data, a scientific method was used. Historical data on South African banks was collected from secondary sources such as financial statements and processes using statistical software to determine the effect of selected bank financial ratio on the dividends-payout ratio. To objectively analyse data scientific techniques and process were used, hence the research did not involve any subjective views in analysing the findings. Also, the analysis was based on facts, and had no room for subjective interpretation.

3.2.2. Research Approach

The research approach is divided into two main branches that are: the deductive and inductive approach. Based on the former approach, the study is grounded on the existing theories to create hypotheses that are tested against empirical data. Hypotheses were accepted or rejected based on the results. For the deductive approach to generate unbiased results, the sample needs to be representative and the researcher independent of the study (Abor et al., 2006).

However, the inductive approach theories are created based on empirical data. This research is based on several capital-structure theories and dividend-payout theories. Data collected from the financial statement was tested based on a hypothesis looking at the existence of significant relationships between debt ratio or debt-to-equity ratio and the dividend-payout ratio. Therefore, this study adopted a deductive approach.

3.2.3. Research method

As stated by Abor et al. (2006), the quantitative research and qualitative research are the two principal methods academic researches use.

Analyses and numerical values are the main focus of quantitative method, and the researcher is independent of the research, however, a qualitative research focusses on words and the researcher's subjective views are relevant.

Following the objective of this research, the methodology assumption and the research approach, it is evident that this study adopted a quantitative design. As already mentioned,

this study was based on analysing secondary data through different tests such as regression, and collinearity to be able to pull out results to satisfy our objectives.

3.2.4. Type of study

Abor et al. (2006) outlines three basic types of study to answer the research questions which are explanatory study, exploratory study and descriptive study.

Explanatory study tries to establish a relationship between variables to develop a model, and therefore attempts to solve a problem in a new way, giving the opportunity to better understand them while the descriptive study focus on giving précised details on the studied situation.

The objective of this research is to determine the relationship between debt ratio and debt-to-equity ratio on dividends-payout ratio using a collinearity test; therefore,the adequate study type for this research is the explanatory approach according to the definition of explanatory design given above.

3.2.5. Research strategy

There is an important number of research strategies in social science. The strategy choice is guided by the selected research approach and research method in the research andfor this reason, a historical strategy was used. According to Abor et al. (2006), the historical strategy uses administrative documents and records as sources of data. However, those data must be collected daily without any researches purpose because data collected for a research purpose may be orientated to obtain a specific desired result. Therefore, the use of the historical strategy is fully justified because the data used are from the JSE and are collected daily.

3.2.6. Data collection techniques

A panel data was used to determine if selected South African banks pay dividends out of changes in their capital. A panel data was selected because the observations were done on a cross-section of units over multiple time-periods. Furthermore, panel data is efficient as it reduces the co-linearity between explanatory variables, and increases the degree of freedom (Maina and Ishmail, 2014). The data was collected from audited financial statements and public annual reports for selected banks (ABSA Bank Limited, Capitec Bank Holdings Limited, Nedbank Group Limited, Sasfin Holdings Limited and Standard Bank Group

Limited) listed on the JSE of South Africa. The data extracted from the JSE covered the period of eight years from 2009 to 2016.

3.2.7. Data analysis techniques

The data collected in this study wasanalysed using a multiple regression analysis. Multiple regression was used because it allows for the capturingof the interdependencies among multiple time series. Moreover, it facilitated the analyses of more than one evolving variable. A correlation analysis was also conducted between the independent variable and the dependent variables for the observed period. The panel data and indices obtainedwere analysed and interpreted using the statistical package for the social science (SPSS) software. The software was employed because it can perform complex data manipulation and analysis with simple instructions. Moreover, Cape Town Peninsula University of Technology offers a full version of the software to research students with assistance and support.

3.3. Population and Sampling

The target population in this study was banks in South Africa. To provide viable results and accuracy, the research data will consist solely of banks listed on the JSE.

The study focussed only on banks in the financial sector because they are the cornerstone of the financial industry, a much-regulated sector on which people rely for the economy to be boosted via monetary policies, to list only a few. And only the listed banks because of the facility to access financial reports. The research focuses on listed banks in the JSE from 2009 to 2016

The JSE is one of the most important platforms for South African companies in general and banks in particular to sell their shares. The JSE is also a gateway for listed companies to present their prospects and sell the image of companies. The high level of regulation in the JSE gives confidence in the information that can be collected. That makes it a much solicited place to gather reliable information.

Saunders, Lewis and Thornhill (2008) presented the probability and non-profitability as the two main sampling techniques. A probability or representative sampling technique is when part of the population is represented in the sample and at the same percentage. The second main sampling technique is the non-probability or judgmental sampling technique. Using this technique, each segment of the population is not represented by having an equal percentage; therefore, it becomes possible to know the percentage of each segment only

after the sample is obtained. All South African legally registered banks are listed onthe JSE. However, some institutions that are commonly called banks are classified in the JSE as financial institutions, therefore only the company classified as banks were used. In this study, there is no real need to use any of the main sampling methods highlighted above because the study made use of all the listed banks on the JSE as banks. Therefore, the entire population was used as a sample.

Table 3.1: **JSE listed banks from 2009 to 2016**

ABSA Bank Limited	ABSP	Bank
Capitec Bank Holdings Limited	CPI	Bank
Nedbank Group Limited	NED	Bank
Sasfin Holdings Limited	SFN	Bank
Standard Bank Group Limited	SBK	Bank

3.4. Data collection

Data collection and processing were done as follows:

- Determining among the companies listed on the JSE which ones belong to the bank sector.
- Collecting relevant data on companies in the sample from each company's annual report.
- Manually processing data because the needed information was notreadily available in the companies' annual reports.
- Formulating a research hypothesis that was tested.
- A regression analysis was conducted and conclusions were drawn.

The research was conducted using an important amount of quantitative data from the JSE. The major source of information from the JSE was the banks' annual reports. The banks' annual reports contain useful measurements (financial information) allowing researchers to calculate ratios for this study.

However, those numbers were not directly used; they had to be manually processed. The six banks that are listed on the JSE were used in this research to test for any significant relation between dividend payout and capital structure. Dividend payout was used as the dependent variable, while debt ratio and debt-to-equity ratio, and earnings per share, were used as capital-structure variables. Among these variables, only the dividend payout was available on companies' annual reports, and the other variables were manually processed.

3.5. Manual data processing
Due to the lack of some ratio in financial statements, ratios have to be manually calculated.

3.5.1. Debt Ratio
Debt ratio was calculated using data from banks' financial statements since it was not available on companies' annual reports, or elements used to calculate the asset ratio were not the same in all companies' annual reports. This made it difficult to use them because of the uniformity issue. To calculate the assets the following formula was used:

$$Debt\ Ratio = \frac{Total\ Liabilities}{Total\ Assets}$$

Debt ratio is the most basic indicator of solvency that evaluates how companies can pay financial obligations in a short-term. It also identifies the percentage of assets that is founded by liabilities.

3.5.2. Debt-to-equity ratio
The debt to equity ratio was calculated manually since the measurement was not available on companies' annual report, or elements used to calculate the asset ratio were not the same in all companies' annual reports, which makes it difficult to use them because of the uniformity issue. To calculate the debt-to-equity ratio, the following formula was used:

$$Debt\ to\ Equity\ Ratio = \frac{Total\ Liabilities}{Shareholders'Equity}$$

Debt-to-equity ratio is an indicator of financial leverage that gives insight into companies' ability to meet long-term obligations. It provides perspective of how companies fund their assets (John, 2015).

3.5.3. Dividend Payout Ratio

The dividend payout ratio was used in this research as a dependent variable. The following formula was used in Abor's (2005) research.

$$Dividend\ Payout\ Ratio = \frac{Dividend\ per\ Share}{Earnings\ per\ Share}$$

Dividend per share and earnings per share data were collected from annual reports on the JSE and manually processed to calculate the dividend-payout ratio.

There are other company factors that can have an impact on the dividend-payout ratio such as company size, growth, and so on. But for this research only the selected factors listed above were used.

3.6. Statistic test

Some statistical tests were conducted in order to determine whether there is a relationship between selected factors and a dividend-payout ratio. The statistic software used in this research is the SPPS software, due to its efficiency in a similar research done by Abor (2005).

3.6.1. Multicollinearity

In this study, some selected factors may be related to each other in one way or another; therefore there is a risk of multicollinearity. According to Amidu and Abor (2006), multicolinearity is a statistical situation showing correlation in between independent variables in a multiple regression model. In situations of multicollinearity, the interrelationship between independent variables makes it difficult to observe the effect of the variation of one variable when others remain constant and can cause the problem of results interpretation, or else small changes in data may lead to a severe change in coefficients. In such situations, it is advised to avoid, if possible, multicollinearity in the research. In the case of the current study, attempt was made to find out if there is a correlation between dividends payout (dependant variable) and debt (independent variable) or debt-to-equity (independent variable). Therefore, multicollinearity became the perfect test.

SPSS software allows detecting multicollinearity via the calculation of the variance inflation factor (VIF). VIF equal to or above five indicates the presence of multicollinearity. However, if the VIF is below four and $\frac{1}{VIF}$ (that is the measure of the tolerance) is below twenty-five percent, multicollinearity may appear as a problem.

The regression analysis has as objective to separately establish the relationship between each independant variable and the dependant variable. Therefore, if there is a strong correlation between dependant variable and independent variable it becomes difficult to independly determine the relationship between variables.

3.6.2. Regression analyses

A multiple regression analysis was used to determine the relationship between the dependant variable (dividends payout ratio) and the two independent variables (debt ratio, debt-to-equity ratio). Since the regression had two independent variables, the multiple-regression analysis was the appropriate test because it compares in one single test all the dependent and independent variables. The earnings per share were used in this equation as a controlling variable.

The research equation below was used to examine the following hypothesis:

$Div_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 DR_{it} + \beta_3 DE_{it} + \mathcal{E}$

Where:

- Dependent variable

Div_{it} = Dividends payout ratio for firm i at time t

- Independent variables

DR_{it} = Debt ratio form firm i at time t

DE_{it} = Debt-to-equity for firm i at time t

- Controlling variable

EPS_{it} = Earnings per share for firm i at time t

$\mathcal{E}$ = Error variable

3.6.3. Hypothesis testing

To investigate the relationship between the dividend-payout ratio and indicators of capital structure, the following hypotheses were derived.

The null hypothesis highlights that there is no relationship between any company-selected factors and the dividend-payout ratio, H_0: r = 0. The other alternative hypothesis states that there is a relationship between any selected factors and the dividend-payout ratio, H1: r ≠ 1.

T-value was used to ensure the significance of the result and confirm or reject the null hypothesis. T-value formula is:

$$T = \frac{\bar{X} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

Where:

$\bar{X}$ = Sample means

μ = Population means

σ = Standard deviation

n = Number of observations.

In addition to the T-value, the P-value test was use to evaluate the significance of the result. According to Amidu and Abor (2006), the p-value is a very important indicator in regression analysis that gives statistical evidence to support the alternative hypothesis depending on the chosen significance level. The significant level used in similar studies was five percent, implying that where the p-value is under five percent, there is strong evidence that the alternative hypothesis be rejected in favor of the null.

Hypotheses use in this research:

<u>Null hypotheses:</u>

H_{01}: There is no significant relationship between the debt ratio and dividend-payout ratio.

H_{02}: There is no significant relationship between the debt-to-equity ratio and dividend-payout ratio.

<u>Alternative hypotheses:</u>

H_{11}: There is a significant relationship between the debt ratio and dividend-payout ratio.

H_{12}: There is a significant relationship between the debt-to-equity ratio and dividend-payout ratio.

3.7. Ethical consideration

As already alluded, the data that was used in this study were extracted from audited financial statements which are freely available to the public. The study did not make use of questionnaires and therefore possess no ethical issues.

3.8. Conclusion

This chapter focussed on how data was collected and arranged in order to perform the statistical tests that will lead to whether or not changes in capital structure can affect dividend payout. All banks on the JSE were used as samples, which gives a better chance of avoiding error type 0and type 1 during statistic tests. Some data were manually processed because they were not available on companies' reports. Due to the large amount of data to process, Microsoft Excel was used for manual calculation to avoid mistakes. SPPS software was used to process the regression analysis and has information on T-value and P-value at five percent significance level with the objective to accept or reject hypotheses.

CHAPTER 4: RESULTS AND INTERPRETATIONS

4.1. Introduction

The main purpose of this chapter is to run the different tests discussed in the previous section, and to analyse the results from those tests in order to have enough evidence to conclude in the next chapter if 'yes' or 'no' banks pay dividends out of the change of capital structure. To engage in the commitment of this section, this chapter will be introduced in section 4.1, followed by the Restatement of the research question and statistical hypothesis testing in section 4.2. Data processing are presented in section 4.3 before closing with inferential statistics in section 4.4

4.2. Restatement of the research questions and statistical hypothesis testing

4.2.1. Restatement of the research questions

The main question of this study and which must be answered is: 'What is the influence of capital structure on dividends-payout in South African banks?'

To answer the main question stated above, the following sub-questions have been elaborated:

1. 'What is the effect of debt ratio on dividends-payout in South African banks?'

2. 'What is the effect of debt-to-equity ratio on dividends-payout in South African banks?'

4.2.2. Restatement of statistical hypotheses testing

The hypothesesthat weretested in order to determine whether there is a significant relationship between the dividends-payout ratio and debt ratio or debt-to-equity ratio are as follows

Null hypotheses:

H_{01}: There is no significant relationship between the debt ratio and dividend-payout ratio.

H_{02}: There is no significant relationship between the debt-to-equity ratio and dividend-payout ratio.

H_{11}: There is a significant relationship between the debt ratio and dividend-payout ratio.

H_{12}: There is a significant relationship between the debt-to-equity ratio and dividend-payout ratio.

4.3. Data processing

The values of debt ratio, debt-to-equity ratio and dividends-payout ratio were calculated for each bank using secondary datafrom financial statements. The corresponding results are presented in table 1 to table 5.

Table 4.1: ABSABank

	Debt ratio	Debt-to-equity ratio	Dividends payout ratio	Earnings per share
2009	92.30%	1198.54%	61.54%	1440.20
2010	92.27%	1193.79%	53.17%	1669.90
2011	92.27%	1193.62%	40.02%	2112.00
2012	92.03%	1154.79%	85.49%	1937.60
2013	92.75%	1278.60%	142.74%	2226.10
2014	92.76%	1281.50%	110.51%	2324.90
2015	93.54%	1447.42%	117.59%	2422.40
2016	92.45%	1225.14%	61.15%	2290.60

Table 4.2: Capitec Bank

	Debt ratio	Debt-to-equity ratio	Dividends payout ratio	Earnings per share
2009	71.70%	253.39%	35.12%	357
2010	81.79%	449.09%	35.32%	509
2011	76.10%	318.47%	32.63%	730
2012	78.05%	355.55%	30.85%	1096
2013	77.80%	350.45%	30.37%	1498
2014	78.39%	362.74%	35.25%	1740
2015	78.55%	366.25%	32.68%	2206
2016	78.30%	360.83%	35.24%	2773

Table 4.3: Nedbank ratios

	Debt ratio	Debt-to-equity ratio	Dividends payout ratio	Earnings per share
2009	92.12%	1168.68%	51.49%	983
2010	93.34%	1401.28%	25.95%	1069
2011	91.91%	1136.29%	47.19%	1340
2012	91.60%	1090.34%	47.92%	1590
2013	91.42%	1065.12%	47.76%	1829
2014	91.24%	1041.31%	50.96%	2066
2015	91.49%	1075.51%	53.88%	2242
2016	91.85%	1126.68%	53.33%	2350

Table 4.4: Sasfin ratios

	Debt ratio	Debt-to-equity ratio	Dividends payout ratio	Earnings per share
2009	70.73%	241.68%	41.83%	570
2010	70.04%	233.82%	60.90%	396
2011	74.64%	294.39%	59.26%	304
2012	78.43%	363.69%	45.95%	355
2013	80.38%	409.72%	39.90%	423
2014	83.83%	518.35%	39.30%	474
2015	86.76%	655.54%	51.49%	563
2016	85.49%	589.24%	34.08%	707

Table 4.5: Standard Bank ratios

	Debt ratio	Debt-to-equity ratio	Dividends payout ratio	Earnings per share
2009	94.41%	1689.72%	53.57%	13536.0
2010	94.23%	1631.84%	52.56%	12829.0
2011	94.05%	1580.47%	59.87%	849.2
2012	92.87%	1302.50%	40.49%	1025.9
2013	92.29%	1196.40%	30.16%	1008.6
2014	92.79%	1286.75%	72.58%	1107.3
2015	93.01%	1329.77%	69.47%	12721.0
2016	92.62%	1255.92%	67.90%	14061.0

4.4. Inferential statistics

4.4.1. Regression analysis

As described in chapter 3, a multiple regression analysis was conducted in a single test in order to investigate the relation between the dividend-payout ratio, which was thedependent variable, and the two company factors that are independent variables. Amongst the independent variables, earnings per share were used as the controlling variable.

The research equation below was used to examine the hypothesis:

$Div_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 DR_{it} + \beta_3 DE_{it} + \mathcal{E}$

Where:

Div_{it} = Dividends-payout ratio for firm i at time t

DR_{it} = Debt ratio for firm i at time t

DE_{it} = Debt-to-Equity for firm i at time t

EPS_{it} = Earnings per share for firm i at time t

$\mathcal{E}$ = Error variable

4.4.2. Collinearity test results

Amidu and Abor (2006) refer to Keller (2005) by describing the Pearson Correlation Coefficient as the common measurement index to test the linear relationship between variables. The Pearson test was run for each bank with 2-tailed significance.

4.4.2.1. Pearson test results for ABSA

The multicolinearity for ABSA Bank was conducted using debt ratio, debt-to-equity ratio, and dividends-payout ratio variables. A Correlation tests was also conducted from the data to investigate the relationship between debt ratio, debt-to-equity ratio, and dividends-payout ratio variables.

Table 4.6: Correlation test for ABSA

		Debt ratio	Debt-to-equityratio	Dividends payout ratio
Debt ratio	Pearson Correlation	1	.998**	.654
	Sig. (2-tailed)		.000	.078
	N	8	8	8
Debt toequity ratio	Pearson Correlation	.998**	1	.639
	Sig. (2-tailed)	.000		.088
	N	8	8	8
Dividends payout ratio	Pearson Correlation	.654	.639	1
	Sig. (2-tailed)	.078	.088	
	N	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).
Source : Spss output

Coefficients^a

	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-26272.513	33464.134		-.785	.468		
Debt ratio	302.210	388.326	3.933	.778	.472	.004	242.190
Debt-to-equityratio	-1.293	1.989	-3.285	-.650	.544	.004	242.190

a. Dependent Variable: Dividends payout ratio
Source : Spss output

Interpretations

Table 4.6 shows that the correlation between dividends-payout ratio and debt ratio is 0.654 with a p-value of 0.078 based on eight observations. The results also indicate a correlation of 0.639 between dividends-payout ratio and debt-to-equity ratio with a p-value of 0.088. The variance inflation factor (VIF) is 242.190,which is above 5, which confirms that there is no issue of multicollinearity between the dependent variable and the independent variables.From the results, H_{01} and H_{02} are accepted because thereis noevidence of a statistically significant relationship between dividend-payout ratio and debt ratio because p>0.01.

This finding is in contrast with that of Aggarwal and Aung (2010) which show a statistically positive relationship between debt (a measure of capital structure) and dividend payout.

However, it is in accordance with the study of Gul (1999) which shows no significant association between capital structure and dividends payout.

4.4.2.2. Pearson test results for Capitec

A Correlation tests was also conducted on Capitec Bankin order to investigate the relationship between debt ratio, debt-to-equity ratio, and dividends-payout ratio variables. The results are presented in the table below

Table 4.7: Correlation test for Capitec

		Debt ratio	Debt-to-equityratio	Dividends payout ratio
Debt ratio	Pearson Correlation	1	.985**	-.016
	Sig. (2-tailed)		.000	.969
	N	8	8	8
Debt-to-equityratio	Pearson Correlation	.985**	1	.080
	Sig. (2-tailed)	.000		.851
	N	8	8	8
Dividends payout ratio	Pearson Correlation	-.016	.080	1
	Sig. (2-tailed)	.969	.851	
	N	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).
Source : Spss output

Coefficients^a

Model	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	170.739	93.536		1.825	.128		
Debt ratio	-2.329	1.572	-3.190	-1.482	.199	.030	33.570
Debt-to-equityratio	.123	.082	3.222	1.497	.195	.030	33.570

a. Dependent Variable: Dividends payout ratio
Source : Spss output

Interpretations

From Table 4.7, the correlation between dividends-payout ratio and debt ratio is -0.16 with a p-value of 0.969 based on eight observations. The results also show a correlation of 0.080 between dividends-payout ratio and debt-to-equity ratio with a p-value of 0.851.

The variance inflation factor (VIF) was 33.570 which is above 5, therefore there was no issue of multicollinearity between dividend-payout ratio, debt ratio and debt-to-equity ratio. Based on the results with a probability value of $p>0.01$, H_{01} and H_{02} are accepted because there is no evidence of a statistically significant relationship between (i) dividend payout ratio and debt ratio and (ii) dividend-payout ratio and debt-to-equity ratio. This finding is in contrast with the findings of Aggarwal and Aung (2010) which prove a positive relationship between debt ratio and dividend payout. However, it is in accordance with the study of Gul (1999) that shows no significant relationship between capital structure and dividends payout.

4.4.2.3. Pearson test results for Nedbank

A Correlation tests was also conducted on Nedbank in order to also investigate the relationship between debt ratio, debt-to-equity ratio, and dividends-payout ratio variables. The results is presented below

Table 4.8: Correlation test for Nedbank

		Debt ratio	Debt-to-equityratio	Dividends payout ratio
Debt ratio	Pearson Correlation	1	.997**	-.858**
	Sig. (2-tailed)		.000	.006
	N	8	8	8
Debt-to-equityratio	Pearson Correlation	.997**	1	-.888**
	Sig. (2-tailed)	.000		.003
	N	8	8	8
Dividends payout ratio	Pearson Correlation	-.858**	-.888**	1
	Sig. (2-tailed)	.006	.003	
	N	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).
Source : Spss output

Coefficientsa

Model	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-5057.319	1971.701		-2.565	.050		
Debt ratio	60.764	23.109	4.450	2.629	.047	.006	161.929
Debt-to-equityratio	-.420	.133	-5.325	-3.146	.025	.006	161.929

a. Dependent Variable: Dividends payout ratio
Source : Spss output

Interpretations

Table 4.8 indicates that the correlation between dividends-payout ratio and debt ratio is -0.858 with a p-value of 0.006 based on eight observations. Also, the results found a correlation of -0.888 between dividends-payout ratio and debt-to-equity ratio with a p-value of 0.003. Based on the findings, H_{11} and H_{12}, are accepted on the evidence of a statistically significant inverse relationship between debt ratio and dividend-payout ratio because of p<0.01. The variance inflation factor (VIF) was 161.929 which possess no risk of multicollinearity between dividend-payout ratio, debt ratio and debt-to-equity ratio. With P<0.01, it can therefore be established that there exists a statistically significant negative relationship between debt-to-equity ratio and dividend-payout ratio.

4.4.2.4. Pearson test results for Sasfin Bank

The table below also shows the correlation results for Sasfin bank for the period in study.

Table 4.9: **Correlation test for Sasfin Bank**

		Debt ratio	Debt-to-equityratio	Dividends payout ratio
Debt ratio	Pearson Correlation	1	.977**	-.521
	Sig. (2-tailed)		.000	.185
	N	8	8	8
Debt-to-equityratio	Pearson Correlation	.977**	1	-.456
	Sig. (2-tailed)	.000		.256
	N	8	8	8
Dividends payout ratio	Pearson Correlation	-.521	-.456	1
	Sig. (2-tailed)	.185	.256	
	N	8	8	8

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Coefficients^a

Model	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	211.899	159.690		1.327	.242		
Debt ratio	-2.465	2.554	-1.640	-.965	.379	.046	21.632
Debt-to-equityratio	.070	.104	1.146	.674	.530	.046	21.632

a. Dependent Variable: Dividends payout ratio
Source : Spss output

Interpretation

From Table 4.9, the correlation between dividends-payout ratio and debt ratio was -0.654 with a p-value of 0.185 based on eight observations. The results also show a correlation of -0.456 between dividends-payout ratio and debt-to-equity ratio with a p-value of 0.256. The variance inflation factor (VIF) was 21.632 which also indicates no issue of multicollinearity between dividend-payout ratio, debt ratio and debt-to-equity ratio. From the hypothesis H_{01} and H_{02} are accepted because there is no statistically significant relationship between dividend-payout ratio and debt ratio because of p>0.01. Therefore, there exist no statistically significant relationship between debt-to-equity ratio and dividend-payout ratio because of p>0.01. This finding is in contrast with the findings of Aggarwal and Aung (2010) which prove a positive relationship between debt ratio and dividend payout. However, it is in accordance with the study of Gul (1999) that shows no significant relationship between capital structure and dividends payout.

4.4.2.5. Pearson test results for Standard Bank

Finally, a multicolinearity and Correlation tests for debt ratio, debt-to-equity ratio, dividends-payout ratio variables were also conducted for Standard Bank to investigate the relationship between debt ratio, debt-to-equityratio, and dividends-payout ratio. The table below presents the findings.

Table 4.10: Correlation test for Standard Bank

		Debt ratio	Debt-to-equityratio	Dividends payout ratio
Debt ratio	Pearson Correlation	1	.998**	.111
	Sig. (2-tailed)		.000	.794
	N	8	8	8
Debt-to-equityratio	Pearson Correlation	.998**	1	.072
	Sig. (2-tailed)	.000		.865
	N	8	8	8
Dividends payout ratio	Pearson Correlation	.111	.072	1
	Sig. (2-tailed)	.794	.865	
	N	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).
Source : Spss output

Coefficients[a]

Model	Unstandardised Coefficients		Standardised Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-14263.800	8735.666		-1.633	.163		
Debt ratio	163.914	100.049	9.031	1.638	.162	.004	234.691
Debt-to-equityratio	-.689	.425	-8.939	-1.622	.166	.004	234.691

a. Dependent Variable: Dividends payout ratio
Source : Spss output

Interpretations

From Table 4.10, the correlation between dividends-payout ratio and debt ratio is 0.111 with a p-value of 0.794 based on eight observations. The variance inflation factor (VIF) is 234.691 indicating no issue of multicollinearity between dividend-payout ratio, debt ratio and debt-to-equityratio.

From the findings, It also becomes evident that no statistically significant relationship between dividend-payout ratio and debt ratio because p>0.01, therefore, H_{01} and H_{02} are accepted. Also, this finding is in contrast to the findings of Aggarwal and Aung (2010) which shows a positive relationship between debt (a measure of capital structure) and dividend payout but is in accordance with the study of Gul (1999) that shows no significant relationship between capital structure and dividends payout.

4.5. Conclusion

A regression test was conducted on the different banks to determine if there is any link between dividends-payout ratio and debt ratio or dividends payout and debt-to-equity ratio. Based on the findings, four out of five banks revealed that there is no significant relationship between (i) dividend payout and debt ratio, and (ii) dividend-payout ratio and debt-to-equity ratio. However, the particular case of Nedbank is different where the results confirmed the evidence of a statistically significant relationship between dividend payout-ratio and debt ratio & as well as From the findings, dividend payout is not affected by the change of capital structure in the South African environment with regard to the percentage of accepted null hypotheses that is 80 percent higher than the percentage of rejected null hypotheses.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This study aimed to determine if South African banks are paying dividends from changes in capital structure. This research was triggered by the study of Jager (2015) that demonstrated that some companies pay dividends out of fair-value evaluation. To attain the above aim, a desktop analysis was realised.

This chapter has as objective to summarise the key findings and pull out conclusions on the effect of debt ratio and debt-to-equity ratio on dividends payout in South Africa banks. Moreover, this chapter provides the contributions of this study, discusses its limitations and provides recommendations for further studies.

The chapter carries on with a restatement of the research problem, the main research question and sub-questions as outlined in chapter 1, in section 5.2. This is followed by a summary and conclusion of the literature review on theories of capital structure and dividends payout presented in chapter 2, in section 5.3. Section 5.4 presents a summary and conclusion of the research design and methodology used in this study, presented in chapter 3. This is followed by a summary and conclusion of the analysis and a discussion of the results of the study, presented in chapter 4, in section 5.5. Section 5.6 provides significance, implications, limitations and recommendations of this study.

5.2. Chapter 1 – research problem, question and sub-questions

5.2.1. Problem statement

The problem to be investigated in this thesis is that South African banks are perceived to be paying out dividends when they alter their capital structure.

5.2.2. Aim statement

This research aims to determine if operating banks in South Africa are paying dividends from changes in capital structure. For this study, changes in capital structure refer to altering debt and of debt-to-equity ratios.

5.2.3. Main research question

The main research question addressed in this study is: 'What is the effect of capital structure on dividends payout in South African banks?'

5.2.4. Research sub-questions

- What is the effect of debt ratio on dividends payout in South African banks?

- What is the effect of debt-to-equity ratio on dividends payout in South African banks?

5.3. Chapter2 – summary and conclusion of prior literature on capital structure and dividends payout

The chapter started by presenting the prevalent area of capital structure and dividend payout theory. It then presents relevant theories on capital structure, dividends policy and profitability before reviewing prior studies on the same area. Concerning capital structure, prior studies revealed that there is a positive relationship short-term debt-to-asset and return on equity (ROE) and a negative relationship between long-term debt-to-asset and ROE. Also, prior studies reveal a positive relationship between debt and dividends payout for multinational firms. Likewise, prior studies highlight the fact that banks need more debt to be competitive. Reviewing the prior studies allows chapter 2 to highlight gaps in prior studies to justify the importance of this research tackling unanswered questions that were investigated.

5.4. Chapter 3 – summary and conclusion of the research design and methodology

Chapter 3 of this study depicts the methodology used to collect and test data needed to answer the research questions listed above. Chapter 3 started with a discussion on the suitable paradigm for the research and justification for the selected desktop method used to collect data. Following that, the chapter described the research population that is basically South African banks listed on the JSE, and the current study used the total population as the sample. The chapter then presented how data from financial statements were transformed to calculate ratio before conducting tests. The previous section is followed by the inferential and descriptive statistics used to analyse and interpret the collected data. To close chapter 3, ethical considerations were discussed before concluding that methodology adopted in this research is appropriate to efficiently addressing the proposed researched questions of this study.

5.5. Chapter 4 - summary of results and interpretations

Chapter 4 of this research presented and discussed the result of the different tests on collected data to answer the sub-questions and the research question addressed in this research. The chapter started with a re-statement of the research question and sub-questions, followed by presenting calculated ratio for the different banks.

The chapter then proceeded with inferential and descriptive statistics. As descriptive statistics, the Pearson Collineary test, hypothesis testing and regression analysis were conducted and helped to evaluate the different ratio collected for each JSE listed bank. The results collected from the different tests previously mentioned were interpreted to find out if there is a significant relationship or not between debt ratio or debt-to-equity ratio and dividends-payout ratio. The results of the different tests carried earlier led to the general conclusion that in the South African banking environment, dividend payout is not affected by the change of capital structure.

5.6. Significance, implications, limitations and recommendations of the research

5.6.1. Hypothesis revisited

There is no evidence of a significant relationship between the debt ratio and dividend-payout ratio.

The correlation tests done on the selected sample revealed that with there is no significant relationship between debt ratio and dividend-payout ratio. That conclusion was motivated by a p-value>0.01 on 80 percent of the result. This implies most banks are not paying dividends from their changes in capital structure

There is no evidence significant relationship between the debt-to-equity ratio and dividend-payout ratio.

The multicollinearity testes done on the selected sample showed that there is no significant relationship between debt ratio and dividend-payout ratio. That conclusion was motivated by a p-value>0.01 on 80 percent of the result. This also entails that changes on debt-to-equity ratio have no influence on dividend payout.

From the findings, it can be concluded that capital structure has no effect on dividend payout, thus, achieving the aim of this study.

5.6.2. Significance of the research

As already mentioned, many countries around the world are constantly implementing new regulations, particularly in their financial sectors, to avoid chaos such as during the 2007 financial crises. This research will reveal the source of dividends in the banking sector and inform investors of their current practices. Dividend payouts may no longer be a measure of performance but a means to gain investors' confidence.

5.6.3. Implications of the study

The result of this research has the following implications for the South African financial environment:

- A dividend payout can still be viewed as a performance indicator for investors in the banking industry.
- Investors should not limit themselves to dividend payouts to make investment decisions based on bank profitability.
- Debt bubbles cannot easily happen through change of capital structure in the South African banking environment.
- South Africa's financial regulator should carry on paying attention to the use of, and motivation behind, altering the capital structure in the banking industry due to the significant relationship between dividend and debt ratio or debt-to-equity ratiofound in Nedbank that can be seen as a malpractice.

5.6.4. Limitations of the study and recommendation for further research

One of the main limitations of this research is the difference between banks and financial services companies in South Africa, which reduces the sample used in the research to few institutions called or recognised as banks in South Africa by the JSE. Coupled to that, few banks are listed in the JSE for more than ten years, and that gives tooshort a length for our study.

Another limitation is the financial techniques that banks use to draw financial statements; the techniques are not consistent and they change every year or every two years. Therefore, one has to pay attention to what is taken into consideration each different year to get figuresand retain a consistent method for the entire period of selected years. The statistical analysis of the data did not include a validation test on regression, and only significant variables were used in the inferential analysis.

For further research it could be recommended to make the sample broader by not limiting the research to banks but also to include financial service companies, which will increase the quality of the result.

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At a meeting of the Faculty's Research Ethics Committee on **2 May 2018**, Ethics Approval was granted to **Marc L Assom-Fils (215270258)** for research activities of **MTech: Business Administration** at the University of the Cape Peninsula University of Technology.

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Comments:

Decision: APPROVED

	14 May 2018
Signed: Chairperson: Research Ethics Committee	Date

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