Factors that influence debt financing of municipal owned entities: a case study of the city of Johannesburg

by

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DECLARATION

I, Oupa Madala Galane student number 36971227, declare that the research study entitled **Factors that influence debt financing of municipal owned entities: A case study of the City of Johannesburg** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Moreover, I declare that I have not previously submitted this work for examination at any other institution of higher learning or UNISA.

Oupa Madala Galane   19 July 2019

SIGNED   **DATE**

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ABSTRACT

This quantitative research was conducted to examine factors that have an influence on the debt financing of MoEs for the CoJ. It is quite evident from previous literatures that there has been a plethora of research undertaken on debt financing. Despite this, there has been very limited, or no, study conducted in South Africa especially on MoEs. The main objective of the study was to determine the factors that influence the debt financing of MoEs. To achieve this, both descriptive and correlational research designs were used, as well as panel data regression models. Data was collected from 13 MoEs under the CoJ from 2011 to 2015; moreover, secondary data was used as the main sources and extracted from the integrated annual reports.

The study tested hypotheses on independent variables. The results show that profitability has a significant negative relationship with debt financing. On the other hand, the results revealed that coefficients such as interest rate (insignificant) size (insignificant), economic growth (significant), age (insignificant) and business risk (significant) have a positive association with debt financing. Results further show that borrowing was consistent throughout the study period, with MoEs relying more on short-term debt than on long-term debt. The study also concluded that during the period of the study, some entities were technically insolvent while others were at high risk of being liquidated. The findings are expected to contribute to the body of knowledge and play a pivotal role in Municipal Finance Management Act, no 56 of 2003 of National Treasury policy and decision making with regard to Local Government Municipal Finance Management Act 56 of 2003, particularly in relation to the parent municipality as well as its entities. More research needs to be conducted to investigate factors that influence investment decisions of MoEs/SOEs in South Africa and compare the various types of debt financing using larger sample size over a longer period.

KEY WORDS:

Capital structure; corporate financing decision; debt financing; debt level; financial leverage; long-term debt; municipal finance; municipal-owned entities; short-term debt; total debt.

LIST OF ACRONYMS AND ABBREVIATIONS

AICPA	American Institute of Certified Public Accountants
AGSA	Auditor General South Africa
AGE	Entity age
BR	Business risk
BKCY	Probability of bankruptcy
CoJ	City of Johannesburg
CoGTA	Department of Cooperative Governance in the Ministry of Cooperative Governance and Traditional Affairs
ENG	Economic growth
EViews	Econometric views
FMA	Financial Management Act
GA	Growth opportunity of the entity
CEO	Chief Executive Officer
CFO	Chief Financial Officer
GDP	Gross domestic product
GROW	Entity growth
INF	Inflation rate
INT	Interest rate
IPO	Initial public purchase
LDL	Long-term debt leverage
LS	Least square
LD	Long-term debt
MFMA	Municipal Financial Management Act
MMA	Municipality Management Act
MoE	Municipal-owned entity
MSA	Municipal Systems Act

M&M	Modigliani and Miller
N	Number of observations
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary least squares
PEM	Public Expenditure Management
PFMA	Public Financial Management Act
POPI Act	Protection of Personal Information Act
PROF	Profitability
PWC	Price Waterhouse Coopers
SAI	Supreme Audit Institution
SAIRB	South African Internal Registered Bond
SAMWU	South African Municipal Workers Union
SD	Short-term debt
Size	Entity size
SOE	State-owned entities
SPSS	Statistical Package for Social Sciences
STATA	Data Analysis and Statistical Software
Std.	Standard
TAX	Corporate tax
TANG	Entity nature of assets (tangibility)
TD	Total debt
TDA	Total debt ratio

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CHAPTER 1

STUDY ORIENTATION

1.1 INTRODUCTION

The objective of this study was to investigate factors that influence the debt financing of municipal entities (MoEs) with a focus on the City of Johannesburg (CoJ). Moreover, the study has sought to demonstrate the types of debt used by MoEs, to determine the extent of debt financing substantively preferred by MoEs as well as the acceptable levels of debt of MoEs for the CoJ.

The intention of this chapter is to provide an overview of the study, outlining the research problem, research objective, and research questions guiding the study. It further discusses the significance of the study by explaining the research methodology applied and presented the outline of the study.

1.2 BACKGROUND OF THE STUDY

Municipal-owned entities (MoEs) are independent entities, wholly owned by the municipality, mandated to perform municipal services and generate revenue for local communities on behalf of a municipality (Khumalo, Ntlokonkulu & Rapoo 2003: 22). According to information contained on the Department of Defence website, MoEs came into effect on 1 July 2004 under the Municipal Finance Management Act 1 of 1999 (MFMA). This act was amended on 1 August 2004 and became the Municipal Systems Act (MSA) and the passing of the MFMA Act. According to reports from the City of Tshwane (2019), the objective of establishing MoEs is to deliver basic services to the community, such as water and electricity, waste management, recreational facilities, repairing of roads on behalf of the municipality, and to conduct activities, which boost economic development.

Even though MoEs are established to fulfil the mandate of a municipality with regard to service delivery and public service management, their operation and governance remain autonomous. Their autonomy does not suggest privatisation. Instead, it allows for independence and flexibility in governance, management and operations.

More importantly, the contribution by MoEs cannot be limited to service delivery only; instead, they play a crucial strategic role in economic growth, job creation and poverty reduction in the country. According to the Municipal Finance Management Act 1 of 1999 (MFMA) as amended in 2004, the formulation of the autonomic strategies of MoEs is premeditated to give management the leverage to take decisions without government interference.

It is noteworthy that within most municipalities, particularly in Metropolitan Municipalities, services have to be decentralised through the establishment of MoEs owing to the influx of inhabitants. The decentralisation of services, such as the provision of water and electricity, waste management, economic development, recreational facilities, and the maintenance of roads forces the municipality to make proper analyses and respond positively to concerns raised by its citizens. According to Klaus & Bahrinipour (2008: 25), the insufficiency of state financial services requires the public sector's participation to a point that it complements the role played by the government to contribute to the provision of service delivery. In fact, Crous (2002: 73) noted that service delivery is one of the most important components of government and public administration.

According to the White Paper (1997) on Transforming Service Delivery, "public and service delivery is not a privilege in a civilised and democratic society, particularly in South Africa". On the contrary, Riekert (2001:89), argues that, society is entitled to demand the efficiency and cost-effectiveness of such services. Therefore, public institutions must seek to provide the services needed by the community as customers. This is particularly the case in South Africa, as the Apartheid inequalities evident in infrastructure backlogs in poor black communities continue to persist. In support of this, Mbeki (2000: 15) once observed, "many communities in the Republic of South Africa are still challenged by the inheritance of under-development and poor service delivery challenges despite strides made to redress backlogs. In fact, many people remain with inadequate infrastructure" (Mbeki, 2005). Such a phenomenon remains challenging and thorny for the South African government to address. Hence, the South African government has developed a plan in its transformation priorities to address issues regarding service delivery to cover the basic needs of communities and correct the inequalities and injustices of the past (Republic of South Africa White Paper, 1997: 91).

1.2.1   The structure of debt financing for MoEs

The structure of debt financing for an entity or company consists of a mixture of public and private debt financing (Damodaran, 2009: 4). Within the context of municipalities and its entities, public debt financing refers to municipal grants, stocks and other securities while private financing consists of debt and equity financing (Sebapadi, 2016: 4). Even though the formation of MoEs is in line with the Companies Act, MoEs do not sell shares. In that regard equity, shares and debentures fall outside the ambit of this research. Kasozi (2009: 3) points out "the question of how much debt an entity should have comparative to equity has important implications for its value or its cost of capital". The White Paper 1997 on Local Government recommends that municipalities should seek additional private funding to supplement public funds. As a result, MoEs are not an exception especially in circumstances where municipalities appear to be financially constrained and are unable to fund MoEs because of poor financial management. Section 13 of the Local Government Municipal Finance Management Act 56 of 2003 "makes a provision that a municipality may give assurance of payment of the debt for its entity under its sole control, provided the guarantee is approved by municipal council and depends on the similar conditions appropriate to the municipality".

MoEs are less constrained by the bureaucratic process of the shareholder (municipality), and so their operations and performance may improve if they follow the private sector service and business model. Conversely, and of particular interest, there is a need to identify factors that influence debt financing and how they affect the ability of MoEs to meet their constitutional mandate. Sebapadi (2016: 3) argues that both government funds, namely, inter-government funds and the generated funds of municipalities are usually scarce or limited. As a result, borrowing becomes an important tool to source additional funds, particularly in developing countries like South Africa (Sebapadi, 2016). To corroborate this argument, Brown *et al.* (2014: 532) stated that "national government's prevailing sources of capital finance, namely, municipalities' internally generated funds and intergovernmental grants are inadequate to meet the projected demand" required by MoEs. According to the authors, therefore, the use of debt appears to be an alternative way of raising additional capital.

Debt capital refers to loans from shareholders, debentures, other long and short-term bank loans as well municipal bonds. Hovakimian *et al.* (2003: 518) posit that both debt and equity capital are sources of financing which are used by entities to finance operations and investment activities. As mentioned in earlier sections of this chapter, however, South African MoEs do not have equity financing. Because of this, the study will be limited to debt finance.

According to Cassar (2004: 261), financing decisions, particularly decisions pertaining to debt financing, can be seen to contain remarkable implications for the entity's operations, risk of adversity, performance of the attributes of the entity, and the prospect of the entity to expand. Brown and Motsoane (2014) noted how the mainstay lending of municipality had been commercial loans. The authors, however, noted that, lately, bond markers appear to be more popular and have become a common source of funding within MoEs (Brown & Motsoane, 2014: 518). Although there has been a lot of empirical evidence presented before by authors such as Andrus and Jones (2002), Mansi and Reeb (2002), Frank and Goyal (2009), and Nyamita (2014), amongst others, on the various factors that influence debt finance, the focus of these authors has been on private entities. Interestingly, there is a paucity of literature relative to factors that influence debt financing in South Africa, particularly for MoEs. Given this phenomenon, therefore, the study seeks to close this gap. This research focuses on the debt financing of MoEs in the CoJ and the Republic of South Africa by acquiring an understanding about the policy on debt finance and demonstrating the importance of debt financing to MoEs. Moreover, the study has also determined the extent of debt financing and the debt instruments of MoEs in the Republic of South Africa, using the CoJ as a case study.

Table 1.1 below lists the 13 MoEs that fall within the CoJ and the core services they render to citizens of the City. The City wholly owns all the MoEs. They play a critical role in the advancement of economic growth, water and electricity, waste management, economic development, recreational facilities, job creation, poverty reduction, and the maintenance of roads

Table 1.1: City of Johannesburg municipal-owned entities database

Name of the MoE	Core service renderers
City Power	Distributes electricity bought from bulk generators.
Johannesburg City Parks	Manages the City's graveyards, parks and certain public open spaces. It also safeguards the environment, including the maintenance of all street and parks within the CoJ's borders. Provides access and conservation projects for indigenous and worldwide-endangered animals and supports the conservation of wild populations and habitats.
Johannesburg City Theatre	Stages both Broadway musicals and homegrown productions.
Johannesburg Development Agency	Contributes to the growing the competitive business environments of the city, improving public spaces and promoting access to jobs.
Johannesburg Fresh Produce Market	Produces and provides fresh fruit and vegetables to the city.
Johannesburg Property Company	Oversees property development to the whole of the greater CoJ. It also provides property management services and all ancillary services.
Johannesburg Social Housing Company	Provides quality affordable housing to the citizens of Johannesburg.
Johannesburg Road Agency	Oversees the repairs, maintenance, and development of CoJ roads network and storm water infrastructure, including bridges and culverts, traffic lights and signage.
Johannesburg Tourism Company	Is responsible for stimulating tourism growth through demand-driven tourism development.
Johannesburg Water	Provides all people of Johannesburg with access to quality water and sanitation services.
Johannesburg Metrobus	Offers a consumer-friendly public transport within greater CoJ in the form of buses.
Metropolitan Trading Company	Provides excellence of market and transport interchanges in Johannesburg.
Pikitup	Oversees the cleaning of the CoJ, to ensure that there is an attractive and hygienic environment for all inhabitants.

Source: Self-generated by researcher, 2018

1.2.2 The role and relevancy of debt capital structure

Modigliani and Miller (1958) introduced the theory relative to capital structure under the title of the "The cost of capital, corporation finance and the theory of investment". Precisely, the authors specified that, based on certain assumptions, capital structure decisions are irrelevant. If one, thus, takes into account the work of Modigliani and Miller (1958), whether an entity is highly leveraged or has a lower debt component in the capital structure it would not have any bearing on the value of the entity. Despite sparking a lot of interest among scholars, the work of Modigliani and Miller (1958) attracted a number of critics. For instance, Stulz (2000: 121) criticised their work and argued that, although the vital assumption of Modigliani and Miller (1958) frequently holds, they allow only for mere predictions to be made. As a result, the outcomes should be adjudicated by leading assumptions and by the expediency of the results in explaining the empirical phenomena.

There have been many empirical studies, which have examined the relationship between debt capital and performance. For instance, Otieno (2015: 1) argues that an understanding of the association between performance and debt capital enables the validation of the part which debt capital plays in the corporate governance of entities. Moreover, it is uncertain whether the entity's performance guides capital structure decisions or whether performance is propelled by capital structure or whether both act in tandem. The strength and growth are some of the key measures of the entity's performance, and all stakeholders have an interest in the level of the entity's financial performance. Consequently, the strategy of the entity should include debt financing in order to improve financial performance (rate of return on the owner's investment) by producing a higher return on funds borrowed (Nyamita, 2014: 6). Otieno (2015: 51), however, argues that, in order to select an appropriate measure of performance, there should be an examination of bi-directional association between performance and capital structure. The study by Luscombe (2009: 16) proved that profitable firms tend to use less debt finance, and this was supported by Denisa and Mihovb (2002: 21) and Chenesai (2009: 12). It is, thus, predictable that profit-generating entities use less debt to shield the entities from liquidation.

Other empirical studies identified factors that influence debt financing in the private sector, especially in developed economies (Hackbarth, 2009: 507; Antoniou, Guney & Paudyal, 2008: 59). Profitability, corporation size, growth, industry conditions, tax rates, stock market conditions, business risk, capital markets and the nature of the assets are some of the factors observed to influence debt financing. Frank and Goyal (2009: 1), however, argue that the conclusion regarding factors influencing debt finance remain vague despite this being a well-researched topic. It is interesting to note how limited the studies on debt financing are in developing economies like South Africa, with a few studies undertaken by authors like Sibindi (2017) and Malaza (2017). Nyamita (2014) conducted a study on this topic based on SoEs operating in Kenya. The author argued that there is no agreement concerning the empirical conclusions on factors influencing debt financing in entities. Against this background, the purpose of this study is to examine factors that influence debt financing of MoEs for the CoJ. The results of the study will contribute to filling the existing gap in the literature on debt financing of MoEs. Furthermore, the findings of the study will contribute to capital structure decisions for MoEs in South Africa in general and for the CoJ in particular.

1.3 PROBLEM STATEMENT

The theory on the choice of capital structure, particularly debt, has been given much attention over the past decades, both in public and private entities especially in developed countries. The approach towards the borrowing of MoEs is generally from within the framework of municipal borrowings under section 87 (5) (d) of the MFMA. This limits the entities from exercising a flexible borrowing approach (MFMA, No 56 of 2003). According to Sebapadi (2016: 4), it is difficult for a municipality and its entities to live up to their set mandate because of the lack of significant requisite knowledge of the investment and risk of debt instruments used by municipalities and MoEs for capital funding. He further emphasises that, currently, bank credits or loans and municipal bonds are the two main financing instruments of sub-national borrowing in South Africa. The bank credits in the form of short and long-term loans acquired by MoEs bear interest. Ward and Price (2008: 57) assert that all interest-bearing borrowings should be considered if you want to evaluate the entity's performance regardless of the type of the debt held, whether short or long term. Jooster (2015: 6), however, argues that the use of more debt by an entity in the capital structure to finance operations and investments often creates financial risk.

The applicable legislation in line with borrowing choices is set in Act 56 of the Local Government Municipal Finance Management of 2003. It is noteworthy that the lack of a flexible process in accessing debt financing can be viewed as being one of the most significant impediments for municipal entities. This is a serious constraint which show different effects and responses to credit availability for municipal entities, because the impact on debt financing is directly associated with the parent Municipality. This motivated the undertaking of the present study. Although researchers, like Sibindi (2017) and Malaza (2017) have already investigated the concept of debt financing in South Africa, their area of focus has been on private entities. On the other hand, Nyamita (2014) conducted a similar study on debt financing but based it on state-owned corporations in Kenya. In the South African context, Sebapadi (2016) paid particular attention to the parent municipalities in South Africa instead of focusing on the entities owned by these parent municipalities. Given the above findings and arguments, the study ought to find out whether the outcomes of such past studies present a similar view for municipal entities and as well as closing the gap using data from the City of Johannesburg.

Klaus & Bahrinipour (2008: 6) posits that, currently, bonds are no longer economic compared to loans because interest rates are very low owing to serious competition and insolvency in the Banking Sector. From the above arguments, it is quite clear that advanced and emerging economies have adopted banking credits, and entities prefer loans because the interest payment on loans is tax deductible that is beneficial to borrowers. In addition to the above regarding interest-bearing loans, Deesomsak *et al.* (2004: 395) noted how factors such as taxation and bankruptcy costs and changes in interest rate could influence the debt financing level within an entity. The authors attributed this to the fact that most entities are more likely to use debt financing when the cost of debt is low. In fact, in their study, Deesomsak *et al.* (2004) also concluded that taxation has an impact on corporate financing.

Given the above, this study also ought to find out whether the outcomes from studies such as those carried out by Deesomsak *et al.* (2004) and Nyamita (2014) provide similar results especially for municipal entities in the City of Johannesburg, South Africa. Precisely, the study set out to establish whether there is a relationship between debt finance and factors such as interest rate, profitability, size, corporate tax, age, business risk, GDP, tangible assets, economic growth and entity growth in the City of Johannesburg.

Secondly, the researcher sought to establish the type of debt instruments and extent of debt financing substantively preferred by City of Johannesburg.

1.4   RESEARCH QUESTIONS

The main aim of the study is to investigate factors that influence debt financing of MoEs for the CoJ for the period 2011–2015. The investigation has explored and answered the following pertinent questions:

The primary research question to be answered is:

- What are the factors that influencing debt financing within MoEs in the CoJ?

In addition to the above primary research question, the study will respond to the following secondary sub-questions:

- Which different types of debt financing do MoEs in the CoJ use?
- What extent of debt financing does MoEs of the CoJ substantively prefer?
- What are acceptable levels of debt financing in the MoEs for the CoJ?

1.5   RESEARCH OBJECTIVES

The research objectives of the study are as follows;.

The primary research objective is;

- To identify the factors that influence debt financing of MoEs within CoJ;

The secondary sub-objectives are as follows:

- To analyse the different types of debt used by the various MoEs for the CoJ;
- To determine the extent of debt substantively preferred by MoEs in the CoJ;
- To establish the acceptable level of debt for MoEs for CoJ.

1.6   RESEARCH HYPOTHESES

Creswell (1994) describes hypothesis as a formal statement that presents the desired outcome between an independent and dependent variable. In addition, a hypothesis is a research statement that is still to be accepted or disapproved (Helmenstine, 2017).

In order to test whether the independent variables have an influence on debt financing, different types of hypotheses were set for each objective in the study. To answer the research objectives listed in section 1.4, the following hypotheses were formulated.

- To determine whether a relationship exists between size and debt finance, the relevant hypothesis was formulated as follows:

    H_1: *Size of the entity influences debt positively.*

- To determine whether the age of a firm has a relationship with debt finance, Hypothesis 02 was formulated as follows:

    H_2: *Age of the entity influences debt positively.*

- In the same vein, to determine whether there is an association between profitability and debt finance hypothesis 03 was formulated:

    H_3: *Profitability of the entity influences debt negatively.*

- The other factors that were investigated were business risk, corporate tax, asset tangibility, growth, inflation rate, interest rate, GDP, and economic growth. The relevant hypothesis statements were formulated below as follows:

    H_4: *Business risk influences debt negatively;*
    H_5: *Corporate tax influences debt negatively;*
    H_6: *Assets tangibility influences debt positively;*
    H_7: *The growth of the entity influences debt negatively;*
    H_8: *Inflation rate influences debt negatively;*
    H_9: *Interest rate influences debt negatively;*
    H: *Gross domestic product influences debt positively; and*
    H_{11}: *Economic growth influences debt positively.*

1.7   SIGNIFICANCE OF THE STUDY

While MoEs play a critical role in providing basic services to inhabitants of municipalities, they are required to be self-sustainable and contribute to the generation of third-stream income of municipalities. Given this problem, factors influencing MoEs debt financing in developing countries is crucial and warrants empirical attention. The study attempts to make significant contributions in a number of areas particularly to the empirical literature on the factors that influence the debt financing of MoEs in South Africa. In addition, the study will contribute to the growing body of research on capital structure particularly in the public sector. Finally, the study can be a valuable source of information for senior finance people in decision-making. It is equally important to note that there has been relatively little literature published on what drives MoEs to opt for debt capital.

1.8   RESEARCH METHODOLOGY

According to Chenesai (2009), there are three types of research methods one could choose from when conducting research. These are quantitative, qualitative and mixed method (Chenesai, 2004). In this study, however, the quantitative method was employed. Chenesai (2009: 95) defines quantitative research as "a method that derives empirical generalisations, which may be used to determine future courses of action". Madrigal and McClain (2012) also noted that the greatest strength of quantitative method is that it provides data that is descriptive in nature, so permitting a researcher to capture a picture of a user population. It has, however, been observed that the greatest weakness of the quantitative research method lies in the interpretation thereof (Madrigal & McClain, 2012).

As indicated before, apart from quantitative methods, there are other research methods namely, qualitative and mixed methods. According to Dowd (2004: 204), "qualitative research is the utmost effective technique to conduct empirical inquiries meant for better understanding phenomena occurring in their natural context". The author also described mixed method, as "a procedure that frequently includes the use of both qualitative and/or quantitative methods".

For instance, a mixed method study may involve the use of qualitative methods to describe some experience, while employing quantitative methods to measure some dimension of the experience. It worth noting that, for this study, a quantitative method was applied. A diagnostics test will be carried out to determine the appropriateness of the model and the results will be presented in Chapter 5.

In addition to ensuring that a study uses a certain research method, it is equally important to indicate that the study has relied on a particular research paradigm. According to Saunders *et al.* (2012: 140), there are four research paradigms, a scientific approach and tested hypothesis to determine how independent variables influence debt financing, making it positivistic in nature.

1.8.1 Research design

According to Tustin *et al.* (2005: 82), "research design is a plan to be followed to realise the research objectives or hypothesis." In fact, according to the authors, the research design provides the master plan, which determines "the approach and procedure for gathering and scrutinising mandatory information". A mixture of descriptive and correlational research design models were used to estimate the relationships amongst the variables under study. These were then analysed using Eviews. The applied techniques enabled the researcher to investigate the types of debt used, the extent of debt substantively preferred as well as the trends of the acceptable debt level for a period of 5 years from 2011–2015 within the MoEs for the CoJ. The scope was limited to five years due to the lack of availability of correct post-2015 records for some MoEs. The data used in this study were obtained from integrated annual reports and annual financial statements.

1.8.2 Target population

The target population of the study consisted of the MoEs within the CoJ in the Gauteng Province. The researcher chose MoEs from the CoJ because it has the majority of MoEs in the Gauteng Province. The total number of MoEs in Gauteng is 18, and 13 of those belong to CoJ while the rest are spread between the two, City of Tshwane two and three for Ekurhuleni.

1.8.3 Sampling design

There are five non-probability sampling methods, namely judgemental, convenience, purposive, quota and multiplicity sampling. For the purpose of this study, however, 'convenience sampling' methods were used. To be precise, the sample selected consisted of all 13 MoEs from the CoJ. This was because there were not enough MoEs from which to sample. Moreover, the reason for selecting all municipal entities that fall within the City of Johannesburg was that their annual financial statements are easily and readily available online. In the event that some annual financial statements for a certain period were not made available, the entity was contacted and requested to make the information available to the researcher.

1.8.4 Measuring instrument

The information from the integrated annual reports and financial statements was used to measure variables across the MoEs. The researcher used financial ratios to measure the variables under study. The variable for debt financing was measured as X while the independent variables for interest rate, profitability, size, tax, age and business risk were measured respectively. These variables were extracted from the annual financial statements of the MoEs from 2011 to 2015. In the event that financial statements were not clear and specific, further clarity was sourced from the annual reports, which were readily available on the official MoE's website.

1.8.5 Data collection

According to Tustin *et al.* (2005: 88), there are two types of data source that a researcher can use to undertake a study; these are primary and secondary data.

1.8.5.1 *Primary data*

The use of primary data was not applicable for this study because the researcher had assessed its value and discovered it to be inadequate for the research objective. This was due to a poor response from the lime survey sent to potential respondents, which resulted in a 13% response.

1.8.5.2 Secondary data

Various copies of annual financial statements were used as a source of secondary data for longitudinal data analysis. Where this information was unavailable or unclear, further information was obtained from the office of CFOs, senior.

1.8.6 Data analysis

The following data analysis methods will be used to determine the above-mentioned objectives:

- Descriptive statistics were used to determine the extent of debt substantively preferred and to compare the different types of debt used by MoEs;
- The Panel EGLS (Period SUR)regression model was used to determine the factors that have an association with debt financing; and
- A statistical package called Eviews was used to analyse data. The results are presented in Chapter 5 of this study.

1.8.7 Anonymity and confidentiality

As indicated earlier, data was collected from the entities' annual financial statement as well as from the integrated annual reports. Apart from the information obtained from the annual financial statements, the identity of participants from the lime questionnaire will be kept confidential, though such information had no role to play in the study. The researcher, thus, upholds the anonymity of the participants who assisted with some information not made available and accessible in the public domain in compliance with the POPI Act. According to the Act, it is essential for a researcher to protect the personal information by public and private bodies. Moreover, the Act mandates that all South African institutions that gather information should maintain the confidentiality of respondents when gathering, processing, storing, and sharing another entity's personal information. In fact, according to the Act, researching bodies and institutions should be held responsible should they compromise or abuse personal information. After concluding this study, the data collected will be retained for 15 years for any further analysis and then disposed of.

1.8.8 Validity and reliability

The Arellano-Bond estimator and Robustness will be used to test for the validity and reliability of the study regression models and variables. Koenker (2007: 214) describes robustness in statistics "as a system, which has an ability to signify resilience of conclusion to deviations from assumptions of hypothetical models".

1.9 ETHICAL CONSIDERATIONS

The study was conducted strictly according to University of South Africa's Research and Ethics Policy. An ethical clearance was obtained from UNISA's College of Accounting Sciences Research Ethics Committee. A formal letter was sent to different MoEs requesting permission to request information that was not made available for a particular period. The POPI Act kept the identities of the respondents who assisted with the information that was not publicly available private and confidential by using pseudonyms and as set.

1.10 DELIMITATION AND LIMITATIONS

1.10.1 Delimitation

The study covers MoEs of the CoJ in Gauteng, using non-probability sampling techniques. The sample size for the study consisted of 13 revenue and profit generating MoEs. Annual financial statements and integrated annual reports were used to measure the validity and reliability of the research. Financial leverage variables, such as Total debt financing (TD), long-term debt (LD) and short-term debt (SD) were used to measure debt financing levels (financial leverage) between 2011 and 2015. Because the MoEs are scattered around Johannesburg, the researcher visited each entity only to collect copies of the financial statements from the CFOs, Financial Managers and Senior Managers in an event where the information was not available. The study used secondary data as the main source of data.

1.10.2 Limitations

The initial main objective of the study was to determine and establish factors that influence the debt financing of MoEs. Despite the strength of the methodlogies used in the study there are, however, still some limitations. As mentioned earlier, one measuring instrument, the annual financial statements, was used for the validation and reliability of data as per the content and predictability of the research. It worth noting that primary data could not be used for this study, owing to poor responses from the lime questionnaire sent to 60 prospective participants. The lime questionnaires consisted of 12 questions and such a limitation could not be avoided. The average response rate was 13%. The 13% non-response rate was viewed as a limitation of this study. Even though the responses might have been positive, primary data was not the main source of data for the study. It, however, sought to complement and clarify any information obtained from secondary data sources.

1.11   DEFINITIONS OF TERMS AND CONCEPTS

1.11.1   Municipal-owned entity (MoE)

In terms of the Public Finance Management Act 1 of 1999, a municipal-owned entity is an independent municipal entity, wholly owned by the municipality. It is mandated to perform municipal services and generate revenue for local communities on behalf of a municipality, is established and registered in terms of the Company Act of 2008, is listed or not as a public entity in Schedule 2 or 3 of the Public Finance Management Act 1 of 1999. As described by the Community-Wealth Organization, a MoE is an independent entity, wholly owned by the municipality, mandated by the municipality to perform services and generate revenue for local communities on behalf of a municipality. Municipally-owned entities and state-owned entities are legally formed with a common fundamental principle, which is to render public services. Unlike a MoE, a state-owned entity (SOE) has an exception in terms of ownership. Capalbo and Palumbo (2013: 39) point out that MoEs and SOEs can be owned partially or wholly by national government or government, or even by an agency controlled by them. Sadiki (2015: 42) expressed the view that the role to be played by MoEs and SOEs is significant in advancing economic growth and that, therefore, their mandate is to effect government priorities of developing important infrastructure and manufacturing capacity for South Africa.

1.11.2 Capital structure

Modigliani and Miller (1958: 453) define 'capital structure' as a long-term source for funding used by a firm consisting of a mixture of both debt and equity financing. Myers (2001: 81) states that capital structure attempts to clarify the mixture of securities and sources financing used by entities to finance real investment.

1.11.3 Debt financing

Denis and Mihov (2003: 4) describe debt financing as the major new source of external funding in the US entities. In the context of MoEs, debt financing consists of bonds, short and long-term loans. Debt is an amount owed to a third party for funds borrowed or amount to be paid to third party for services rendered or sales of items and its common practice within SOEs (Nyamita, 2014: 51).

1.11.4 Financing

Financing is an act or a process of raising capital for an entity in order to finance operational costs or investments (Bassey, Arene & Okpukpara, 2014: 36 in Nyamita, 2014: 15).

1.11.5 Financial leverage

Financial leverage is described as a reflection of the capacity of financial managers to entice external financial resources in order to improve the efficiency total debt of the firm (Kzistami 2011: 1).

1.11.6 Profitability

Profitability is the capability of an entity to earn a profit. According to Modigliani and Miller (1963: 24), firms with high profits should employ high debt in order to benefit from the interest tax shield. Chenesai (2009: 11) asserts that the decision to use external equity could also affected by profitability.

1.12 THESIS STATEMENT

A MoE is an independent municipal entity, wholly owned by the municipality, mandated to perform municipal services and generate revenue for local communities on behalf of a municipality.

Even though a municipality owns them, MoEs are run independently and they generate their own income apart from the municipal subsidy. The management of MoEs, therefore, has the right to determine the capital structure of their entities without their being dictated to by the municipality but they should comply with the policy.

The study of capital structure, particularly debt, has been enjoying much attention over the years. Even though there has been empirical evidence presented from different studies, there seem to be no consensus regarding the topic. In South Africa, there have been a limited number of studies on debt financing, particularly with regard to MoEs. Based on the available literature, debt has been impacted by various factors in entities. Different studies have identified common factors like economic condition, politics, and inflation rate.

Based on the gap in literature on debt financing, the study has formulated and presented evidence as well as empirical tests on specific factors that influence debt financing. Given the fact that there are limited studies on this topic, particularly in a developing country like South Africa, the study contributes to the body of knowledge in the South African MoE context. To achieve this, a descriptive design to develop and present empirical evidence on the problem under study wad been created. This was an incomplete sentence and made no sense. I hope it now says what you wished it to say.

1.13   OUTLINE OF THE STUDY

Chapter summary

Chapter 1 provided a thorough orientation to, as well as background of, the study. It further outlined the problem statement, which is the foundation and the pillar of the study. In addition, the chapter discussed a few key theories and empirical studies to contextualise the problem. From there, methodological issues, ethics and the study's limitations were addressed. A summary of the significance of the study and brief definitions of key terms were given. The next chapter focuses on the theories regarding capital structure and local government finance. Chapter 3, which provides a detailed analysis of empirical literature, follows this. Chapter 4 is an in-depth discussion of the methodology used to achieve the objectives of the study. This is followed by a data analysis in Chapter 5 and conclusions and recommendations in Chapter 6.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 INTRODUCTION

The previous chapter attempted to cover the set objectives of the study. The aim of this chapter is to present the theoretical framework on the factors influencing debt financing of municipal-owned entities (MoEs). The chapter presents important insights into the theoretical concept related to Capital Structure, specifically on debt financing. The purpose of adopting these theories in this study has been to describe how the debt financing model is adopted and explain the implementation of different aspects associated with debt financing within the MoEs. Secondly, the theory addresses the key theoretical concepts on Capital Structure and debt financing in relation to local government as encapsulated in the Public Financial Management Act (PFMA) 1 of 1999 and Municipal Finance Management Act 56 (MFMA) of 2003 and section 46 of the Municipal Systems Act (MSA) of 2000. A related concept considered is the definition of debt financing and the financing model used by municipal entities in South Africa. In conclusion, the use of economic theories of regulation for public entities is fundamental and vital. It is, however, noteworthy to mention that the current study falls within the ambit of public administration management.

2.2 CAPITAL STRUCTURE

Modigliani and Miller (1958) conceptualised the theory on Capital Structure. Since then, various definitions and principles regarding the concept have been developed. A typical example is that of Luscombe (2009: 9), who defined a Capital Structure "as the equilibrium between equity and debt that is used for financing operations and new projects". Subsequently, the theory about Capital Structure postulates that management should point out the mixture of Capital Structure that will increase both the wealth of the shareholder and the market value of the entity (Otieno, 2015: 4). Modigliani and Miller (1958) introduced the concept of the Capital Structure theory under the theme "Irrelevance proportion of Capital Structure."

Their classic analysis of irrelevance proportion of Capital Structure based the value for the entity on the idea that cash flow is unaffected by Capital Structure. Furthermore, Myers (2001: 81) supports this view by pointing out that an entity seeks debt financing that balances the tax advantage of additional debt against the possibility of bankruptcy costs. There is a considerable amount of literature published by earlier scholars and, to date, on Capital Structure (Robichek & Myers, 1966; Borch, 1969; Jensen & Meckling, 1976; Miller, 1977; Schneller, 1980), among others. The majority of earlier studies on Capital Structure were on developed and developing countries. There are, however, few studies on debt financing within South African entities, especially in MoEs.

2.3 LOCAL GOVERNMENT

The government of South African is separated into three scopes of systems, namely the judiciary, Parliament and the executive. The role of government universally is to provide services and implement policy objectives for its people. The Constitution is the supreme law that governs South Africa, and it makes provision for three constituencies to govern the states, namely national, provincial and local government. Furthermore, the Constitution of South Africa 1996, under section 151(1), provides local government with the legal right to establish municipalities for the entire territory of the Republic. A municipality has the powers to govern, in its own initiative, the affairs of its local government within its community provided by provincial and national legislation. The provincial and national government might not, however, compromise or obstruct the capacity or right to perform their functions and exercise their powers of municipalities (Sebapani, 2016: 10).

In general, local government falls within Department of Cooperative Governance in the Ministry of Cooperative Governance and Traditional Affairs (CoGTA) (2008). According to Greÿling (2014: 3), section 72 (1) of the Local Government: Municipal Systems Act 32 of 2000 (hereafter also interchangeably regarded as the Municipal Systems Act of 2000) indicates that the Minister for CoGTA makes regulations on capacity building in municipality administration.

According to the South African Yearbook (2013: 299), earlier in 2000, local government went through a demarcation transitional phase, which reduced the size of municipalities from 843 to 278, comprising eight metropolitan municipalities, 226 local municipalities and 44 districts. According to Lee Gardyne (2005: 63), the demarcation process gives local government some elements of independence in decision-making and greater freedom in carrying out policy, which enables municipalities to evolve disparities within the structural scheme.

In the same vein, the establishment of municipalities has its own challenges, and one of the crises facing municipalities is service delivery. This phenomenon has had a direct impact upon the lives of ordinary people within the community. According to Dau (2010: 19), a report by South African Municipal Workers Union (SAMWU, 2009) noted with disappointment the increase in corruption in the provision of basic services and awarding of tenders, disregarding the need for an improved standard of living of the poor communities who have been waiting patiently for quality service delivery.

In dealing with above, most municipalities have decentralised or outsourced their services by establishing MoEs. These entities provide basic services to the people on behalf of the municipalities. Such an outsourcing model is among the qualities that anchor an effective and good public service and financial management practice. In terms of public services, the Financial Management Act 29 of 1999 seeks to ensure that there is good governance, accountability, assets, liability, sound revenue management and expenditure, and such phenomena instil discipline in the public sector.

2.4 PUBLIC FINANCIAL MANAGEMENT ACT

The other significant legislative act passed by the first democratic government of South African was the Public Finance Management Act (PFMA) 1 of 1999 (as amended). According to Sadiki (2015: 58), the Act attempts to inspire the objecttives of decent financial management in order to increase the delivery of services over the effective and efficient use of restricted resources of public entities including MoEs.

Klaus & Bahrinipour (2008: 57) report that such a governing framework must not forbid sub-national borrowing but relatively enable sub-national entities to engage financial markets independently to fund their projects. MoEs are formed within the parameters of Company Act, the PFMA 1 of 1999 (as amended) and the Municipal Financial Management Act (MFMA) 56 of 2003, which guide their financial management principles. Among others, the important objectives within the PFMA are to:

- Eliminate the corruption and waste of public assets usage;
- Allow managers of public sector to manage, but in the same breath, be held accountable;
- Standardise the system of financial management in the public sector; and
- Ensure that the dissemination of quality information must be timely.

One of the fundamental pieces of the legislation that accounting officers or financial managers must comply with is the PFMA. Moagi (2009: 2) argues that sets of regulations in the Act are not applicable only to the accounting officer or the financial manager. Instead, all public servants should be familiar with the Act and should ensure that their conduct is within the limitations of the PFMA. Christensen and Laegreid (2013: 106) argue that after the re-organisation of financial administration in many governments, under the new public manage-ment, public financial management has followed three main refrains, namely (1) the use of market-oriented mechanism, (2) introducing an accrual-based man-agement accounting system and (3) promoting result-oriented management (Nyamita *et al.*, 2015: 25). The executive managers and financial managers need to be qualified in order to implement the principles of PFMA effectively and adequately.

The financial management system of financial management within the public sector is streamlined by the PFMA in order to encourage the objectives good financial management in order to enhance delivery through the effective and active use of resources (Moagi, 2009: 2). Even though municipalities have granted all the autonomy and responsibilities to their entities, MoEs may not deviate from the PFMA and its functions, but they are relieved from political bureaucracy and permitted to be more flexible.

According to Erasmus (2002: 9) and McKinney (2004: 2), public financial management comprises the following functions, budgeting, accounting, financial management systems, control and performance management, expenditure management and public accountability. Above all, the National Treasury remains the arbiter with regard to overseeing and imposing standards and norms, and it further plays an oversight role relative to the finances of other organs of State in all areas of the South Africa government (Moagi, 2009: 2).

2.4.1 Public financial management functions

The principal function of public financial management is applicable to all government units, local government or any state or municipally owned entity (Nyamita, 2014: 26). Given the above circumstances, a need for a more efficient and effective public financial management function will drive a smooth operation of the entity. These include budgeting, financing, expenditure management, financial reporting, auditing, and accountability.

These generic functions govern the operations of MoEs and are discussed below.

- **Budgeting**

   According to Jordaan (2013: 14), a budget is a quantified, planned course of action over a conclusive time and period. It is an attempt to forecast inputs and the prices of inputs along with related outputs and revenues from outputs. In addition, Visser and Erasmus (2002: 9) define budget as a framework that links the spending objectives with their related costs. According to Modernising Financial Governance Implementing the Municipal Management Act, 2003, National Treasury, the MFMA, No 56 of 2003, National Treasury, budgets accommodate demands that are immediate with minor or no options relative to future needs or the forthcoming consequences of specific decisions. Fiscal and public taxes budgets are not sufficient to bridge the infrastructure gap, coupled with the South African government's lacklustre record of accomplishment regarding spending on infrastructure (Sebapadi, 2016: 8).

- **Financing**

  According to Matanga (2013: 18), financing could be done in two ways. The first financing form could be in the form of long-term debt in terms of preference shares and common equity, which are used to provide capital to enhance business growth through investors. The investors in return receive a return on investment payments for debt holders, while in the context of common equity preference dividends and dividends are payable. The second financing could be in a form of short-term financing, which includes working capital and trade financing. The working capital is regarded as the current assets that an entity has in the form of inventories. Cash and receivables are used to finance the short-term debt obligations such as overdrafts, short-term loans and account payables (Matanga, 2013: 18). Klaus & Bahrinipour (2008: 43), however, argue that it does not astonish that debt financing assists in funding the growth-enhancement infrastructure and signs that debt financing assists in the reduction of a backlog by providing basic services are the critical results.

- **Expenditure management**

  Visser and Erasmus (2002: 9) describe expenditure management activities that involve the actual day-to-day spending of money related to the unit's approved budgets and the day-to-day governmental unit's operational procedures linked to the execution of policy objectives stated in the budget. Even though the expenditures are properly authorised within the framework of the budget, this does not preclude the expenditure management unit carried out to yield good outcomes for money, people-focus and sustainability (Tilley, 2014: 65). In the case of this study, MoEs expenditure management should promote the sustainability and the enhancement of public services delivery.

  According to Jordaan (2013: 183), experts employed by the State make all public expenditure decisions that seek to inspire a joint utility. In this case, pro-poor policy/principles guide public expenditure. Liedo *et al.* (2005:31) elaborates on the fact that public expenditure translates policy priorities into the services delivery to societies and is, therefore, an important tool for accomplishing public goals.

The World Bank argues that Public Expenditure Management (PEM) tends to promote the success of three outcomes, namely aggregate fiscal discipline, allocative efficiency, and operational efficiency. The last refers to the provision of public services at a reasonable quality and cost. The fiscal structure and institutions of public-sector financial management were envisioned to provide the decision-makers and ruling elite maximum control (Nyamita, 2014: 64). Low tariffs charged by the services of MoEs are, however, not a signal for operational efficiency.

While different definitions can be given; there is a common understanding in the public discourse that defines expenditure management as a process of managing the day-to-day spending, which is consistent with the first definition discussed.

- **Financial reporting**

  The Financial Management Act (FMA) regulates the financial reporting of MoEs. This Act requires clear and consistently formatted information about the financial status of MoEs. According to Moloi (2008: 20), financial reporting is designed to address the agency problem, so providing defence for the company investors. Similarly, van Helden *et al.* (2010: 83) concur with the view that suggests that financial reporting is likely to be more effective in the public sector's financial management. To enhance the effectiveness of the public sector's financial management, a monitoring mechanism should be developed. Public financial reporting contributes significantly to the completion of public financial management objectives with internal and external reporting for accountability purposes (Nyamita, 2014: 29).

  In order to improve the monitoring of performance and financial reporting requirements for all the public entities, there should be a revision by the public sector to bring it nearer to the reporting of private sector entities (Nyamita, 2014: 29). With this in mind, the Municipality Management Act (MMA) stipulates that certain reporting mechanisms must be established within the MoE to monitor the financial position of the entity and assess continuous progress towards performance objectives.

Risk management and internal controls play a significant role in upholding the effectiveness and efficiency of operations to ensure reliability on the financial reporting, compliance with law and regulations and the prevention and detection of fraud. For this reason, the information relating to risk management and internal controls is crucial (Moloi, 2008: 109). The significance of the MFMA's recommendation is that regular current reporting will strengthen the effectiveness and efficiency of financial reporting.

Such an exercise recommended by the MFMA promotes financial management, accountability and transparency of the MoEs and the public services. Jordaan (2013: 6) further justifies the point further that financial reporting is an obligation that supports good corporate governance through outward and internal reporting. Outward refers to reporting to Parliament and all external stakeholders. AICPA (2012: 1843) cited in Otieno (2015: 58), however, concludes that the measurement objective of accounting estimates can differ, depending on the appropriate financial reporting framework and the financial item reported.

- **Auditing**

Auditing includes the process of inspection and evaluation of the financial statements of an entity to ensure that there is a fair and accurate record of financial transactions. Mostafayi (2012: 4) states that auditing is a systematic and independent process that exists to determine whether the activities in place and their results have adapted to planning issues and requirements and whether they are appropriate for the effective achievement of objectives and performance. According to Nyamita (2014: 30), both governmental scholars and practitioners recognise the importance of auditing and emphasise that, through quality auditing, better organisational processes and results are achieved. In the context of MoEs, public entities and SOEs, government outsourced the function of audit to its own audit firm by the name of the Auditor-General.

The Auditor-General South Africa (AGSA) is an extension of a government audit entity given the full mandate and responsibility to conduct audit processes for its entities. AGSA is a "Chapter 9" institution (sections 181 and 188) of the Constitution of the Republic of South Africa). Furthermore, AGSA is the Supreme Audit Institution (SAI) of South Africa. It is the only institution that, by law, has to audit and report on how Government spends the money of the South African taxpayer. Such an audit process by AGSA is not only limited to entities and government departments but cuts across all spheres of executive and bureaucratic functions. This view is supported by Barberton (2000: 4) cited in Khumalo (2007: 1) who argues that the frequent audit of executives and bureaucrats is an indispensable instrument to achieve transparency and accountability on how public funds are used and what value is obtainable from the use of them.

The PFMA of 1999 assigns great significance to auditing as a function of service quality accountability, transparency and development effectiveness. In this way, the audit function plays a very important role in public financial management by providing an independent audit. In an instance of non-compliance, it should account to Parliament and ensure that this is reported to the public so that remedial action can be taken (Khumalo, 2007: 2). By such action, the auditing profession gains the confidence of the public that it upholds and maintains the fundamental values of society in the management of public funding (Kusi, 2004: 1). Given the vast majority of public entities, including SOEs and MoEs, the Auditor General can appoint or outsource its audit function to an independent third party or professional body, which will perform the assignment with professional competence.

- **Accountability**

The introduction of the PFMA 1999 (Act 1 of 1999), as amended by Act 29 of 1999, adopted a financial management methodology. This entails focusing on the output and responsibility rather than being rule driven by the Exchequer Act. There is, therefore, a need for accountability of results (Khumalo 2007: 1).

According to Visser and Erasmus (2013: 11), public sector financial management legislation ensures that there is the development of a mechanism and procedure that will permit accountability within government units. Within the Constitution of South Africa, there is provision that mandates the National Treasury to the transparent and sound financial control among government units (Khumalo, 2015: 85). The above view is supported by Mulamba (2015: 72) who states that it is the law of the municipalities in South Africa that seeks to promote the financial transparency and accountability of local government.

2.4.2 Municipal Systems Act (MSA) 32 of 2000 as amended

In terms of the Municipal System Act 32 of 2000, as amended in the Act 44 of 2003, it seeks to:

- cater for the elementary principles, mechanisms and processes that are important tenable municipalities to move progressively towards the socio-economic improvement of local communities and guarantee widespread access to vital services that are reasonable to all;
- define the legal nature of a municipality as including the local community within the municipal area, working in partnership with the municipality's political and administrative structures;
- provide for the way in which municipal powers and functions are executed and performed and provide for community participation;
- establish a simple and enabling framework for the core processes of planning, performance management, resource mobilisation, and organisational change, which underpin the notion of developmental local government;
- provide a framework for local public administration and human resource development; and
- empower the poor and ensure that municipalities put in place service tariffs and credit control policies that consider their needs by providing a framework for the provision of services, service delivery agreements and municipal service districts and provide for credit control and debt collection, etc.

Lee Gardyne (2005: 56) argues that the Municipal System Act 32 of 2000 was the last essential piece of legislation in the course of establishing the principle of partaking in local governance and development.

2.4.3 Municipal Finance Management Act (MFMA) of 2003

The aim of this Act is as follows:

- To facilitate sound and sustainable management of the financial matters of municipalities and other institutions in the local sphere of government;
- To establish treasury norms and standards for the local sphere of government; and
- To provide for matters connected therewith.

The MFMA of 2003 has placed local government finances on a sustainable footing in order to maximise capacity of the municipalities to render services to their communities with the aim of modernising budgets, accounting and financial managements practice. Furthermore, it aims to put in place a comprehensive governance framework, by illustrating and detaching the role and responsibilities of bureaucrats, councillors (non-executive), executive mayor and executive or mayoral committee. Klaus & Bahrinipour (2008: 57) emphasise that a regulatory framework in the South African MFMA in numerous ways facilitates sub-national borrowing. Section 5.2 within the Act encourages the actors to borrow or lend, but there are rules that are enforced whose clear guidelines offer the supply side of the borrowing market by municipalities' clarity, confidence and predictions (section 5.3). Lastly, the MFMA regulates possible disasters and prevents those positively (section 5.4).

It is the main objective of the Act to safeguard a sound and sustainable management of the financial matters and fiscal affairs of municipalities. MoEs and 20 other SOEs established norms with standard requirements for:

- ensuring that there is accountability, transparency, suitable lines of responsibility in the financial matters and fiscals of the municipality and its entities;
- the administration of their assets, liabilities, income (revenue), expenditures, and their financial transactions;
- the process of budget and financial planning and the co-ordination of such are within the process of organs of state and other spheres of government; and
- the management of borrowings and financial problems in municipalities.

2.4.4 Municipal borrowings

In 2000, the National Treasury issued a policy framework about municipal borrowings. According to the Policy of Framework for Municipal Borrowings and Financial Emergencies, Section 230 of the Constitution grants South African municipalities the privilege of borrowing and it claims that these privileges will be logically regulated by legislation approved by central government. In terms of MFMA 56 of 2003, a municipality may incur long-term or short-term debt for the purpose prescribed by the Act. Alexander (2015: 37) states that, owing to changing conditions, municipal borrowing has grown rapidly in recent years and such phenomena are likely to accelerate in view of the vast investment backlogs. This phenomenon gave leeway to municipalities to continue to decentralise service responsibilities. In addition, the Policy of Framework for Municipal Borrowings and Financial Emergencies, Section 230 gives municipalities an equal authority on borrowing and allows its entities the authority to borrow while the extent of the borrowing remains a decision of the municipality itself (Alexander, 2015: 47). Consequently, municipal borrowing remains a trend in South Africa pre-and post-apartheid, as it is common at municipal level to access capital markets to fund municipal investments (Klaus & Bahrinipour, 2008: 2).

2.4.5 Municipal-owned enterprise (MoE) borrowings

Section 66(7) (a) and (b) of the PFMA (as amended) makes provision for public entities to borrow money. Such debt must, however, be submitted annually to the Minister of Finance as part of the borrowing programme for the year with the exception of MoEs. Public entities may not borrow in a foreign currency that is above the prescribed borrowing plan, but an exception is made if the public entity is a company in which the state is not the only shareholder (Sadiki, 2015: 46). Despite the Policy of Framework for Municipal Borrowings and Financial Emergencies Section 230 (2007: 12) providing MoEs with powers to borrow, requests are accepted from the chief executive officer, authorised by the municipal council. This borrowing does not require national nor provincial approval but provides these structures with the opportunity to comment.

According to the policy framework, the borrowing of MoEs must be in accordance with: (a) the entity's multi-year business plan referred to in section 87(5) (d); and (b) the provisions of Chapter 6 to the extent that those provisions can be applied by a municipal entity. In terms of the Framework for Municipal Borrowing and Financial Emergencies (2000: 17), the borrowings of municipal entities of any such guarantees will constitute an act of municipal borrowing and the resultant liabilities will be recorded on the municipal balance sheet as such. In the context of the MoEs in the CoJ, the City is a sole shareholder of all the entities. Any borrowing is, therefore, subject to the municipal council. Even though the MoEs are independent companies formed within the framework of the Companies Act, their financing decisions are unique compared to the private sector corporate. MoEs internally generate revenues and receive funding through municipal subsidy, bonds and long-term loans. Studies by Denis and Mihov (2003: 4), Nyamita (2014: 151), Frank, and Goyal (2005: 154) concur that debt financing is a major source of external finances, compared to equity funds.

2.5 SOURCES OF FINANCING FOR MoEs

Many factors affect obtaining external funding, especially funding from inter-national institutions. A major factor is a good credit rating (Sadiki, 2015: 61). External financing involves getting funds from an outside source without giving goods or services in return (Nyamita, 2014: 50). If an entity requires external finance, it will have to reveal additional information, in turn exposing it to special scrutiny. This can be regarded as another form of monitoring (Moloi, 2008: 24). With reference to the pecking order theory, entities prefer internal to external financing and debt to equity if it issues securities (Myers, 1984: 16). According to the pecking order theory, the entity prefers retained earnings, debt financing and opts for equity as the last resort. External finance, particularly debt capital, which can be raised by MoEs includes bonds, long-terms and other bank credits.

2.5.1 Equity financing

Sadiki (2015: 61) shows that the injection of cash or capital by Government is referred to as equity to reduce debt and stimulate growth. Chenesai (2009: 11) says that government grant schemes and tax incentive equity schemes may also be important sources of external equity financing for fledging entities, especially in strategically targeted sectors. External equity finance by state and municipal-owned entities can be generated through the issuing of stock to the public, government or private entrepreneurs (Adamolekum, 1999: 42).

Nyamita (2014: 50) claims that, under normal circumstances, government as a principal shareholder in a state and municipal-owned entity may contribute to the increment of equity to the entity or increase its shares. Despite this, private entrepreneurs can contribute to the financing of SOEs through Initial Public Purchase (IPO) offers. He further emphasises that financial institutions, such as banks and insurances entities, which are shareholders in partially-owned state entities, might opt to increase equity shareholding by acquiring more equity shares.

- **Grants**

   The contribution of grants to capital revenue is substantial across all categories of municipality. A grant is, most pronounced for districts with the major power, and rural and medium to smaller municipalities (Alexander, 2015: 35). Entities are confronted with a concern risk if there is no annual equitable share grant from government (Gardyne, 2005: 195). Sebapadi (2016: 15), however, argues that government grants are linked to maintenance and current costs of historic capital expenditure.

- **Subsidies**

   MoEs are expected to raise some financial support apart from that given by the municipality. Sebapadi (2016: 14) indicates that, even in the post-1994 era, municipalities are expected to raise their income from own rates and taxes, with only a limited national subsidy. Furthermore, Matanga (2013: 38) argues that it also makes it difficult to establish whether a subsidy can be classified as an export subsidy or production subsidy. A subsidy comes as a cash injection to the entity and does not restrict any entity from seeking additional funding particularly debt.

2.5.2 Debt financing

Sebapadi (2016: 18) advocates that debt financing is widely categorised into private and public debt, where private debt consists of both bank and non-bank loan obligations. In the case of private lending, such an obligation is not open to scrutiny. On the contrary, public debt financing is the process of obtaining funds from the securities markets by issuing different types of entities' debt stocks (Nyamita, 2014: 5). It is within the discretion of the entity's management to opt between the two types of debt financing. Sebapadi (2016: 18) asserts that public borrowers have a higher credit quality. Denisa and Mihovb (2002: 9), however, contend that there is little evidence on the role of credit quality and none on the role of managerial discretion in debt choice. In the context of a SOE, a common practice of debt financing is the use of bank loans and stock-market debt securities or instruments, such as bonds and notes (Nyamita, 2014: 51).

- **Bank loans**

  A loan is an amount of money borrowed from the bank, financial institution or shareholders, which has to be paid back in full together with interest (Black, 2003: 166). An entity may choose to hold a guarantee of a non-guarantee loan, which primarily originates from banks and financial institutions. Denisa and Mihovb (2002: 21), however, claim that firms with profitable margins are most likely to issue public debts instead of bank loans or other private debt. Gildenhuys (1997), in Alexander (2015: 31), asserts that loan financing is crucial and for local authorities to maintain a high standard of discipline they would need to comply with five key conditions:

  o Separation of the revenue account from the loans account;
  o The utilisation of loan money for capital expenditure and not operating revenue;
  o Use of borrowed funds for development of productive assets (income generating assets) that are used to repay debt, where possible;
  o Not paying loans with new loans; and
  o The separation of operational and capital budgets.

  Sebapadi (2016: 4) emphasises that currently bank credits and municipal bonds are the two main financing instruments of sub-national borrowing in South Africa.

- **Stock market loans**

    The National Treasury under the South African Internal Registered Bond Act prescribes that all bonds issued should be represented by certificates and should be transferable by the registration in the Register. Nothing in these conditions, however, prohibits any bonds from being held through any settlement system or in any depository in a certificate or dematerialised form. It simply means that all bonds issued by the municipal entity, municipality or state entity must comply with this act prescribed by the National Treasury. The Organisation for Economic Cooperation and Development (OECD, 2005: 32) highlights that all financing decisions in the form of the stock market is bound to be effectively documented so that it can give effective accountability through audits or examination by Parliament. Other financial instruments that can easily be associated with the stock market are debenture, notes and mortgage bond. Such, however, fall outside the scope of this study.

- **Bonds**

    According to the Policy Framework for Municipal Borrowings and Financial Emergencies (18), South African bonds are issued by parastatals and are conceptually similar to municipal securities, which are easily traded within the existing market. According to Stilwell (2012: 54), a bond is a financial asset, which entails the purchase of a loan from government or an entity, which, therefore, entitles the owner of such bonds to expect interest payments. The Bond Exchange of South Africa 2002 (BESA) reports that, in the 1990s, SOEs issued more bonds. This was because of the expansion in the South African financial market. The findings by Ball, Hail and Vasvari (2011) reported that corporate entities are more likely to move in the bond market as opposed to the equity market to raise capital for projects.

    According to Klaus & Bahrinipour (2008: 6), the first bond was released in 2004 under the new system in Johannesburg and was widely praised nationally and internationally, raising an intense debate on municipal bonds for development financing in emerging economies. As a result, bonds are perceived to be more viable because better terms (interest and repayment) can be negotiated, while interest rates and other terms of bank loans are set by the bank.

Balmaceda, Fischer and Ramirez (2014: 47) in Nyamita (2014: 52), however, argue that most SOEs from developed economies prefer debt financing through stock-market instruments, like bonds, notes and debentures, since their stock markets are more liberalised and easily accessible by entities. The use of bonds and bond options for arbitrage, hedging or speculation does not only benefit the institutions that enter these transactions but is also beneficial to an economy (Erasmus, 2014: 6).

2.5   CONCLUSION

This chapter has discussed the relevance of local government and the PFMA with regard to the debt financing of MoEs. It has shown the relation between debt financing and financial management in terms of PFMA. The chapter has also explored the concept of financial management functions, their efficiency and effectiveness that drive the smooth operation of the entity, namely budgeting, financing, expenditure management, financial reporting, and auditing. The last part in this chapter highlights the source of funding for MoEs limited to debt financing. The next chapter presents the literature review.

CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter reviews the existing literature on the theory of debt financing, and a detailed theory on capital structure, specifically debt financing. This is followed by a concise overview of the fundamental factors that influence debt financing and the types of debt instruments preferred by MoEs. In addition, the chapter reviews debt financing as a concept, the theory on debt financing, factors influencing debt financing, types of debt financing within the MoEs, debt level within MoEs, and the empirical findings. The views of many researchers related to the study are presented and, subsequently, the chapter provides a section arguing, criticising or supporting the previous empirical studies on the theory of capital structure. The conclusion from the literature review will provide context for the best practice of capital structure and will contribute to the available literature on debt financing concerning MoEs. The relevant theories are trade-off, static trade-off, dynamic trade-off, pecking order, agency theory, market timing, and other related theories. The chapter concludes with a review of empirical studies on debt financing which is a conceptual framework in the study.

3.2 BACKGROUND AND DEVELOPMENT OF DEBT FINANCING

In general, the debate around the capital structure of an entity has received enormous attention over the years in the financial management fraternity, both in developed and developing countries. According to Kasozi (2009: 14), with the agreement of management, an entity can choose any capital structure it wants because the significant elements that influence such a decision are easily iden-tifiable. It is, however, argued that most entities use debt in their capital structure primarily because its tax deduction on interest lowers the cost of debt financing and makes debt capital the cheapest type of outside financing that is available to most entities (Fosberg, 2004: 32). Even though historically there has been some extensive research on debt financing, there is a need to develop an understanding of the context of debt financing within MoEs in South Africa. Nyamita (2014: 72) argues that there are no clear, demarcated debt financing theories used for state-owned and municipal entities in developing countries only.

3.3   DEBT FINANCING

According to Goswami and Shrikhande (2001: 39), in the industrialised economies in the world since productive activities, most entities opt for debt financing rather than equity financing, both in local and foreign countries. This gives multinational entities the choice of financing with debt in local and international capital markets. Denisa and Mihov (2003: 4) define debt financing as the predominant source of new external funds for entities. In supporting this view, Nyamita (2014: 89) argues that debt financing is the major source of external finance, when compared to equity external funding. In addition, Denisa and Mihov (2003: 3) state that the primary determinant of the source of debt financing is the credit quality of the issuer, and there are three new sources of debt financing, namely banks, non-bank private lenders, and public debt offers.

An important finding that emerged in developed countries was revealed in other studies (Diamond, 1984; Boyd & Prescott, 1986; Berlin & Loyes, Choong, *et al.* 2010: 108). The latter hypothesised that in terms of monitoring efficiency, private debt financing has a significant advantage over public debt. The entity has an option to borrow from a bank or non-banking intermediary such as insurance entities provided it choose to acquire private debt. Findings by Agbloyor et al. (2014: 138) and Nyamita (2014: 192) have shown that the use of public debt in both developed and developing economies is more prominent than the use of private debt. However, private debts irrespective of their origin such as loans are also favoured.

Given the above, O'Brien and David (2010: 52) argue that debt financing, just like any form of financing, has its own benefits and challenges. For example, the benefits of debt include tax deductibility of interest and the decrease of free cash flow problems. The costs of debt contain possibility of bankruptcy costs and agency disputes between investors and bondholders (Fama and French (2002: 1).. Fosberg (2004: 32) argues that the major threat or challenge of debt financing is that, if the debt increases and the entity does not service its debt, the entity might go bankrupt.

3.4 THEORIES OF DEBT FINANCING

This section discusses all the theories of debt financing, which include the trade-off, static trade-off, dynamic trade-off, pecking order, agency theory, market timing, and other related theories as mentioned earlier. According to Modigliani and Miller (1958: 268), the introduction of debt financing shifts the market share in a very fundamental way because there may be different proportions with the entity of debt in their capital structure and shares of different companies.. Even in the same class, this can give rise to different probability distributions of return. It is impossible to have specific types of debt financing because of the increased global financial advancement. Nevertheless, in general, the classification of sources of debt finance can be varied depending upon the characteristics of the provider and the debt's maturity period (Nyamita, 2014: 5). Agarwal and Mohtadi (2004: 59), however, argue that entities that adjust their capital structure away from excessive debt reduce the risk exposure of debt-equity mix, and, therefore, lower their cost of finance. On the other hand, Gitman (2010: 289) asserts that debt financing is generally an inexpensive form of financing compared to short-term borrowing.

Nyamita (2014: 74) points out that, given the availability of many conditions that may affect the debt-financing level within the entity; it is not surprising that many different theories have been proposed after the proposition of Modigliani and Miller. Jensen and Meckling (1976) introduced the concept of static trade-off theory, which suggested that optimal capital structure could be achieved where the net tax advantage of debt financing leveraged related costs, such as financial distress and bankruptcy holding the firm's assets and investment decision. The literature that followed, particularly on corporate finance, pointed to the trade-off theory, where taxation and deadweight bankruptcy are taken into consideration (Frank & Goyal, 2009: 1). Otieno (2015: 42) propagates that under the static trade-off framework; the firm can set a target debt-to-value ratio and gradually move towards a refinancing point.

Following the reasoning of the trade-off theory, it suggests that international diversification reduces the expected cost of bankruptcy and allows for increased debt capacity (Abor, 2007: 41). Frank and Goyal (2004: 3), however, paint a different picture that says that trade-off for the benefits of debts such as tax savings mitigates agency problems against the actual cost of debt and bankruptcy risks. On the contrary, Myers (1984: 581) proposes the "pecking order theory" in which there is preference of retained earnings, debt and then equity. Unlike the trade-off theory, the pecking order theory (Donaldson, 1961) was later modified and popularised by Myers and Majluf (1984), who postulate that entities initially make use of available internal funds, like retained earnings, followed by debt before opting for external equity. The choice of capital structure is dependent on several factors, such as taxation, bankruptcy cost/risks, agency theory, pecking order, and trade-off.

3.4.1 Trade-off theory

Kraus and Litzenberger introduced the theory on trade-off in 1973, and Myers (1977) developed it and described that, when deciding on the appropriate mixture of debt and equity, the entity will consider the cost and benefit of the debt (Luscombe, 2009: 15). Trade-off theory places more significance on taxes and disputes that the entity pursues debt that will balance tax advantage of additional money borrowed and the costs of financial distress that results when an entity borrows too much (Myers, 2001: 81). Myers (2001) further accentuates that the trade-off theory is easily preferred because it explains why the entity does not use excessive debt. In addition, in terms of the trade-off model, the major benefit of debt is the tax advantage of interest deduction enjoyed by bondholders when they pay tax (Graham & Harvey, 2001: 210). According to Nyamita (2014: 74), the main goal of theories on trade-off is to maximise the entity's value by determining the optimal debt financing level.

Following the reasoning underpinning the trade-off model, it is suggested that international diversification reduces the expected cost of bankruptcy and allows for increased debt capacity (Abor, 2007: 41). Frank and Goyal (2004: 3), however, state that trade-off for the benefits of debts such as tax savings mitigates agency problems against the actual cost of debt and bankruptcy risks. Abel (2014: 4) is of the view that trade-off theory can envisage an adequate borrowing by the tax paying entity. It further suggests that there will never be a one-size-fits-all approach.

After taking into account the trade-off model, the tax trade-off model predicts that profitable firms will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk (Abor, 2007: 37). The effective way to lower tax costs can be through debt financing. A greater portion of debt in the capital structure can, however, result in maximum profitability; by decreasing the value of the entity, it will be less attractive to invest in (Zaheer, 2011: 39). There is consensus among researchers (Ferrão, 2011; Graham & Harvey, 2001; Myers, 2001) about the view that predicts that profitable entities that employ more debts enjoy tax benefits. Given the empirical evidence, Fosu (2013: 140) argues that, in spite of several decades of research in this area, the relationship between debt financing and the financial performance of an entity has no common acceptable conclusion.

The trade-off theory is described in two different models, namely, the static trade-off theory and the dynamic trade-off theory. The two components differ in the way they recognise the role of time in capital structure decisions (Elomo, 2014: 8). Jensen and Meckling (1976) introduced the concept of static trade-off theory, which postulates that optimal capital structure could be achieved where the net tax advantage of debt financing leverages related costs, such as financial distress and bankruptcy holding firm's assets and investment decision. After the reviewing of the trade-off model's constraints by Frank and Goyal (2005: 150), they analysed the models into static and dynamic trade-off theories. They, therefore, concluded that the trade-off class of models are more promising (Nyamita, 2014: 74).

3.4.1.1 Static trade-off theory

According to Chenesai (2009: 52), the emergence of the static trade off theory was spearheaded by the path-breaking work of Modigliani and Miller (1958). The theory focuses on the benefits of issuing debt and envisages that an optimal target financial debt ratio exists, which maximises the value of the firm. The static theory affirms the notion that an entity can have an optimal capital structure, which is determined by trading off the costs against the benefits of the use of debt and equity. In addition, the theory highlights that the existence of corporate tax and bankruptcy risk because of capital markets' imperfections affects the capital structure and, therefore, the value of the entity (Elomo, 2014: 8). The static trade off theory further predicts that profitable entities will use more debts because they enjoy tax benefits (Otieno, 2015: 8).

An entity can be said to be following the static trade-off theory if a debt financing level is determined by a single trade-off between the tax benefits of the debt and the deadweight costs of bankruptcy (Frank & Goyal, 2005: 150). Studies by Myers (1984) and Donaldson (1961) discovered that entities firstly desire to raise capital from retained earnings, followed by debt, and, thereafter, they issue new equity, when it had considered the static trade-off theory. In other findings by Kasozi (2009: 124), the static trade-off model had both cross-sectional and time-series explanatory power regarding the financing behaviour of listed firms. Cross-sectional explanatory power is observed through the overall significance of the designed model while time-series power is inferred using the target adjustment model in which the firm's debt ratios indicate mean reverting behaviour towards an optimal debt ratio. Even though there have been more empirical studies on static trade-off theory, different scholars, Kasozi (2009), Frank and Goyal (2005), Otieno (2015) just to mention a few, presented different findings depending on the scope of their study.

3.4.1.2 *Dynamic trade-off theory*

According to Elsas and Florysiak (2008), cited in Jardine (2014: 26), dynamic trade-off theory is categorised when the optimal target leverage ratio varies over time. In comparing the static and dynamic trade-off model, Krasauskaite (2011), cited in Elomo (2015: 8), emphasises the significance of time in the capital structure decision. The static trade-off model provides the solution of the optimal capital structure for one period, suggesting that firms should have the optimal capital structure in all periods. Contrary to the dynamic trade-off models, the optimal capital structure choice in the current period depends on what is expected to be the optimal capital structure in the next period and so on.

3.4.2 Pecking order theory

Myers and Majluf (1984) developed the pecking order theory. They suggested that a hierarchical fashion is followed by an entity when financing their operations. The entity uses internally generated funds, like retained earnings, followed by debt and, finally, external equity (Abor, 2007: 31). Myers and Majluf (1984: 187) further point out that the debt financing level is driven by the desire of the entity to finance new investments.

The entity's last resort is equity if both retained earnings and low risk debts fail. The pecking order theory is one of the most influential theories within corporate finance because its influence is driven from the perspective that it naturally fits with certain facts about how the entity obtains and uses external financing (Frank & Goyal, 2003: 218). Moreover, this theory is concerned with how information asymmetry affects a firm's investment and financing decision (Elomo, 2014: 9).

According to Arnold (2005: 536), the pecking order theory better explains that profitable entities often opt for minimum debt, not because their target ratios are low but because they do not need external financing. Less profitable entities, with extensive investment programmes which do not have sufficient funds available for capital investments may issue debt because it is first in the pecking order theory. This is driven partly by the overall view that retained earnings area form of finance that belongs to the shareholders and does not earn as much return as it could if invested elsewhere (Gangeni, 2006: 12). Van Rooyen *et al.*, (2014: 327), however, dispute the view, emphasising that management will rather make decisions on the entity's capital structure based on their preference for certain types of finance because an optimal capital structure does not exist. Nevertheless, Elomo (2014: 9) argues that the pecking order theory does not specify the target, but it shows the preferences of financing.

Kasozi (2009: 51) argues that the pecking order theory also attempts to explain the stock market's reaction to leverage increasing and leverage decreasing events. As debt increases, financial leverage increases (Rehman, 2013). The short-term financing choices are merely deciding which item on the pecking order is more desirable at a particular point in time (Naidu, 2011: 19). The most notable contribution of the pecking-order theory is that it explains the negative relationship between past profitability and the debt ratios of firms, a practice that the trade-off theory fails to explain (Kasozi, 2009: 51). Furthermore, Otieno (2015: 15) suggests that choosing debt forces managers to manage cash flow to be able to meet the firm's debt obligations. Debt holder, therefore, have the potential to play a disciplinary role. Financial leverage is a measure of the level of debt a firm uses to finance its assets. Graham and Leary (2011) aver that the pecking order model and market for corporate control model are an indication that the use of debt capital depends on the performance of the firm's borrowing.

3.4.3 Agency theory

According to Eisenhardt (1989: 57), the agency theory is a significant model despite being controversial. According to Abor (2007: 159), the agency theory proposes that the separation of ownership and control in the entity bears a conflict of interest between the entity's shareholders and managers. This is mainly because managers have the opportunity to use the resources of the entity in ways that benefit themselves personally to the detriment of shareholders' wealth maximisation. The agency problem is particularly important in explaining capital structure issues and gives managers numerous opportunities to exercise their discretion with respect to capital structure decisions.

The conflict between shareholders and managers is a result of managers owning less than 100% of the residual claim of the firm's assets (Luscombe, 2009: 17). Investors of the entity are, however, aware of the manager's opportunistic behaviour. When valuing the entity' shares, therefore, they consider such a phenomenon (Naidu, 2011: 20). The reputation considerations of managers have also been noted to have an impact on the debt taken on and projects accepted (Luscombe, 2009: 18). A solution to reduce conflict in the entity is to offer managerial incentives or more complicated financial securities such as convertible debt (Luscombe, 2009: 17). Managers, therefore, could look at performance in managing debt levels and *vice versa*. Nyamita (2014: 77) cites that the absence of clear-cut evidence could be fairly well explained by the inherent complexity in defining a measure of performance that is close to the theoretical definition of agency theory costs. Debt financing requires managers to explain the investment details to debt providers and, therefore, expose themselves to being monitored by the debt investors (Frank & Goyal, 2005: 154 in Nyamita, 2014: 77). Despite the importance of the capital structure and agency problem, the area remains empirically under-researched (Abor, 2007: 160).

3.4.4 Market timing theory

Market timing entails the shifting of funds between stocks and bond or money market instruments under management by the institutional investors in order to protect or enhance returns on future expectations of the market's performance (De Chassart, 2002: 3). On the contrary, De Chassart (2002: 1) elaborates that market timing involves predicting how the market is going to move as a whole and then adjusting a portfolio's exposure to the market either to enhance or to protect returns.

Frank and Goyal (2009: 1) argue that the engagement on market timing is an idea that had become popular in publicly traded entities. Accurate timing, therefore, requires considerable skills and periods of market because there are minimal appreciations. The investor who gets it wrong will, however, see initial investments dwindle into insignificance (Terblanche, 2008: 5). It is understandable that one does not have to possess perfect foresight in order to be successful at market timing. If, however, the market swings can be predicted perfectly, the returns well above a passive buy-and-hold strategy would be achieved (De Chassart, 2002: 1).

According to Baker and Wurgler (2002: 1), the literature on corporate finance describes market timing as an exercise of issuing shares at an excessive amount of money and redeeming them at a lower price. The intention is to exploit fluctuations on a temporary basis with the cost of the equity relative to the cost of the debt capital. Firer *et al.* (1987: 29) underscore that one of the major measurements of risk related to market timing is the comprehension ration. The number of periods that contribute to the highest gains to the total number of periods is referred to as the comprehension ration. If an investor, therefore, misses the best performing periods, he will not outperform an appropriate buy and hold benchmark (De Chassart, 2002: 15). Despite this, the benefits of time of market if possible would care more about current equity owners. Baker and Wurgler (2002: 1), however, believe that debt-financing level decisions change because of the cumulative outcome of past attempts to time the capital market (Nyamita, 2014: 76).

3.4.5 Free cash flow

Given the above-mentioned tried and tested theories relating to debt financing, only free cash flow theory has been given attention. Jensen (1986: 324) developed the theory and suggested that managers with a lot of free cash flow in hand tend to overinvest. They further argue that, under the free cash-flow hypothesis, managers of the entity have the privilege to finance projects with a low return of earnings, which might be financed by the equity or bond markets, hence reducing debt financing. According to Yan (2006: 716), financing with debt or leases can reduce a firm's free cash flow, thereby mitigating the overinvestment problem and reducing the firm's agency.

There is a severe conflict between shareholders and managers over a payout, especially when an entity generates substantial free cash flow (Jensen, 1986: 323). According to Ankude (1997: 8), shareholders have a right to cash flows only when directors declare cash dividends. Shareholders do not have a decisive right to the company's free cash flow. This situation, however, does not preclude them from seeking protection. Shareholders have too little to gain from selecting dividends or free cash flow over abnormal earnings as the fundamental attribute to be valued (Francis, Olsson & Oswald, 2000: 8). Nevertheless, if the interest of managers and shareholders were perfectly aligned, managers would distribute all free cash flow to the shareholder (Ankude, 1997: 18). The free cash-flow agency costs, therefore, may depend on the entity's investment opportunities (Samuel, *et al.*, 1996: 105).

3.5 FACTORS INFLUENCING DEBT FINANCING

Dreyer (2010: 98) suggests several factors influencing the decision about what constitutes an ideal capital structure by identifying specific industry factors such as the volatility of the industry's revenues and its typical debt-to-equity ratios. In addition, Kasozi (2009: 2) identified factors, such as firm size, industrial characteristics and management sentiment as common factors in a firm that may influence debt-equity choice. The macro-economic environment within which a firm operates including legal and political factors affects the firm and all circumstances in which the firm has to grow (Mohohlo, 2013: 20). Other studies by Otieno (2015: 41), Luscombe (2009: 9) and Nyamita (2014: 96) show that common factors, such as profitability, age of the firm, business risk, growth opportunities, and non-tax shields, are found to be influencing the financing decisions of entities.

A similar study by Gwatidzo and Ojah (2009) discovered that leverage is positively related to intangible assets and firm size. Significant evidence, therefore, indicates that firm-specific factors are consistent indicators. According to Frank and Goyal (2009: 1), when an entity decides to use debt finance, there is some reallocation of expected cash flows away from equity claimants in exchange for cash up front. The factors that drive this decision remain elusive despite a vast theoretical literature and decades of empirical tests.

The entity's specific factors have remained the major focus of debt financing studies (Kayo & Kimura, 2011: 358). As mentioned earlier, Frank and Goyal (2009: 1), however, believe that, even though there is a plethora of theoretical literature and years of empirical tests, the factors that influence debt-financing decision-making remain vague.

3.5.1 Common factors within the entities

Based on the findings of Otieno (2015: 41), Luscombe (2009: 9) and Nyamita (2014: 96), it can be argued, from their past empirical research, that entities from developing and developed countries are faced with common factors that influence debt financing. In the South Africa context, however, the culture adopted may well have an impact on the business environment and the capital structure chosen by different entities (Luscombe, 2009: 46).

3.5.1.1 Entity size

According to Abor (2007: 34), firm size has been viewed as being a determinant of capital structure. The effect of the firm size on leverages is vague (Delcoure, 2007: 407). Moreover, the findings of Titman and Wessels (1988) and Castanias (1983) suggest that larger firms tend to be diversified and, therefore, less prone to bankruptcy. In addition, larger firms have a better advantage in accessing credit markets as opposed to smaller firms. Furthermore, there is more diluted ownership in larger firms leading to a less controlled managerial decision. Taub (1975: 412) emphasises that larger firms have more assets and resources to fall back on in the event of not being able to meet their debt commitments. Lenders of larger firms are, therefore, more likely to receive their repayment compared to those of smaller firms, reducing the agency costs associated with debt. As a consequence of this, larger firms will have higher debts (Abor, 2007: 34).

The findings from the study of Smith (1977) based on issuance costs revealed that small firms experienced greater floatation costs in issuing equity and borrowing new long-term debt. They suggested, therefore, that smaller firms prefer short-term to long-term because the fixed costs are relatively low. As a result, a slightly negative association may be evident with respect to size and short-term debt.

In addition, the reason for smaller firms having a low debt ratio is that relative bankruptcy costs are an inverse function of firm size (Titman & Wessels, 1988: 2). Smaller firms may find it comparatively expensive to resolve information irregularities with lenders, and, therefore, may present lower debt ratios.

If the firm follows the pecking order theory of capital structure, it is anticipated that the size of the firm will be negatively related to leverage. On the contrary, the trade-off theory posits that large firms face lower financial distress and agency costs and, therefore, are able to borrow more than small firms (Dang, 2013: 176). According to a hypothesis in the study by Byoun (2008: 3077), the size of the firms is expected to have a positive impact on debt financing levels. In addition, it is understood that larger firms are generally more transparent, tend to have larger debt levels and can issue larger amounts of debt, so allowing them to spread the issuing costs.

3.5.1.2   *Age of the entity*

The age of the entity is a standard measure of reputation in capital structure models. From the standpoint of a life cycle, as the entity grows, it establishes itself as a continuing business, and consequently increases its capacity to take on more debt; hence, age is positively related to debt (Abor, 2007: 33). According to Chenasai (2009: 13), there is a greater informational impenetrability problem experienced by entities at the start-up stage and so they might not access debt financing. As the entity becomes established and develops a trading and credit history, reputation effects alleviate the problem of moral hazard, facilitating borrowing capacity. The prediction by trade-off theory is that older entities are not faced by the bankruptcy problem and lower agency problem. They are also more established, have a better reputation, credit history, and a greater tendency to choose safe investment projects (López & Sogorb, 2008; Frank & Goyal, 2009 in Elomo, 2014: 11).

Luscombe (2009: 49) asserts that the principles of the pecking order theory suggest a negative relationship, and this is because older surviving entities tend to have higher retained earnings. The entity will firstly utilise retained income before incurring any debt if it follows the hierarchical ladder of preference.

To obtain debt at a cheaper rate, on the other hand, entities have built reputable relationships with lenders. Nevertheless, Elomo (2014: 11) argues that pecking order theory postulates that more matured entities tend to have higher cash flow generated internally over the years, so a lower debt level is expected. Contrary to that, smaller entities cannot retain earnings as easily as bigger entities can. This theory postulates an inverse relationship between age and leverage. Because small entities are riskier and new to the market, they are expected to rely more on short-term debt. Although short-term debt is relatively more expensive, the new entities generally try to avoid any long-term commitments (Luscombe, 2009: 49).

3.5.1.3 Profitability

The entity's financial performance, proxies as profitable, has been identified as a potential determinant of capital structure from the number of theoretical foundations (Mkhawane, 2010: 18). According to Abor (2007: 36), the pecking order theory explains the relationship between the entity's profitability and capital structure. As indicated earlier, therefore, the theory on pecking order by Myers (1984: 16) posits that entities prefer internal sources of finance to external sources. The least sensitive (and least risky) compared to the one most sensitive (and riskiest) will be the order of the entity's finance preference. This is owing to asymmetric information between corporate insiders and less well-informed market participants. By this phenomenon, profitable entities, which have access to retained profit, can rely on such profits as opposed to depending on outside sources-debt (Abor, 2007: 37). According to the perception of agency costs, it will be expected to be profitable provided the limit by debt financing is more valuable since those entities are prone to having stern free cash-flow problems (Jensen, 1986: 324).

According to Chenesai (2009: 13), an entity with a high profit rate, *ceteris paribus*, would maintain a relatively lower debt because of its ability to finance itself from internally generated funds. The decision to use external equity could be affected by profitability, which means that the higher profits the entity gets the more availability of internal equity there is. Hence, because of the greater availability of internally generated funds related to their high profitability, profitable industries tend to have lower external equity in their capital structure (Chenesai, 2009: 12).

On the contrary, Frank and Goyal (2009: 7) argue that it is believed that profitable entities might face low expected costs of financial distress and that interest-tax benefits are more significant. Despite the positive evidence presented by studies conducted, it is quite clear that there is still a continuous contrary finding by scholars.

Among those who disagree with the above arguments is Elomo (2014: 12) who argues that, in the context of trade-off theory, entities are expected to possess stable cash flows and more debt serving capacity. The increase in debt and stable cash flows provides more benefits as interest payments are tax deductible and result in a reduction in the cost of capital. In addition, Luscombe (2009: 27) emphasises that there is an expectation of a positive relationship between leverage. Firstly, bankruptcy costs decline as profitability increases. Secondly, interest tax shields are entities that are more desirable to profitability. Thirdly, increases in debt reduce agency costs (Jensen & Meckling, 1976; Easterbrook, 1984; Jensen, 1986). The context of such tax benefits is, therefore, not applicable to MoEs because they are exempt from taxation.

3.5.1.4 Business risk

Luscombe (2009: 21) describes business risk as the hazard of financial distress and bankruptcy that face the entity. He further argues that business risk appears to be the most evident in related literature. Business risk refers to the effects of doubts in the environment with regard to the earning ability of an entity. It is, therefore, concerned more with the operating activities of an entity (Elomo, 2014: 23). According to Abor (2007: 38), one of the primary determinants of the entity's capital structure is the level of risk. The more the entity is exposed to such risk, the more are its incentives to reduce its level of debt within its capital structure.

According to Mkhawane (2010: 20), the level of business risk associated with any entity's operations is expected to result in earnings variability. From this perspective, an entity's risk serves as a proxy for the probability of default on debt service obligations and increased susceptibility to financial distress. Elomo (2014: 23), however, concurs that the more the volatility of earnings, the higher the probability of bankruptcy arising from default on payment of interest.

Frank and Goyal (2009: 10) emphasise that the entity with the more volatile cash flow should use less debt when it is faced by higher expected costs of financial distress. In addition, volatile cash is equally capable of lowering the probability of the tax benefits being used. Consequently, higher risk should result in low debt financing under the trade-off theory.

According to Luscombe (2009: 21), the trade-off theory predicts a negative relationship between leverage and business risk. It is believed that a negative relationship exists because the entity financed by equity fixed interest commitments has the option of not paying out dividends in times of financial difficulties. This implies that the debt-financing level of an entity decreases with the increase in earnings volatility leading to an expected inverse relationship (Nyamita, 2014: 83). Regardless of a number of studies in agreement with the entity's risk as the significant determinant of corporate debt policy, empirical investigation has led to contradictory results (Abor, 2009: 39).

3.5.1.5 *Corporate tax rate*

The corporate tax rate indicates the tax shield benefit of the debt and is expected to yield a positive outcome related to leverage (Joeveer, 2013: 298). In addition, Antonczyk and Salzmann (2014: 136) further emphasise that debt financing should be influenced by the corporate tax rate given the fact that debt-interest payments are typically tax deductible whereas dividends payments are not. The higher the tax rate, therefore, the higher interest tax benefits of debt will be. The predictions by the trade-off theory suggest that, for the entity to take advantage of higher tax shield, it will have to issue more debt when the tax rate is higher (Frank & Goyal, 2009: 9). The findings by Graham and Harvey (2001: 210) show that, in large entities, tax advantage is more significantly regulated and dividends paying out entities with large corporate tax and high tax incentives use debt. There was, however, too little evidence found to suggest that an entity considers the impact of personal taxes when deciding on its debt policy.

According to Luscombe (2009: 11), taxes could play an important part in the decision relating to financing because interest is a tax deduction. With lower tax rates, therefore, debt financing could become less attractive.

The corporate tax of an entity is widely influenced by the entity's optimal capital structures because the interest tax shield is one of the primary benefits of debt financing. Before and during the period, 2001 to 2005, the corporate tax rate in South Africa differed when compared to other countries. The corporate tax rate changed from 48% in 1993 to 35% in 1997, and then decreased to 30% in 2000. These tax rate variations may influence the benefits of debt to the company (Luscombe, 2009: 11). The South African state entities and MoEs, therefore, might have a minimal interest tax shield benefit because they receive government tax exemptions and grants. This gives the entities the opportunity to use or opt for the use of less debt financing.

3.5.1.6 Entity's tangible assets

Tangible assets play a significant role in the entity's access to debt financing (Fosu, 2013: 13). Booth *et al.* (2001) and Campello (2006) support this view. In addition, Kayo and Kimura (2011: 360) suggest that because the collateral capability of tangible assets in place tends to increase debt-financing levels it is asset intangibility, which plays an important role in debt-financing decisions. According to Rajan and Zingales (1995: 1454), assets' tangibility or the collateral value of assets held by an entity has been found to be a determinant of leverage. Entities with more tangible assets, therefore, can borrow more and more cheaply because tangible assets are used as collateral for the debt (Luscombe, 2009: 73).

Complementary to the above, Kasozi (2009: 42) emphasises that the assets tangibility can be measured as a fraction of its assets. Moreover, the ratio of tangible fixed asset to total asset is seen as the appropriate measure of collateral value, and this is operationalised as the tangible fixed assets of the firm divided by total assets (Abor, 2007: 82). As a result, there is a consistent agreement among researchers, which suggests that there is an existing positive relationship between tangibility and the leverage of the entity. The existing positive relationship between asset tangibility and leverage demonstrates that tangible-asset-rich entities use more debt than entities that rely more on patents, copy-rights and other intangibles do (Frank & Goyal, 2005: 21). It justified that entities that are challenged in providing collaterals are exposed to higher interest or may be forced to issue equity instead of debt finance, and this suggests a positive relationship between tangibility of assets and debt financing (Nyamita, 2014: 81).

Another essential point in support of this view is that the pecking order theory makes opposite predictions since low information asymmetry associated with tangible assets makes equity issuances less costly (Frank & Goyal, 2009: 9). In contrast, other studies, like those of Nyamita (2014) and Luscombe (2009), point out a negative level of relationship between leverage and tangibility. There is also inconsistency with the argument of Frank and Goyal (2003: 8) that says that regulated entities are highly leveraged because there tend to be more stable cash flows arising out of the lower business risk, which reduces the expected costs of financial distress. This might be applicable to MoEs with more tangible assets because regulations, policy and procedures may allow them to engage in lower business risk in order to be free from financial agony.

3.5.1.8 Growth opportunity

According to Luscombe (2009: 28), the determinant of growth opportunity is symbolic of the future growth prospects of the entity. Furthermore, it incorporates the potential future market share and sales growth. Equally important, Deesomsak, Paudyal and Pescetto (2004: 393) stress that trade-off, agency theories predict a negative relationship between the entity's growth and debts since an entity's growth increases financial distress and the agency's cost of debt. This is, however, in contrast to the findings of Shuetrim *et al.* (1993) and those of Barbosa and Moraes (2003) who argue that the positive relationship between growth opportunities was owing to the fast-growing entities, which, in turn, rapidly depletes their internal finances.

3.5.2 Macro-economic factors

Just as other factors, macro-economic factors play a significant role in the capital structure decision of an entity. More importantly, Drobetz, Pensa and Wanzenried (2006: 23) assert that macro-economic conditions affect entities' adjustment speed on their capital structure. The fluctuations of macro-economic conditions, precisely at an economic trough and peak, compel entities to respond to the change in their growth opportunities by adjusting their capital structure (Yeh & Roca, 2010: 2). Overall, empirical studies by Frank and Goyal (2009: 3), Nyamita (2014: 85) and Drobetz, *et al.* (2006: 23) present a coherent picture that inflation rate, gross domestic product (GDP), interest rate, fiscal policy, and economic growth are common factors that influence an entity's debt financing.

3.5.2.1 Inflation rate

Inflation rate is an important component of a macro-economic factor that affects the opportunity cost of funds to borrowers (Boyd & Prescott, 1986: 391). Another essential point by Baltacı and Ayaydın (2014: 50) is that the inflation rate is one of the main indicators of a country's stability. As a result, an increase in the inflation rate causes doubts about the economic conditions. Such doubts might cause entities' stability to repay their debts. Higher rates of inflation, therefore, will lead to the reduction of the real returns perceived by savers and to lower opportunity cost of funds to borrowers (Boyd & Prescott, 1986: 392). Moreover, higher inflation decreases the benefits of leverage because of higher bankruptcy costs of debt imposed on firms (Gungoraydinoglu & Öztekin, 2011: 1467). It is expected, therefore, that inflation rates be negatively related to an entity's debt financing levels (Nyamita, 2014: 86).

Other studies, however, have considered the relationship between inflation and debt financing to be positively related. For instance, in support of a positive relation, Frank and Goyal (2009: 11) emphasise that, if managers issue debt when the expected inflation rate is high relative to current interest rates, there may be a positive relation because of market timing in debt markets. In addition, owing to the higher real value of tax deductions on debt, the expected inflation will predict positively related to debt financing (Jõeveer, 2013: 295). According to the worldwide inflation data reports, South African inflation between 2010 and 2016 has been unstable and such anticipated changes in the rate of inflation cause an impact on the debt financing fraternity including MoEs.

3.5.2.2 Gross domestic product (GDP)

The country's total output of goods and services is referred to as the GDP. Its residents and non-residents must produce such goods and services within the country's borders within a year (Smith & Todaro, 2003: 796). Furthermore, Mato (2015: 5) emphasises that the measure of the economy of a country is the total market value of all goods and services produced in a country in a given specific period, which result in a GDP. The application of the GDP measure lies on its simplicity. Moreover, the GDP has been accepted globally as the standard measure of macro-economic activities.

Equally important, the GDP has been positioned as the core economic and social management tool over the years. As a result, it has an influence on social analysis formulation and decision making, particularly on debt financing (Schepelmann *et al.*, 2010: 19).

Other studies consider the relationship between GDP and debt financing to be positive. Jõeveer (2013: 298) supports the view that the GDP growth rate, used as a proxy for growth opportunities, should result in a positive relationship with debt-financing levels of entities. Mokhova and Zinecker (2014: 533) believe that an increase in the entities' profits might be a result of the growth in the GDP and consequently boost the economy. Recent developments in the 2008 recession disaster, however, have had an impact on GDPs. The negative impact of the recession was, among other things, seen in exchange rate volatility, underper-forming international markets measured by market capitalisation as a percentage of GDP (Mogaladi, 2016: 1). Given the set objectives and mandate being pursued by MoEs, GDP may have no effect on their access to finance, including debt financing.

3.5.2.3 Interest rate

Interest rate plays a crucial role in determining the effective cost of borrowing and the cost of the deal (Mkhawane, 2010: 51). Moreover, Jardine (2014: 40) emphasises that the level of interest rates is an important consideration for debt issuances. In the event, therefore, where the interest rate increases the existing equity and existing debt drop in value cascades by more than the latter, and, therefore, an entity is left seemingly highly leveraged (Kasozi, 2009: 38). More importantly, interest rates have a direct effect on entities, which are highly levered or leveraged (Cook, 2013: 19). In this case, the level of interest rates is expected to be positively related to leverage (Nyamita, 2014: 86).

According to Chenesai (2009: 67), interest rates fluctuate with the prime rate, and this can be generally used for financing in working capital. More importantly, it can be used equally when bridging finance is required where a gap exists between a long-term debt and the long-term source of finance becoming available.

An entity can, however, choose an optimal debt-equity ratio that minimises its total cost of capital owing to the interest rate and the equity yield, which forces an entity to pay increasing functions of the firm's debt-equity ratio (Feldstein, Green & Sheshinski, 2013: 45). In the same way, interest rates are incorporated in the expectation of inflation. As a result, entities are most likely to adopt debt financing from equity when interest rates increase (Deesomsak, *et al.*, 2004: 395). The South African interest rate has been fluctuating over the past few years. It will be interesting to determine its effect on debt financing within MoEs using average interest rate as proxy.

3.5.2.4 *Fiscal policy*

The fiscal policy is an instrument that contributes to the stabilisation of the economy to the extent that it stabilises output, income and demand. Even in the economic recession, fiscal policy can maintain or increase the government expenditure, even by reducing tax revenue (Swanepoel, 2003: 6). The term fiscal policy is often limited to the application of government spending, taxation and government policies to attain macro-economic objectives (Malan 1998: 53). According to KoekeMoEr (2013: 90), it has been shown that for many decades the discretionary fiscal policy has been disregarded as the fundamental macro-economic policy tool because monetary policy was considered a more effective means of stabilising the economy.

Arestis and Sawyer (2010: 329), moreover, emphasise that fiscal policy has brought about unnecessary spending and that the associated excessive budget deficits bring about unsustainable public debt. The use of fiscal rules, therefore, has been proposed by many to limit these tendencies. Consequently, within the South African context, fiscal policy is at the centre of economic policy (Merg, 1993: 21). Broadly speaking, the focus of fiscal support should shift gradually but meaningfully from debt incentives to equity incentives (Chenesai, 2009: 90). Thus far, there is little possibility or risk that the public debt in South Africa will become too high in the near future owing to fiscal policy (KoekeMoEr, 2013: 11).

3.5.2.5 *Economic growth*

MoEs are critically important in the economic growth of most countries and particularly in South Africa. Stiglingh (2015: 33) argues that economic growth is instigated by improvements in the quantity and quality of the factors of production that a country has available, inter alia, land, labour, capital and entities. To promote economic growth, these factors should be financed appropriately in order to contribute to the overall production success. More importantly, debt financing with the SOEs is a significant function of public sector financial management; it can, thus, be used as major source of revenue and an aspect economic growth within the public sector (Nyamita 2014: 26; Alfaro *et al.*, 2004: 322; Rioja & Valev, 2007). From an economic growth perspective, South Africa is one of the highly ranked emerging African economies (Nyasha, 2014: 21). Given that South Africa's economic growth is unstable, it will be important to find its effect on the debt financing of MoEs.

3.6 TYPES OF DEBT FINANCING WITHIN MoEs

According to Dhawan (2001: 270), sources of capital are dependent to some extent on whether an entity is developing or maturing. Debt financing is regarded as any funding medium that has a contractual claim on the entity resulting in tax deductibility. The repayment has a fixed life and has a priority claim on cash flow in both operating and bankruptcy periods (Damodaran, 1999: 214). Traditionally, there are various sources of external funding particularly debt financing within the MoEs, such as public and private debt, which include long-term and short-term debt and other categories of debt.

3.6.1 Public and private debt

There has been a simultaneous high level of external borrowing and massive outflows of private capital experienced by developing countries. Such phenomena have been noted in sub-Saharan Africa (Ndikumana & Boyce, 2002: 3). In the same way, since the early 1980s, the international community has turned its attention increasingly towards the debt problems experienced by sub-Saharan countries (Siegruhn, 1996: 50).

The estimates made by Boyce and Ndikumana (2001) from 1970 to 1996 show that a cohort on these countries' net creditor to the rest of the world in the sense that accumulated capital flight exceeds the stock of external debt. In this instance, debt financing is easily classified under different categories as public and private debt by entities. The same categories were once referred to as public versus private debt (Chen, Cheng & Lo, 2013: 755).

Public debt financing is the process of obtaining funds from the securities markets by issuing different types of debt stocks of entities. In general, such debt stock is referred to as bonds or notes by entities (Nyamita, 2014: 89). According to Altunbas, Kara and Margues-Ibanez (2010: 437), corporate bonds and syndicated loans have increased comprising 94% of all public funds raised in the European capital markets while public equity issuance accounted for only 6%. In the context of the Johannesburg Securities Exchange (JSE), the debt capital market is liquid and well developed in terms of the number of participants and their daily activity with a daily trade of about R25 million. Since the issue of first Corporate Bond in 1992, more than 1500 debt instruments have been listed on the JSE. As a result, liquidity remains relatively low compared to government debt, but issuance keeps growing. On the contrary, other bonds, like government bonds, are listed at more than R1 trillion and these instruments account for 90% of all liquidity reported to the JSE. The study by Ojah and Pillay (2009) analysed the key effects of external public debt markets and found that there is indeed a strong public debt market that influences the entity's choice of leverage that it does not apply equally to all entities.

On the contrary, private sources of debt financing can be clearly classified as banks, credit unions, consumer finance companies, commercial finance companies, trade credit, insurance companies, factor companies, and leasing companies (Chenesai, 2009: 65). The private debt, therefore, is made up of bank loans and amounts payable to suppliers of goods and services and other common types of private debt are the derivative financial instruments (Nyamita, 2014: 90). In brief, highly leveraged entities opt to secure greater public debt rather than bank loans or other forms of private debt.

3.6.2 Long-term and short-term debt

Several studies have categorised the debt financing of an entity in two forms, namely long-term and short-term debt. Similarly, Abor (2007: 29) supports this view and states that the entity's debt financing comprises short-term debt and long-term debt. The order of preference between long-term and short-term debt depends on the needs of the entity. In the analysis of South Africa's capital structure, Mohohlo (2013: 69) indicates that entities in South Africa prefer to use more long-term debt rather than short-term debt. Long-term debt is the kind of debt where an entity has an obligation to settle the debt in a period beyond the entity's accounting period (Nyamita, 2014: 90). Complementary to this, short-term debt is the amount owed by the entity repayable with the entity's accounting period (Hall *et al.*, 2004: 95). Siegruhn (1996: 4) argues that, in sub-Saharan African countries, the use of short-term debt by entities has increased considerably. MoEs tend to use long-term debt financing. This study will establish reasons why municipal entities choose short-term debt instead of long-term debt as expressed in their statement of their financial position.

3.6.3 Other debt categories

There is consensus among researchers regarding the categorisation of types of debt other than those discussed above. According to Nyamita (2014: 90), lease financing, provisions and deferred tax liability are regarded as other special types of debt. Lease financing in the past played a significant role in meeting the new capital equipment of major industrial entities and it was used primarily by high risk and capital poor entities (Riordan & Duffy, 1969: 763). Lease financing plays a significant role in entities. Nyamita (2014: 90) defines lease financing as a mutual contractual agreement between two parties where the lender identified on the contract as the lesser grants the individual (entity) or a group of individuals leasing the product or equipment and the lessee has the ability to operate the equipment for an agreed time while making monthly payments as per the agreement. It is also interesting to note that other entities have a habit of using lease financing to reduce agency cost of debt (Robicheaux, Fu & Ligon, 2008: 409).

According to IAS (37.14), a provision is a present obligation (legal or constructive) with uncertain timing and amount arising from a past event where payment is likely expected to result in an outflow of economic benefit from the entity. Notwithstanding the definition, it is important to state that liability provisions differ from the determination of one entity to the other. Moreover, there is no compelling reason for entities to have common liability provision accounts as a line item in their statement of financial positions because the services they offer are unique. According to the requirements in the Statement of Financial Accounting Standards No. 109: Accounting for Income Taxes (FASB 1992), deferred tax liability is made up of temporary differences between the entity's accounting and tax carrying values, the anticipated and enacted income rate, and the estimated tax payable for the current year. So long as the entity follows a regular investment policy, the deferred tax liability would be maximised indefinitely as long as the investments generate new temporary differences at least as large as the temporary differences that reverse (Davidson, 1958: 179).

3.7 DEBT FINANCING LEVELS WITHIN THE ENTITIES

Leverage ratios are the most important factors that determine the level of debt financing within the entities. There are two types of leverage ratios, namely book leverage and market leverage (Chen, 2013: 4). Despite the vast empirical research conducted in relation to both factors, researchers remain in disagreement to date. According to Nyamita (2014: 91), some researchers have considered book leverage as being a proportion of the entity's debt finance to the total book value of the entity's assets. On the contrary, others consider market leverage as the proportion of entity debt to the market value of the entity. The latter view is supported by Frank and Goyal (2009: 18) who argue that there is a mechanical negative relation when market leverage is used but not when book leverage is used.

3.7.1 Book leverage

Chen (2013: 3) defines book leverage as the amount of book value of capital divided by the bank's total assets. Another essential point by Nyamita (2014: 91) is that, as a measure of the debt financing within an entity, book leverage is the proportion of an entity's debt financing to the total value of assets.

Given the aforementioned definitions, Fernandez (2007: 1) argues that they value an entity when its debt policy is determined by a book-value ratio. He further emphasises that, when managers have a target capital structure, it is usually in book value terms, in large part because it is that to which the credit rating agencies pay attention. With regard to Chen's (2013: 3) argument above, the book leverage's calculation lies on the book value of capital which is an accounting measure of the net worth of an entity. Nevertheless, the statement of financial position might reflect an inaccurate assessment of the true value of an entity's equity.

3.7.2   Market leverage

Liu (2009: 605) defines market leverage as the book debt divided by the market value of the entity's assets. Along with the equity of an entity, the market leverage value of equity is equal to the market price per share times the number of shares outstanding (Chen, 2013: 3). In addition, in context of debt financing, market leverage can be used to measure the entity's debt level, and it is the proportion of entity debt to market value of the entity (Nyamita, 2014: 92). There is consensus among researchers regarding the definition of market leverage. Chen (2013: 3), however, argues strongly that market leverage can be viewed as a quality adjustment of book leverage through a refinement of the numerator (book value of equity) rather than an elaboration on the denominator (book value of asset) of the book leverage ratio. Advocaters of market leverage argue that the book value used to balance the left-hand side and the right-hand managerially relevant numbers (Frank & Goyal, 2009: 2).

3.8   EMPIRICAL FINDINGS

Clearly, there are plausible arguments relative to the various factors affecting the financial decision of an entity. In different empirical studies, there has been a presentation of various results particularly on debt financing. While the debate around the factors influencing debt financing remain an ongoing phenomenon among researchers, within the entity specific factors, there are variables identified by researchers as significant factors influencing the choice of capital structure of an entity, namely business risk, entity size, asset composition, profitability, growth opportunities, and age of the entity (Luscombe, 2009: 21). In addition, other researchers have identified macro-economic factors, such as inflation rate, GDP, interest rate, fiscal policy, and economic growth, which impact on the debt financing of an entity.

According to Nyamita (2014: 86), the financial strategies of the entity, including debt-financing decisions, are influenced externally by regional and national macro-economic factors. Subsequently, Frank and Goyal (2005: 156) in Nyamita (2014: 96) present evidence around debt financing in different parts: the aggregate level; cross-sectional evidence on debt financing; debt-financing changes; debt-financing factors; and the test of the two main debt-financing theories (pecking order and trade-off theory).

3.8.1 Empirical findings on variables influencing debt financing of an entity

Given the above listed factors (section 3.4.1) that are set to influence debt financing, researchers agree that such variables have an influence on debt financing. Most studies have identified the pecking order theory that predicts a negative relationship between debt financing with those identified factors (Deesomsak, Paudyal & Pescetto, 2004: 398; Antoniou, Guney & Paudyal, 2008: 73; Frank & Goyal, 2009: 26). On the contrary, the trade-off theory postulates that the same factors have been proven to be positively related to debt financing. Despite the broader agreement regarding the positive or negative impact that those factors have on the determination of capital structure, particularly debt financing, our empirical investigation will lead to a contradictory view or common result with other studies conducted before. For instance, Mokhova and Zinecker (2014: 534) argue that, in different studies, there are diverse results depending on the type of entity, its nature and the economic and political environment of the country.

3.8.2 Empirical findings on the macro-economic factors

It is in light of the disparities from previous studies that this study seeks to establish empirical evidence on the role and relationship or lack thereof between the debt financing and macro-economic factors. Generally, it is important to note that macro-economic factors play a pivotal role in the determination of debt financing of an entity. According to Nyamita (2014: 103), in most studies on macro-economic factors of debt financing, a significant positive or negative relationship has been found between the entity's debt financing levels and macro-economic factors.

Baltacı and Ayaydın (2014: 54) are among the few researchers who found a positive relationship between some macro-economic factors, such as GDP and the entity's debt financing, while, in contrast, Kayo and Kimura (2011: 367) and Jõeveer (2013: 306) found a negative relationship.

When it comes to other macro-economic factors, such as inflation rate and interest rates, there are inconsistent empirical findings from different researchers. For instance, only Frank and Goyal (2009: 26) found a positive relationship between inflation and interest rate and debt financing, while Antoniou, Guney and Paudyal (2008: 32) and Mokhova and Zinecker (2014: 534) found a negative relationship. It is important to continue investigating the role and impact of macro-economic factors on the debt financing of the entity.

3.8.3 Empirical findings on levels of debt financing within the entity

According to Mohohlo (2013: 26), there are other factors, such as external economic blows, that may have a significant impact on entities with debt levels that are similar, even though some of these entities might have debt levels that are perceived as being conservative. Another essential point suggests that older entities with well-established reputations of debt repayment would have lower costs of debt financing, and, therefore, higher debt levels (Luscombe, 2009: 19). Chen and Zhao (2004: 24) argue that it is unlikely for an entity to reduce its debt levels when its bankruptcy levels (or levels of financial distress) are moderate or low. It is, therefore, possible that bankruptcy risk or the levels of financial distress were minor with regard to warranting a reduction in the debt levels of listed entities during this period (Kasozi, 2009: 130). Chenesai (2009: 82) believes that the above results from various sources are evidence confirming that an entity's size has a positive relation to the debt level. Nevertheless, in terms of agency cost theory, entities are expected to have the least debt and they, therefore, depend on internal equity and that debt levels will gradually increase as the entity develops and becomes established (Elomo, 2014: 11).

3.9   CONCLUSION

This chapter has made a thorough valuation and review of empirical research. Against this background, we can conclude that specific factors mentioned above in 3.5.1., which are common factors with the entities (size of the entity, age of the entity, profitability, business risk, entity tax rate, entity's nature of assets (tangibles) and growth opportunity) have an influence on the financial decision of the entities, particularly with regard to debt financing. Furthermore, macro-economic factors equally have an impact on the entity's preference for debt financing, and such a decision is based on the type of debt the entity uses and the extent of its usage. In addition, it is interesting to note that most past empirical studies have shown a positive, negative or no significant relationship between the specific factors of macro-economic and debt financing.

A considerable amount of literature has published alternative findings (Sebapadi, 2016; Nyamita, 2014; Jõeveer, 2013; Mkhawane, 2010; Luscombe, 2009; Chenesai, 2009; Frank & Goyal, 2009), which stem from different methodological approaches. Although there are methodological differences, this constitutes an immediately inherent weakness owing to selection bias, which includes the proxies used for the determination of debt financing levels. They will, therefore, be located in the literature of debt financing, the debt level as well as the type of debts within the MoEs. The chapter has presented a comprehensive account of past empirical literature relating to debt financing. A detailed examination of the methodology applicable to this study will be presented in the next chapter.

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

This chapter provides a comprehensive overview of the research methodology applied to this study. In order to achieve the research objectives as stated in section 1.5 and to answer the research questions of the study as reflected in section 1.4 of this report, a logical, systematic and scientific process was followed to produce required data for the purposes of the analysis and presentation of significant findings. This chapter outlines the research paradigm, design and methodology for the study as well the rationale for choosing the research design. In particular, this chapter outlines the target population, sampling, measuring instrument, data collection, and method of analysis used for the study. The chapter concludes with a discussion of the data and presents the validity and reliability of data, together with the delimitations, limitations and ethical considerations.

4.2 RESEARCH PARADIGMS

According to Matukane (2016: 52), research paradigms remain the anchor of the research process undertaken in a field of study. Babbie (2007: 32) describes a research paradigm as a model or framework for observation and undertaking shaping both what we see and how we understand it. Moreover, a research paradigm is described as being a completely coherent assumption and premise, which determines the processes used to undertake a study. Researchers like Saunders *et al.* (2009), Easterby-Smith, Thorpe and Jackson (2008), and Collis and Hussey (2003) classified research paradigms into two categories, namely positivists (positivism) and non-positivism or naturalists (interpretivism). They further emphasised that the positivistic paradigm reflects statistical research designs while non-positivism or naturalists (interpretivism) reflect a qualitative research design.

Regarding research paradigms, other authors, such as Healy and Perry (2000: 118), posit that there are four research paradigms. These are positivism, critical theory, constructivism, and realism. In support of this, Neuman (2011: 165) argues that quantitative studies are underpinned by positivist principles. In fact, most positivists use quantitative approaches. As indicated earlier, this study is quantitative and positivist in nature. The following sections provide a detailed discussion about positivism.

4.2.1 Positivism approach

Altinay and Paraskevas (2008: 67) describe positivism as being a research paradigm in which the deductive approach and measurement of quantitative data are used in order for the researcher to identify relationships that predict human behaviour. Most often, positivistic research studies use highly structured methods to enable them to facilitate replication (Saunder *et al.*, 2012: 135). In addition, Jonker and Pennink (2010: 29) believe that positivism is anchored on the idea that scientific action produces important concepts. It is observed more often, however, that practically this is not the case and can primarily be attributed to people's resistance to change. As indicated earlier, this study followed the positivist research. Its aim was to determine the factors that influence the debt financing of MoEs for the CoJ. Data was collected from all MoEs of the CoJ to test for relationships or associations amongst variables.

4.3 RESEARCH DESIGN

A research design is described as the plan that the researchers follow to answer the research question (Saunders *et al.*, 2012: 159). Furthermore, Creswell (2014: 3) defines research designs as the plans and the techniques for a research study that span the decisions from broad assumptions to detailed methods of data collection and analysis. Essentially, the researcher develops and designs a structure or framework to deal with a specific research problem or opportunity (Tustin *et al.*, 2005: 90). Tustin *et al.* (2005: 82) and Struwig and Stead (2013: 6) divided research designs into three categories, descriptive research, exploratory research and causal research.

Christensen *et al.* (2014: 46) describe descriptive research as providing a broad description of a phenomenon, event, or situation. Exploratory research involves the evaluation of or searching for an understanding of a new interest or subject of study (Babbie, 2007: 87). In contrast, casual research investigates whether one variable causes the value to another variable (Tustin *et al.*, 2005: 87). For the purpose of this study, a mixture of descriptive and correlational research designs was used to establish underlying trends. In light of the above statement, it is important to note that the study does not require the examination or establishing a new subject of study. The exploratory design was, therefore, never considered. According to Picardi and Masick (2014: 131), the combination of both descriptive and explanatory research designs reduces the limitations of non-experimental research through the inclusion of independent variables and dependent variables. Precisely, according to the authors, the application of de-scriptive research approach is used to analyse the different types of debt and the extent of debt financing substantively preferred.

Saunders, *et al.* (2009: 140) describe explanatory or casual research as an ap-proach that establishes correlational relationships between variables (independ-ent and dependent variables). To corroborate this, Tustin *et al.* (2005: 87) explain that causal studies investigate whether one variable causes or determines the value of another variable. The current study used independent variables (see Table 4.3) to establish correlational relationships between debt financing (see Table 4.2) and various independent variables, within the framework of the capital structure of the MoEs. Independent variables comprised all factors that influence debt financing and its debt level.

4.4 METHODOLOGICAL APPROACHES

Churchill (1998: 203), Brynard and Hanekom (2006: 35), and Creswell (2014: 3), describe research methodology as a process indicating the actions and se-quences of how data are collected and interpreted for research projects. The authors also discussed how research methodology helps in outlining the processes taken in identifying the target population and the determination of the quantitative or qualitative nature of data. There are three known and used research methodologies, namely qualitative, quantitative and mixed methods.

According to Mogaladi (2016: 34), quantitative research relies on statistical analysis whereas qualitative research depends on thematic analysis. The author further indicated that there are key features that distinguish qualitative from quantitative research. In qualitative research, non-numerical data are collected to answer a research question (Christensen *et al.*, 2014: 46). Equally important, Tustin *et al.* (2005: 90) emphasise that qualitative research seeks to understand a phenomenon through a less structured, more flexible approach. More often, researchers try to explore motivations, and so the earlier term motivational research. Qualitative researchers, such as Bashir, Afzal and Azeem (2008: 35), and Cooper and White (2012: 7), agree that qualitative research focuses on the description and understanding of a phenomenon or event being studied relating to human experience.

According to Field (2009: 18), the quantitative research method entails the application of statistical models as well as the portrayal of trends through graphs. In addition, in a quantitative study, numerical data are collected to answer a given research question (Christensen *et al.*, 2014: 46). Moreover, quantitative research uses independent and dependent variables to establish relationships between constructs (Nyamita, 2014: 113). Briefly, quantitative approaches focus on the collection of quantitative variables, analysed using quantitative methods and presented using graphs, tales and charts (Devlin, 2006: 53; Creswell, 2014: 4). Researchers can also use mixed methods to conduct research. Creswell (2014: 9) describes the mixed method as the collection, analysis and integration of both quantitative and qualitative methods. For the purpose of the current study, a quantitative approach was adopted to assess factors that influence the debt financing of MoEs within the control of the CoJ scientifically. This research method was selected based on a number of factors, namely on the purpose of the study, the variables under study and how data was analysed (Mogaladi, 2016: 35).

4.5 TARGET POPULATION AND SAMPLING

According to Tustin *et al.* (2005: 96), the group of people, entities or subjects from whom data can be obtained defines the population. This study's targeted population comprised 13 MoEs from the CoJ listed as a State Owned Company (SOC) over a period of five years from 2011 to 2015. The research used 5-years information (2011 to 2015) to analyse MoE's debt tolerance for the CoJ after the 2010 South Africa Soccer World Cup. Secondarily, the scope was limited to five years due to the lack of availability of accurate post-2015 records for some MoEs. The Companies and Intellectual Property Commission (CIPC), Google and the entities' website were the main sources from which the audited annual financial statement data was extracted. It is worth noting that the population frame data excluded other municipal entities within Gauteng, the likes of the City of Tshwane, Ekurhuleni, Mogale City, and Sedibeng.

4.5.1 Sample design

The sample size for the study comprised all 13 MoEs in the CoJ. There are two sets of sampling methods, namely probability and non-probability sampling. Tustin *et al.* (2005: 344) describe probability samples as the samples where all elements within a population stand a chance of being selected, while in the non-probability sampling the chances of selection from the population sample are unknown. There are five types of non-probability sample methods, namely purposive, convenient, judgmental, quota and multiplicity sampling. For the purposes of this study, a non-probability convenience sampling method was applied.

The following criteria were used to select the MoEs included in the final sample:

• For an MoE to be elected, it had to be operating with the CoJ;
• It had to be operational during the years under study; and
• Its financial statements had to be available, or easily attainable.

In the event that financial information is unclear or not easily accessible, some participants were consulted. The participants who assisted with information that was not available are the chief financial officers or financial managers. These participants were considered based on their seniority and their access to historic financial information.

Upon the collection of the data, it was discovered that two entities (City Parks and Johannesburg Zoo) had been merged into one. The total number of entities for which financial statements were drawn was, therefore, 13 entities. Financial data was available from 97% of the MoEs. The 3% non-collected information was represented by an arithmetic mean, and the table below shows the collection rate.

Table 4.1: Financial statements data

CoJ MoEs		
	Total	**%**
Annual financial statement collected	63	97%
The annual financial statement not collected	2	3%
Total number of annual financial statement	**65**	**100%**

Source: Self-generated by researcher

4.6 DATA COLLECTION AND PROCEDURES

Primary data refers to data collected for a current specific research problem at hand, using fit-for-purpose procedures for a specific research problem (Hox & Boeije, 2005: 593). In addition, Brief (2012: 3) posits that primary data is generally understood as data collected from the information source. In most cases, primary data would not have undergone analysis before being included in the needs' assessment. Furthermore, primary data are collected through personal interviews or discussions with members of the affected community. They can also be collected through interviews, radio communication, email exchange and direct observation (Hox & Boeije, 2005: 593). Conversely, secondary data is data in a quantitative format. Most of the time, the information consists of studied objects whose characteristics are coded in variables that have a range of possible values (Hox & Boeije, 2005: 593). Brief (2012: 3) noted that secondary data can be collected by other researchers prior to inclusion in the current assessment. In addition, this data can be extracted from sources, such as published research, Internet material, media reports, and other sources (Brief, 2012: 3).

4.6.1 Sources of secondary data

Secondary data was collected from annual financial statements and integrated annual reports. This data was available using the entities' website, CIPC, and Google. The purpose of using such integrated secondary data sources was to complement the collected information in the event that financial statements were not precise. An ethical clearance was sent to all the entities detailing which additional information was requested. In the event that information obtained was either inadequate or unclear, some key personnel were consulted. These participants' identities, as well as those relating to their entities, were not disclosed in the report. All the data that were collected were based on the variables shown in Table 4.1 As was mentioned in earlier sections, primary data was not considered because of the poor response from participants.

4.7 MEASUREMENT OF VARIABLES

In order to achieve the objectives of this study, the researcher had first to define all the variables under study. The debt financing variable (financial leverage) is a dependent variable. The primary leverage used in this study was book leverage. According to Sibindi (2017: 113), book leverage measures the broader scale of leverage. Nyamita (2014: 117) posits that book leverage is the proportion of the entity's debt finance to the book value of the assets of the entity. In contrast, Nyamita (2014: 117) posits that market leverage, which is the proportion of the entity debt market value of the entity, is a better option to depict leverage. The study applied the book leverage as well as the financial leverage (summarised in Table 4.2 below) as the proxies' level of debt financing.

4.7.1 Measurement of the dependent variable

Table 4.2: Debt-financing (financial leverage) as a dependent variable using various proxies

Name of variable	Factor	Proxy used
Total debt leverage (TDL)	Internal	Total debt/Total assets
Long-term debt leverage (LDL)	Internal	Long-term debt/Total assets
Short-term debt leverage (SDL)	Internal	Short-term debt/Total assets

Source: Self-generated by researcher

Nyamita (2014) computed the variables in the above table based on the methodology as follows:

1. **Total debt ratio** $= \dfrac{\text{Short-term debt + Long-term debt}}{\text{Total assets}}$

2. **Long-term debt ratio** $= \dfrac{\text{Long-term debt}}{\text{Total assets}}$

3. **Short-term debt ratio** $= \dfrac{\text{Short-term debt}}{\text{Total assets}}$

4.7.2 Measurement of explanatory (independent) variables

The explanatory (independent) variables used in estimating the equation in model 1 were outlines of how explanatory variables influenced debt financing in various studies.

Table 4.3: Independent variables which include internal and macroeconomic factors

Name of variable	Internal/macroeconomic factor	Method
Size of the entity	Internal	Natural logarithm of total assets
Age of the entity	Internal	Number of years since the foundation
Profitability	Internal	Operating profit/Annual sales
Business risk	Internal	Total debt/Total equity
Corporate tax rate	Internal	Income tax charge/Profit before tax
Entity's nature of assets (tangibles)	Internal	Tangible assets/Total assets
Growth Opportunity (entity)	Internal	Capital expenditure/Total assets
Inflation rate	Macroeconomic	Consumer price index
Economic Growth	Macroeconomic	Annual gross domestic product
Interest rate	Macroeconomic	Average interest rate

Source: Self-generated by researcher

4.7.2.1 Entity size

Over the past decades, researchers have used different principles as a measure of entity size. Jardinee (2014: 33), Baltacı and Ayaydın (2014: 41), Nyamita (2014: 118), and Sibindi (2017: 116) measured entity size as a natural logarithm of either sales or total assets. In this study, however, total assets to measure the size of the entity as per the methodology by Daskalakis and Psillaki (2008: 91), Kasozi (2009: 69), and Mogaladi (2016: 18) divided tangible assets. The studies above have conclusively shown that the size of the entity variable can be measured by either the natural logarithm of sales, net sale, and by a logarithm of gross income or total assets. Since there are many proxies, the study opted for a natural logarithm of total assets to measure of the entity's size variable.

4.7.2.2 Age of the entity

Abor (2007: 59), Luscombe (2009: 61) and Chenesai (2009: 18) argued that the entity's age has an influence on the entity's debt financing. Abor (2007: 59) used a panel regression model to establish a significant positive relationship between age and long-debt, short-term and total debt. Regardless of other studies that found this positive relationship, Elomo (2014: 11) argued that, having to look at theories between the age of the entity and leverage, the relationship thereof could be seen differently. The study explored the entity's number of years to measure the age of the entity.

4.7.2.3 Profitability

Different authors have always measured profitability differently. Deesomsak, *et al.* (2004: 394) and Daskalakis and Psillaki (2008: 91) measured profitability as operating profit divided by the total assets, while Luscombe (2009: 38) and Mekonnen (2016: 98) measured profitability as earnings before interest and tax (EBIT) divided by total assets. Nyamita (2014: 118) emphasises that profitability should be measured as operating profit divided by annual sales while Sibindi (2017: 117) argued that profitability should be determined by return on assets, which is net income divided by total assets. It is, in light of these discrepancies, that this study used the operating profit of the entity divided by annual sales as a measure of profitability.

4.7.2.4 Business risk

In the review of empirical research, it was noted that most studies used standard deviation to measure business risk. For instance, Deesomsak, *et al.* (2004: 394) used the percentage of standard deviation in annual operating income scaled by the value of total assets. In contrast, Luscombe (2009: 38) used the standard deviation of sales over the total assets to measure the risk on debt of the business. Conversely, Naidu (2011: 35) used the standard deviation of each bank's return on equity (ROE) as the proxy for business risk. On the other hand, Nyamita (2014: 119) used the standard deviation of operating profit divided by total assets to measure business risk. The study also acknowledges the different proxies used by researchers. The study, however, used the debt-to-equity ratio to measure business risk.

4.7.2.5 Corporate tax rate

According to Luscombe (2009: 45), corporate tax shield is one of the primary advantages of debt financing. Specifically, the author noted that the corporate tax rate of a country is largely influential in its entity's optimal capital structure (Luscombe, 2009: 45). In light of the above statement, researchers like Luscombe (2008) and Nyamita (2014) used the corporate tax rate as a variable in their studies. In a study by Abor (2008: 193), where the corporate tax was used as a variable, a positive relationship was established between the corporate rate and the short-term debt ratio while a significant negative relationship was established between the corporate and debt-equity ratio, particularly in large entities. Moreover, the study measured the corporate tax rate as the effective tax rate, which is a ratio of current income tax charges and profit before tax. In instances where an entity does not pay tax, a marginal tax rate was used as a proxy to measure the corporate tax rate.

4.7.2.6 Assets tangibility

The debate around the measure of the asset tangibility of an entity has recently escalated. This may be partly owing to the wide range of researchers like Lubscombe (2008), Rajan and Zingales (1995), Kasozi (2009), and Elomo (2014), who have measured asset tangibility in different ways.

Rajan and Zingales (1995: 1454) discovered that an asset's tangibility or the collateral value of assets is a determinant of leverage. Rajan and Zingales (1995: 1451), Kasozi (2009: 71), and Elomo (2014: 21) measured the Collateral Value of Assets (CVA) as the ratio of fixed assets to total assets. The authors found that the variable is positively associated with leverage. On the contrary, Frank and Goyal (2009: 9), Kayo and Kimura (2011: 360), Baltaci and Ayaydin (2014: 52), and Nyamita (2014: 118) measured tangible assets divided by total assets to the entity, which was the case in this study.

4.7.2.7 Growth opportunity (entity)

The study extends the factors that affect debt finance to macroeconomic factors as was done by prior researchers such as Luscombe 2009, Elomo 2014, and Nyamita 2014). Specifically, the study included the growth opportunity of an entity as a factor affecting debt finance. According to Elomo (2014: 22), several indicators are considered as the appropriate proxy to measure the entity's growth opportunity. In other studies, researchers like Rajan and Zingales (1995: 1451); Kasozi (2009: 71) and Kayo and Kimura (2011: 360) used the ratio of the market value of assets divided by the book value of assets as a proxy for growth/ investment opportunities. On the contrary, Titman and Wessels (1988: 4), Frank and Goyal (2009: 9) and Nyamita (2014: 119) used the ratio of capital expenditure over the total assets and percentage in changing the total assets. A study by Baltaci and Ayaydin (2014: 52), and Bancel and Mittoo (2004: 122) used the change in GDP and Price/Earnings (P/E) ratio to measure the entity's growth. In this study, capital expenditure was scaled by the value of total assets as a proxy to measure the entity's opportunity for growth.

4.7.2.8 Inflation and interest rate

A considerable amount of literature by authors like Manamela (2012), Stiglingh (2015), Mashele (2008) and Malaza (2017) to mention only a few, has been published on inflation and interest rates. These studies echo that macroeconomic performance indicators of a country, like the inflation rate and the interest rate, were used interchangeably as a macroeconomic factor. For instance, in a study by Frank and Goyal (2009: 11) and Mokhova and Zinecker (2014; 534), an expected inflation rate was used to measure the interest rate variable.

On the contrary, Deesomsak and Paudyal used the interest lending rate to measure the interest rate variable. The current study used the consumer price index (CPI) to measure inflation, while the study followed Nyamita (2014) where the average interest interest rate was used measure interest rate .

4.7.2.9 *Economic growth*

Economic growth is a common variable that can influence debt, especially in developing economies. Given the economic crunch, Stinglingh (2015: 30) posits that the South African economy is in significant danger of failing to achieve consistently high economic growth rates. To establish the effects of the economic growth variable on the debt financing of MoE for the CoJ, the study used the yearly South African GDP rate, sourced from the South African Reserved Bank fact sheet, to measure economic growth. A recent study by Nyamita (2014: 120) used Kenya's GDP figures under Kenya's economic status. On the contrary, De Jong, Kabir and Nguyen (2008: 1959) used the GDP figures from the World Bank database in their global study. In this study, GDP figures for variables are listed in the figure below:

Figure 4.1:   Gross domestic product

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Change	5,4	3,2	- 1,5	3,0	3,3	2,2	2,5	1,8	1,3	0,6	1,3

Constant 2010 prices   *Source: Gross domestic product (GDP), 4th quarter 2017*

STATS SA
STATISTICS SOUTH AFRICA

NDP

THE SOUTH AFRICA I KNOW, THE HOME I UNDERSTAND
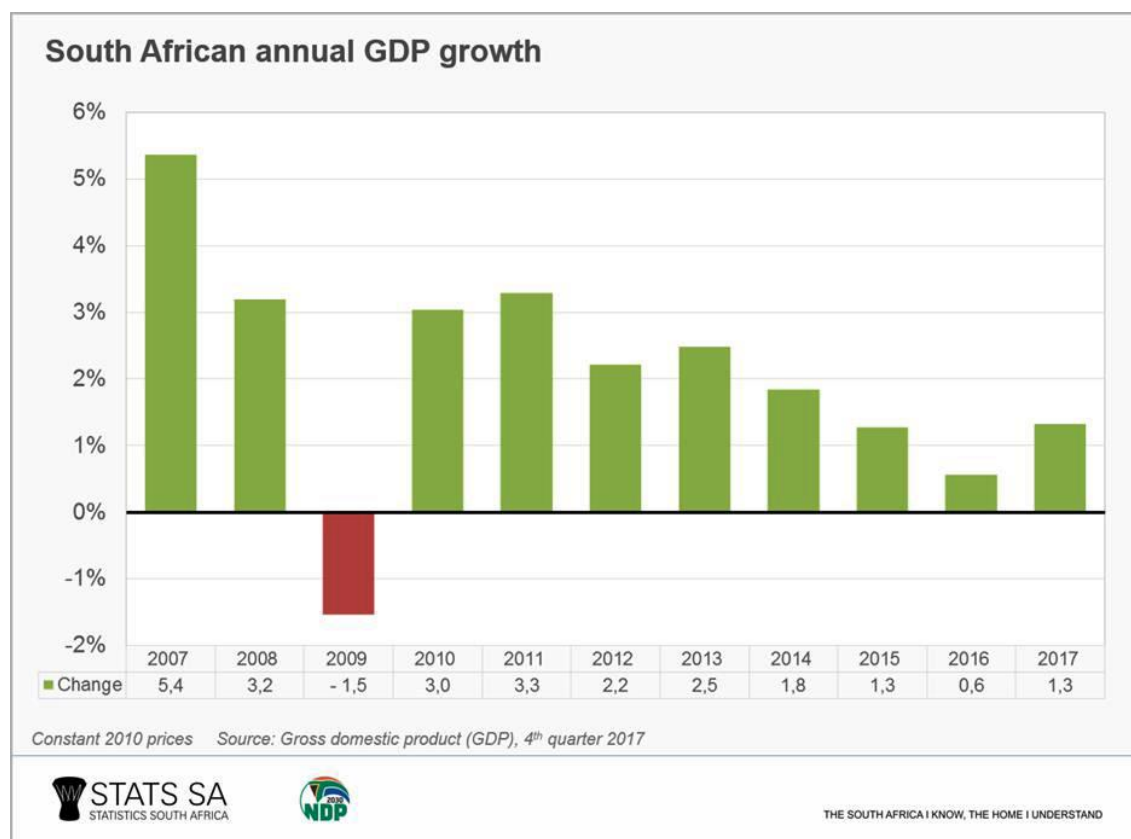
Source: *STATS SA*, 2017

4.8   RESEARCH MODEL

4.8.1   Model for factors influencing debt financing

The study used longitudinal data, which are a combination of both cross sectional and time series data. According to Cooper and Schindler (1998: 132), a study that utilises cross-sectional data will have an observation of key variables at one point in time. In corroborating this, Christensen *et al.* (2014: 66) argued that cross-sectional study needs to be extracted from the targeted sample in a single and relatively short period. It suffices, therefore, that a single or once-off period is extensive enough to collect data from all the entities. Regarding longitudinal or panel data, Christensen *et al.* (2014: 66) emphasise that data are collected at two or more (t) points within a period of observation (time-series) for the same entity (n). Specifically, a data set of a longitudinal study encompasses repeated observations of an outcome and a set of covariates for each of the subjects under investigation (Scott *et al.*, 1988: 121)

To estimate the equations and determine relationships amongst variables, the study also used a panel regression model (multi-linear panel). According to Daskalakis and Psillaki (2008: 91), panel regression models lower collinearity among the explanatory variables, and so improve the efficiency of econometric estimates. A panel regression model enabled the researcher to control unobservable and unmeasurable variables (Torres-Reyna, 2007: 3). A number of studies made use of the multiple-linear panel-data regression model. These include Deesomsak, Paudyal and Pescetto (2004: 392), Antoniou, Guney and Paudyal (2008: 69), and Nyamita (2014: 115). Briefly, the study employed the panel regression model as was done in the above-mentioned studies.

Before modelling the equation, financial debt, also called leverage, was depicted as a function of firm specific and macroeconomic factors as follows:

Financial leverage $= \int (\sum \text{firm} - \text{specific factors} + \sum \text{macroeconomic factors})$

To determine whether there is a relationship between debt finance and interest rate, profitability, size, corporate tax, age, growth, asset tangibility, and business risk, the estimation equation was modelled as depicted in equation 1 below:

$$Y_{it} = \alpha_0 + \sum \frac{N}{k} = 1\beta_K X_{kit} + \varepsilon_{it} + \mu_{it} \hspace{3cm} 1$$

Where Y_{it} is a measure of debt financing (financial leverage) of entity i in year t and X represents the measure of the explanatory variables (entity's specific factors and

macroeconomic factors), μ represents unobserved factors (either firm-specific or macroeconomic) and α_0 is the constant term. β forms K = 1 and includes k to N which are unknown parameters to be estimated. The measure of explanatory variables X includes k factors, which is the total number of all factors influencing debt financing observed in this study.

The explanatory variables (independent) and their respective measures are given in Table 4.3. The variables used in the study are divided into two, namely independent and dependent variables. According to Johnson and Christensen (2018: 3), "Independent variables (symbolized by "IV") are the presumed cause of another variable, while dependent variables (symbolized by "DV") are the presumed effect or outcome". Simply put, dependent variables are influenced by one or more of the independent variables (Christensen *et al.*, 2014: 47). The estimation equation 1 was modelled based on the secondary data from the annual financial statements and reports. From there, the Panel EGLS (Period SUR)model was used to determine relationships between debt financing and independent variables. Regression analysis was complemented by the use of Spearman Correlation analysis to determine associations between factors influencing debt and debt.

4.8.2 Model to analyse the different types of debt

To achieve objective number 2, which looks at an in-depth analysis of the various types of debt, the study used descriptive statistics.

4.8.3 Model to determine the extent of debt financing

The study analysed the extent of debt financing substantively preferred by MoEs, using descriptive statistics. The study analysed entries in the balance sheet using the basic accounting equation 1 and aggregate cross-sectional measures for each period to highlight the types of debt used and the extent of debt usage. In the same vein, other researchers, like Frank and Goyal (2005: 155), Smith (2012: 150) and Nyamita (2014: 114), used the same approach by analysing the common-size balance sheet and the common-size cash levels to determine the extent of debt financing within entities.

4.9 HYPOTHESES DEVELOPMENT

In light of the above discussion, the study formulated the following hypotheses based on the causal variables to test their influence on debt financing. As a result, the first point of departure was to test whether the casual variables have peculiar attributes to influence debt financing.

4.9.1 Factors influencing debt financing

- *H_1: Size of the entity influences debt financing positively*

  The above hypothesis was predicated from the premise of the trade-order theory. Moreover, there is an plethora of empirical literature supporting the notion that the size of an entity has a positive influence on debt financing (Antoniou *et al.*, 2008: 73; Luscombe, 2009: 46; Ahmed *et al.*, 2010: 9; Lim, 2012: 197; Bartoloni, 2013: 142); Nyamita, 2014: 123; and Sibindi, 2017: 103). On the contrary, it is important to note that the pecking-order theory posits a different view. According to Sibindi (2017: 103), the growth of an entity forces the entity to generate more retained earnings, which enables it to fund more operational costs out of retained earnings instead of debt. Despite this, this study expects size to be positively associated with debt finance.

- *H_2: Age of the entity influences debt financing positively*

  This hypothesis was based upon the notion that the principles of the pecking order theory postulate a significant relationship between the age of the entity and its debt. In terms of the hierarchical ladder of preferences, an entity uses retained earnings prior to using its debt. It is hypothesised that bigger entities would have established a good relationship with lenders while small entities are riskier in the market (Luscombe, 2009: 49).

- *H_3: Profitability of the entity influences debt financing negatively*

  Profitability was predicted to have a negative influence on debt financing as per the predictions of the pecking order theory. Authors such as Bartoloni (2013), Booth *et al.* (2001: 117), Rajan and Zingales (1995: 1457), Shyam-Sunder and Myers (1991: 221), Nyamita (2014: 123), and Sibindi (2017: 101) have affirmed this, among others. Contrary to this, the trade order theory predicts a positive association between the entity's profitability and debt financing.

- *H_4: Business risk influences debt financing negatively*

This hypothesis was formulated based upon the presupposition that different factors can pose a significant risk to the entity. Business risks could be based on both domestic and international monetary factors. This study predicted a negative impact on debt financing, which is consistent with the logic of the trade-off theory. In support of the above, a study by Luscombe (2009: 47) predicted a negative impact on long- and short-term debt. Expect the relationship between short-term debt and business risk can, however, to be low, particularly for an entity that relies on short-term debt compared to one that relies on long-term debt.

- *H_5: Corporate tax influences debt financing negatively*

Corporate tax is among the variables that are set to have a negative influence on the debt financing of an entity. As such, this hypothesis tested how corporate tax influences debt financing within the municipal entities. In this regard, the study predicted a negative influence.

- *H_6: Assets tangibility influences debt financing positively*

Drawing from the above hypothesis, assets tangibility is one of the casual variables, which can influence debt financing. Abor (2007: 173) posits that previous studies appeared to propose that entities with a higher proportion of fixed assets have the capacity to attract more debt. In terms of the trade-off theory, a positive relationship is predicted between assets tangibility and leverage while an inverse prediction is predicted by the pecking order theory. In light of this study, a positive relationship was predicted between asset tangibility and debt financing.

- *H_7: The growth of the entity influences debt financing negatively*

The above hypothesis is set to investigate whether the growth prospects of an entity have an influence on debt financing. According to the trade-off theory, bigger entities run a risk of bankruptcy if the operations are funded from debt. It further projected that when it comes to debt financing, there is an optimum point at which the benefit that is derived from the debt interest tax shield is maximum, beyond which point it diminishes (Sibindi, 2017: 102). The pecking order theory predicts contrary results. The hypothesis predicts a negative association between growth and debt financing of the entity.

- *H_8: Inflation rate influences debt financing negatively*

  and

- *H_9: Interest rate influences debt financing negatively*

  Macroeconomic factors, such as inflation and interest rate, are casual variables, which have an impact on an entity's debt financing. The change in these macroeconomic conditions may yield a positive or negative effect on debt financing depending on the type of debt the entity acquires. Chisasa (2014: 31) argues that economic stability and a conducive institutional framework are perceived to be preconditions for the positive influence of finance on economic growth. In light of the study, the above hypothesis predicted a negative influence between inflation and interest rates on an entity's debt financing.

- *H_{10}: Gross domestic product influences debt financing positively*

  In trying to determine the role that the GDP plays in influencing debt financing, the above hypothesis predicted a positive relationship between the GDP and debt financing.

- *H_{11}: Economic growth influences debt financing positively*

  The last hypothesis sought to examine whether economic growth influences debt financing. To a larg extent, it could have been argued that economic growth stimulates investment and job opportunities while the opposite applies. The study has noted the importance of economic growth, particularly in developing countries. The study, therefore, predicted a positive relationship between economic growth and debt financing.

4.10 METHOD OF DATA ANALYSIS

Data analysis is described as a procedure of gathering, drawing and validating conclusions derived from the data (Saunders *et al.*, 2012: 669). As stated earlier, an econometric Panel EGLS (Period SUR) regression technique was used and the quantitative analysis of secondary data was the preferred method for this research.. To meet the objectives of the study, the researcher used EViews to analyse data by means of panel estimation methods. In conjunction with the above, similar tools were used to determine the source of debt financing substantively preferred by CoJ municipal entities.

As mentioned before, secondary data was gathered from annual financial statements to check whether a relationship exists between debt finance and a number of explanatory variables. The data collected were analysed using the EViews software package. Precisely, the variables discussed in earlier sections of this chapter were imported from Microsoft Excel and estimated in EViews. The diagnostics tests were carried out, the model was found to be appropriate, and the results are presented in Chapter 5 through graphs and tables.

4.11   RELIABILITY AND VALIDITY

Babbie (2007: 143) identified reliability and validity as essential tools in research. According to LoBiondo-Wood and Haber (2014: 290), reliability is the ability of a research instrument to measure the attributes of variable or constructs consistently. Similarly, Struwig and Stead (2013: 138) defined reliability as the degree to which test scores are truthful, consistent or stable. The discussion suggests that reliability is primarily concerned with the consistency of measures. Moreover, Nyamita (2014: 133) argued that, if the variables of a study are not reliable, it becomes more challenging and ambiguous to test hypotheses or to make inferences about the relations between variables in quantitative research. Since the study applied a quantitative approach, reliable and objective annual financial statements were used to obtain data. Furthermore, a pilot study was conducted as a pre-testing instrument to improve the reliability of the study, using EViews.

LoBiondo-Wood and Haber (2014: 290) also defined validity as the extent to which a research instrument measures the characteristics of the concept accurately. There are two validity processes, namelyinternal and external validity. Polit and Hungler (1993:17) defined internal validity as the degree to which the effects of a dependent variable are a result of the independent variable and not emanating from peripheral variables. In contrast, external validity can be defined as the degree to which research findings can be generalised beyond the sample and setting of the study. To ensure validity, the study used variables, which had been tested to measure the variables under study commonly used by other researchers. Moreover, robustness tests and the Arellano-Bond tests were applied to test the validity and reliability of the study.

4.12   DELIMITATIONS

This study specifically focused on the municipal entities of the CoJ. As indicated earlier, all 13 entities were part of the sample study. The audited financial statements and information from the integrated annual report were used as a source to extract reliable data to answer the research questions. The debt ratio was used to determine the source of debt substantively preferred by these MoEs.

4.13   LIMITATIONS

The initial main objectives of the study sought to determine and establish factors that influence the debt financing of MoEs. Despite the strength of the methodologies used in the study, however, there are still some limitations. As mentioned earlier, the study used two measuring instruments to make the results valid and reliable as per the content and predictability of the research. Questionnaires, which consisted of 13 questions, were sent to participants. The response rate, however, was poor, making this a major limitation. The study, therefore, was limited to data collected from the annual financial statements and information from the integrated annual report, which produced a factual, valid and reliable study.

4.14   ANONYMITY AND CONFIDENTIALITY

Apart from the information obtained from the annual financial statements, the identity of participants from the lime questionnaire will be kept confidential, even though such information was never used in the study. In addition, the researcher upheld the anonymity of the participants who assisted in making the information available in compliance with the POPI Act. The purpose of the POPI Act, No 4 of 2013 is to promote the protection of personal information by both public and private bodies. It stipulates that all South African institutions conduct themselves in a responsible manner when collecting, processing, storing, and sharing another entity's personal information by holding them accountable should they abuse or compromise personal information in any way. Finally, the data from the study will be retained for 15 years for any further analysis and then disposed of appropriately.

4.15   ETHICAL CONSIDERATIONS

The study was strictly conducted in accordance with the University of South Africa's (Unisa's) Research and Ethics Policy. Prior to sending the request for additional information that was not readily available on the public domain an ethical clearance was obtained from the Unisa's College of Accounting Sciences Research Ethics Committee. A formal letter was sent to the MoEs requesting permission to be furnished with some information that was not accessible on the public domain. All information gathered with regard to this study was kept private and confidential by making use of pseudonyms as prescribed by the POPI Act.

4.16   CONCLUSION

This chapter has detailed the methodology applied in this study. Quantitative research methods were employed to gather and present data. The study also used a combination of a descriptive and correlational research design to deter- mine whether debt finance is related in any way to the various factors identified. Furthermore, longitudinal research techniques were used to analyse the sampled data for the five-year period of 2010–2015.

In addition, the chapter included a discussion on the research questions, object- tives and hypotheses. Section 4.7 detailed how the variables used in this study were measured. From there, the ethical considerations, delimitations, limitations, validity, and reliability issues were discussed. In conclusion, this chapter sets a firm basis for the next chapter, which focuses on the presentation and analyses of the findings of this study.

CHAPTER 5

DATA ANALYSIS AND DISCUSSION OF RESULTS

5.1   INTRODUCTION

The study is a quantitative research study using two components, namely descriptive and inferential statistics. This chapter presents the results of the data analysis and its findings. It further presents the results of testing the hypotheses developed in Chapter 1 of the study. The results of the study are discussed under the key subsections in line with the research objectives. In brief, the purpose of this chapter is to present the results regarding factors that influence the debt of MoEs for the City of Johannesburg. A statistical software, EViews (Econometric views), was used to conduct data analyses based on the Panel EGLS (Period SUR) regression model.

The first section of this chapter deals with descriptive statistics (section 5.2) followed by a correlation analysis (section 5.3) of the factors influencing debt financing of the MoEs. Section 5.3 also covers the extent of debt substantively preferred by MoEs. The rest of the chapter is organised as follows: section 5.4 looks at the results from the panel regression model; and the chapter concludes with a summary of the findings in relation to the objectives of the study.

5.2   DIFFERENT TYPES OF DEBT

The section below gives an overview of the interpretation and analysis of the results on the different types of debt used the by various MoEs for the CoJ. The data presented on the different tables below was extracted from MoEs of the CoJ for the period between 2011–2015.

5.2.1   Different types of debt used by MoEs within the CoJ

Tables 5.1 and 5.2 below present evidence of the common practice by MoEs in terms of the type of debt used within the CoJ. Table 5.2 presents the descriptive statistics of the type of debt used by the 13 MoEs for the period 2011–2015. Subsequently, in Table 5.2, the types of debt used by MoEs are presented and expressed as a percentage and ranked from highest to lowest. Moreover, it is worth noting that the data from both tables was extracted from the annual reports and annual financial statements of the 13 MoEs.

Both tables below provide empirical evidence that trade and other payables (89%) and short-term finance lease obligations (83%) are the common type of debt used by MoEs within the CoJ. Table 5.1 shows a maximum for trade and other payables and short-term finance lease to be 0.99 and 1.00 respectively. This means that, during the period under review (2011–2015), the total trade and other payables and short-term finance lease were not greater than 1.00. This phenomenon might be a way of avoiding debt to exceed assets and equity, since that consequently poses a serious risk of insolvency.

Table 5.1: Descriptive statistics of types of debt of MoEs for the CoJ

	N	Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of	Minimum	Maximum
Short Loan from Shareholder	47	0,27917514	0,20444695	0,28971794	1,022	0,297	0,117	0,586	0,00000000	1,00000000
Loans from Bank	10	0,00188652	0,00000000	0,00645022	4,161	0,297	18,100	0,586	0,00000000	0,03749296
Short Finance Lease Obligations	54	0,10567211	0,00660466	0,25169491	2,772	0,297	6,571	0,586	0,00000000	1,00000000
Trade and Other Payables	58	0,55589715	0,63828945	0,31281017	-0,494	0,297	-1,048	0,586	0,00000000	0,99144199
Tax & Vat Payable	32	0,02293144	0,00000000	0,04778583	3,587	0,297	15,836	0,586	0,00000000	0,28859676
Current Provision	49	0,02142684	0,01137604	0,02666381	1,905	0,297	4,016	0,586	0,00000000	0,12765921
Bankoverdraft	1	0,00004126	0,00000000	0,00020501	5,549	0,297	32,753	0,586	0,00000000	0,00139771
Current Differred Income	18	0,01296955	0,00000000	0,05411860	5,353	0,297	28,442	0,586	0,00000000	0,32820249
Long Loans from Shareholders	31	0,29025026	0,00000000	0,37754077	0,945	0,297	-0,708	0,586	0,00000000	1,00000000
Long Finance Lease Obligation	48	0,12668984	0,00701855	0,25025319	2,493	0,297	5,474	0,586	0,00000000	1,00000000
Employees Retirement benefits Obligation	35	0,16929036	0,00689708	0,30658096	1,752	0,297	1,514	0,586	0,00000000	1,00000000
Longterm Deffered Income	21	0,09852560	0,00000000	0,25179640	2,289	0,297	3,568	0,586	0,00000000	0,89424557
Deffered tax	10	0,09946696	0,00000000	0,19847056	2,256	0,297	4,875	0,586	0,00000000	0,88652980
Consumer deposits	21	0,00497811	0,00000000	0,01766951	3,441	0,297	10,656	0,586	0,00000000	0,08308127
LongTerm Provision	20	0,03979268	0,00000000	0,13960194	3,310	0,297	9,408	0,586	0,00000000	0,60639226
Project Funds payable	10	0,00399821	0,00000000	0,01541202	4,233	0,297	18,486	0,586	0,00000000	0,08989561

Source: Researcher (EViews statistical software: 2018)

Table 5.2: Types of debt between 2011 and 2015 expressed in percentages

Types of debt financing withing COJ		
	Number = 65	**Ranking % = 100**
Trade and other payables	58	89
Short finance lease obligations	54	83
Current provision	49	75
Long finance lease obligation	48	74
Short loan from shareholder	47	72
Employees retirement benefits obligation	35	54
Taxation and VAT payable	32	49
Long loans from shareholders	31	48
Long-term deferred income	21	32
Consumer deposits	21	32
Long-term provision	20	31
Current deferred income	18	28
Project funds payable	10	15
Loans from bank	10	15
Deferred tax	10	15
Bank overdraft	1	2

Source: Researcher's own compilation (2018)

Interestingly, current or short-term provision appears to be the third type of debt used by MoEs, with a ranking score of 75%. This is an indication that most MoEs modify their financial conditions and make provisions for the existing and future obligations. Provisions are followed by long-term lease obligations and short-term loans from shareholders at 74% and 72% respectively. Reliance on the two sources of debt is significant, and it is an indication that most MoEs are comfortable with financing their activities out of these two sources of funding. The mean of the long-term lease obligation (0.1267) is below the short-term loan from shareholder (0.2792). It could, therefore, be concluded that, on average, MoEs accessed short-term loans from shareholders more often compared to long-term lease obligations. In the same vein, Table 5.2 indicated that only 54% of the MoEs within the CoJ used employee retirement benefits as another source of funding during the period of study.

Despite the above-mentioned types of debt used by MoEs within the CoJ, other sources of debt considered by MoEs include taxation and VAT payable (49%), long-term loans from shareholders (48%), long-term differed income (32%), consumer deposits (32%), long-term provisions (31%), current differed income (28%) project funds payable (15%), loans from bank (15%) and deferred tax (15%). These sources of funding give a good picture that MoEs within the CoJ had an opportunity explore different types of debt during the period under study (2011–2015). Another interesting finding is that 2% of MoEs within the CoJ used a bank overdraft as a form of debt. This may suggest that MoEs tend to use fewer bank overdraft facilities compared to the other sources of debt within the CoJ. This may be owing to the suggestion that MoEs are discouraged to operate from overdraft business and operational model. Another reason could be that the existing bureaucratic process set by the parent municipality prohibits or regulates the process of short-term borrowings.

In summary, the findings presented in these two tables address one of the set objectives of the study, which is to investigate the different types of debt used by MoEs for the CoJ between a period 2011–2015. The results clearly identified those types of debt used by MoEs in the City of Johannesburg for the period 2011 to 2015.

5.3 THE EXTENT OF DEBT SUBSTANTIVELY PREFERRED BY MoEs FOR THE COJ

The section below presents a summary of the descriptive statistics from the common-size statement of financial position. Table 5.3 below demonstrates the extent of debt substantively preferred by MoEs in the CoJ. In fact, Table 5.3 further details the trends of such debt within the MoEs in the CoJ for the five years period from 2011–2015.

Table 5.3: Descriptive statistics for items of common-size statement of financial position from 2011 to 2015

		Current Asset	NonCurrent Assets	Total Assets	Current Liabilities	NonCurrent Liabilities	Total Liabilities	Equity	Total Liabilities and Equity
					Statistics				
N	Valid	65	65	65	65	65	65	65	65
	Missing	0	0	0	0	0	0	0	0
Mean		0,55172926	0,44827074	1,00000000	0,49497636	0,22512857	0,72010493	0,27989507	1,00000000
Median		0,59722413	0,40277587	1,00000000	0,46343339	0,20038847	0,69008796	0,30991204	1,00000000
Std. Deviation		0,27637971	0,27637971	0,00000000	0,25758787	0,22991801	0,30931366	0,30931366	0,00000000
Skewness		-0,155	0,155		0,889	2,023	0,612	-0,612	8,062
Std. Error of Skewness		0,297	0,297	0,297	0,297	0,297	0,297	0,297	0,297
Kurtosis		-1,270	-1,270		0,474	4,974	0,282	0,282	65,000
Std. Error of Kurtosis		0,586	0,586	0,586	0,586	0,586	0,586	0,586	0,586
Minimum		0,04135817	0,00851749	1,00000000	0,15268564	0,00000000	0,22942831	-0,65280841	1,00000000
Maximum		0,99148251	0,95864183	1,00000000	1,33318514	1,10221483	1,65280841	0,77057169	1,00000001

Source: Researcher (EViews statistical software: 2018)

As shown in the results of descriptive statistics in Table 5.3, the maximum value of the total debt was 1.652, with a short-term debt of 1.333 and long-term debt of 1.102. Similarly, the maximum value of total assets ratio is 1.000, with current assets and non-current assets of 0.991 and 0.959 respectively. The results above imply that, during the period 2011–2015, some MoEs relied more on borrowings than their total assets. This is consistent with the findings from a similar study conducted in Kenya by Nyamita (2014: 149), who found that SoEs borrowed more than their total assets that implies that some entities were insolvent and had a high risk of being put under insolvency.

In comparison with the above explanation, the minimum value of total debt was 0.229, while that for short-term debt was 0.153 and long-term debt was 0.0. On the other hand, the maximum value for total debt was 1.65. That of short term debt was 1.33 while for long term debt it was 1.10. These results suggest that a small number of MoEs relied on short-term borrowings, while there was less commitment with regard to the long-term borrowings. The standard deviation for short-term debt was 0.257 and 0.230 for long-term debt, while for total debt it was 0.309 during the five years period from 2011–2015. This implies that, during the year of the study, the reliance on debt varied for most of the MoEs under study.

This is substantiated by the fact that, even though long-term debt has a maximum of 1.00, most MoEs do not rely on long-term debt (as shown by a mean of 0.23, a standard deviation of 0.23 and a median of 0.20 all clustered together). Furthermore, the results showed a minimum negative total equity of 0.653 and a maximum positive equity of 0.771, both of which are lower than the minimum and maximum values for total debt, which are 0.229 and 1.653 respectively. This suggests that MoEs within the CoJ during the year of the study preferred to use debt as a first source of financing. The findings are in line with the pecking order theory as postulated in the literature review by Myers (1984: 581), Arnold (2005: 536), Gangeni (2006: 12), Abor (2007: 31), and Elomo (2014: 11) that entities prefer to make use of retained earnings, followed by debt and finally equity.

5.4 THE ACCEPTABLE LEVEL OF DEBT WITHIN MoEs FOR COJ

Table 5.4 below presents a common size statement of financial position, where the values are expressed as a percentage for a five-year period between 2011–2015. The results in the table explain the trends and behaviour of debts when it comes to MoEs borrowings more effectively. The results are also linked to the third and fourth research objectives and research questions of the study.

Table 5.4: Common-size statements of financial position from 2011 to 2015

	Average statement of financial position's item as a fraction of total assets					
	2011	**2012**	**2013**	**2014**	**2015**	**Average**
Current assets	0.5285	0.5549	0.5152	0.5759	0.5937	0.5531
Non-current assets	0.4715	0.4451	0.4875	0.4241	0.4063	0.4469
Total assets	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**
Short-term debt	0.4461	0.4587	0.4882	0.4961	0.5803	0.4939
Long-term debt	0.2814	0.2603	0.2335	0.2123	0.1315	0.2238
Total liability	**0.7275**	**0.7190**	**0.7216**	**0.7084**	**0.7117**	**0.7177**
Equity	0.2725	0.2810	0.2784	0.2916	0.2883	0.2824
Total liability and equity	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**	**1.0000**

Source: Researcher's own compilation (2018)

The table shows a consistent trend in terms of borrowings among MoEs. Precisely, it suggests that during the years under study, total debt was stable at an average of

72%. The behaviour in borrowing is consistent with findings by researchers, namely Lemmon *et al.* (2008: 1589), Frank and Goyal (2009: 156) and Nyamita (2014: 149) who noted the stability in the total debt ratio. A comparison between short- and long-term debt ratios showed a consistent behaveiour with a slight increase of 58% in 2015 under short-term debt, while there was a slight decrease of 13% on the long-term debt ratio. As a result, comparing the two, short-term debt appears primarily to be used by MoEs as opposed to long-term debt ratio.

It can be concluded that MoEs within the COJ compared to the long-debt ratio preferred the short-term debt ratio. It is interesting to note that equity financing was constant with an average of 28%. This confirms the results in Table 5.4 suggesting that MoEs within the COJ preferred debt as a source financing. Based on the above results and on empirical evidence from authors like Lemmon *et al.* (2008: 1589), Frank and Goyal (2009: 156) and Nyamita (2014: 149), it is clear that the acceptable level of short term debt can cluster around an average of 49% while that of long term debt can be around 22%.

5.5   REGRESSION RESULTS ON FACTORS INFLUENCING DEBT FINANCING

Table 5.5 below presents Panel EGLS (Period SUR) regression analysis of results to determine whether the factors identified in the hypothesis section affect debt finance for MoEs in the CoJ. As indicated above, in section 1.8.6, a panel regression model was used to identify the relationship between debt financing and a number of factors within MoEs for the COJ.

5.5.1   Regression analysis of descriptive statistics on factors influencing debt financing

The aim of descriptive statistics is to summarise and describe the features of data in a study (Christensen *et al.*, 2014: 394). This section presents the descriptive statistics of the dependent and independent variables considered in the study. The descriptive statistics are presented in Table 5.5 below. The table includes measures of central tendency, namely mean and median, standard deviation, minimum, maximum total number of observations (N), skewness, and kurtosis. Moreover, descriptive statistics provide information regarding potential outliers and non-normality in the data. In dealing with the regression analysis process, all

outliers that could influence the results were eliminated through a data cleaning process. According to Nyamita (2014: 162), the regression analysis process requires data cleaning in order to ameliorate outliers that may influence results. The paragraphs below Table 5.5 provide a detailed discussion on the descriptive statistics provided in the table.

Table 5.5: Descriptive statistics

VARIABLES	MEAN	MEDIAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	MINIMUM	MAXIMUM
N	65	65	65	65	65	65	65
TDA	0,7250	0,6900	0,3066	0,614	0,335	0,2300	1,6500
SIZE	18,1025	18,7300	2,3542	-0,919	0,066	12,1800	21,9100
AGE	16,4615	18,0000	4,6371	-0,430	-1,376	8,0000	23,0000
PROF	3,8914	3,4159	13,3547	-0,496	3,051	-44,8656	46,0000
BR	2,3680	1,3088	22,6336	-3,098	25,301	-137,6238	83,6104
TAX	28,4245	28,0000	9,9228	-0,614	3,433	0,0000	57,0000
TANG	36,9848	27,0533	29,6342	0,181	-1,604	0,6622	86,0000
GA	8,9105	5,3535	12,2724	3,044	11,587	0,0843	72,6794
INF	5,5840	5,3200	0,4533	1,031	-0,485	5,1800	6,4100
INT	9,1000	9,0000	0,4094	0,183	-0,693	8,5000	9,7500
ENG	2,2200	2,2000	0,6787	0,287	-0,924	1,3000	3,3000

Source: Researcher (EViews statistical software: 2018)

Table 5.6: Explanation of the variables in Table 5.5 above for ease of reference

Variable	Description	Method used
N	Number of observations	65
TDA	Total debt ratio	Total debt/Total assets
Size	Size of the entity	Natural logarithm of total assets
Age	Age of the entity	Number of years since the foundation
Prof	Profitability	Operating profit/Annual sales
BR	Business risk	Total debt/Total equity
Tax	Corporate tax	Income tax charge/Profit before tax
TANG	Entity's nature of assets (tangibles)	Tangible assets/Total assets
GA	Growth opportunity (entity)	Capital expenditure/Total assets
INF	Inflation rate	Consumer price index (CPI)
INT	Interest rate	Average interest rate
ENG	Economic growth	Annual gross domestic product (GDP)

Source: Researcher (EViews statistical software: 2018)

According to Table 5.5, the total debt ratio of MoEs within the CoJ has a mean value of 72.5% (0.7250) and a median value of 69% (0.6900). The leverage variable ranges from a minimum of 23% (0.2300) to a maximum value of 165% (1.6500), with the standard deviation of 30.7% (0.3066). The results indicated by the mean value of 72.5% (0.7250) on the total debt ratio suggest that MoEs within the CoJ are highly leveraged. As a result, this suggests that those entities are incurring greater financial risk. In summary, the results indicate that MoEs within the CoJ commonly use a greater portion of debt. The results from the table resonate with other studies conducted both within and outside South Africa. In fact, a study conducted by Elomo (2014) corroborated these findings when the author found that start-up firms in South Africa are leveraged at 62.2% (0.622). In addition, this study was based on a sample size of 32 JSE listed firms. Similarly, a study by Nyamita (2014) reported that state-owned cooperation in Kenya are highly levered with an average leverage rate of 64.1% (0.641). The author used a sample of 50 income generating state corporations in Kenya.

The descriptive statistics in Table 5.5 show how MoEs within the CoJ differ when it comes to size, age, profitability, business risk, tax rate, asset tangibility, and growth opportunity. In this regard, the summary of the statistics results show that the size of the MoEs for the CoJ, in terms of the value of total assets, has a mean value of 18.103 and median value of 18.730, Std. deviation of 2.354, and it ranges from a minimum value of 12.180 to a maximum of 21.910. This suggests that the average size of the entities is approximately more than 18 times the value of total assets. Interestingly, the mean is lower than the median though the values are close to each other. Moroever, the variable is slightly skewed to the left as indicated by a skewness value of 0.919. According to Kim and White (2003: 4), however, this value is not critical at all as thresholds for deviations from normality should be between -1 and +1 or, conservatively, between -2 and +2. In terms of age, the descriptive results show that the entities have a mean value of 16.463 and median of 18.000, with a Std. deviation of 4.637 and range from a minimum value of 8.000 to a maximum value of 23.000. In a nutshell, this implies that the average age of MoEs for the City of Johannesburg is approximately 16.5 years and this is probably influenced by a few small entities as the median age is 18 years, indicating that 50% of the entities are younger than 18 years.

In terms of profitability, the results show a mean value of 3.891, a median of 3.416 and a Std. deviation of 13.355. It ranges from a minimum of 44.866 to a maximum value of 46.000. This indicates that, on average, profitability in sales of MoEs for the CoJ was 3.9% for the period between 2011–2015. The business risk of the entities shows a mean of value 2.368, a median of 1.309 and a Std. deviation of 22.634. Moreover, the business risk ranges from a minimum range of 137.624 to a maximum range of 83.610. This suggests that, on average, the business risk on MoEs for the CoJ on total debt/total equity is 2.4%. On the other hand, the tax rate has shown a mean of 28.425, median of 28.000 and a Std. deviation of 9.923. It ranges from a minimum value of 0.000 to a maximum value of 57.00. The results suggest that the average tax rate for entities is 28%, which ordinarily is in accordance with the South African corporate tax rate during the period of the study (2011–2015).

Assets tangibility has a mean value of 36.985, a median value of 27.053, a Std. deviation of 29.634, and it ranges from a minimum of 0.6632 to a maximum of 86.000. This indicates that, on average, tangible fixed assets account for 36.99% of total assets. Furthermore, the variable opportunity growth has a mean of 8.911, a median of 5.354 and a Std. deviation of 12.272. The variable also ranges from 0.084 to 72.680. The results imply that the MoEs for the CoJ have an average of 8.91% for fixed assets. Inflation and interest rates both have a mean of 5.584 and 9.100, with a median of 5.320 and 9.00 respectively. They also have a standard deviation of 0.453 and 0.409, with a range from a minimum of 5.180 and 8.500 to a maximum of 6.410 and 9.750. In a nutshell, inflation and interest rate are on an average of 5.6% and 9.1% respectively. The last independent variable is economic growth. The table shows the average of 2.220, a median of 2.200 and a standard deviation of 0.679. It also has a minimum range of 1.300 to a maximum of 3.300. This implies that average growth on MoEs is 2.2%, which is within the South African economic growth for the period of the study (2011–2015). It is also very clear that the skewness and kurtosis values of all the variables, for the variables BR and GA where logarithm transformation was applied, were between the threshold of +2 and -2, which was used to indicate the normal distribution for these variables.

5.5.2 Results from Spearman correlation analysis

Spearman's correlation analysis was conducted to determine the factors that can influence debt finance either positively or negatively. Saunders *et al.* (2012: 478) describe correlation analysis as a tool used to determine change; one variable is accompanied by a change in another. As indicated before, the main objective of this study has been to determine factors influencing debt financing of MoEs. As a first step, Table 5.7 presents the Pearson correlation coefficients Sig (2-tailed) for the variables used in the study. The Pearson correlation coefficient analysis is robust against violations of normality and, therefore, applies to all the study variables (Havlicek & Peterson, 1976).

The main aim of the correlation analysis was to understand the strength and direction of the relationships between each pair of variables. While conducting the analysis, however, the researcher had to ensure that there was no multi-collinearity. Multicollinearity exists when two or more of the predictors in a regression model are highly correlated, so inflating the standard errors of the analysis leading to incorrect inferences. Generally, absolute correlation values above 0.7 can indicate potential multicollinearity. The results in Table 5.7 show that the inflation rate could be a potential independent variable that could be excluded owing to its high correlation values with the interest rate (.857) and economic growth (.874). Whereas the results suggest that inflation rate and interest rate as independent variables might be highly correlated. It is worth noting that these variables did not use a common proxy i.e. nominal interest rate. In that regard, it could be concluded that no problem of perfect multicollinearity was created.

On the other hand, if multicollinearity was found, the inflation rate would have been excluded from the model due to the problem of perfect multicollinearity. In the study, to obtain the regression results, variables with the highest probability values were dropped until the adjusted r-square value was at its optimal value, including inflation rate. Table 5.9 therefore presents the relevant independent variables (INT, PROF, SIZE, TAX, AGE and BR) as the factors that had an impact on the outcome of the panel EGLS (Period SUR) model. The exclusion of such variables could not have had an impact on the results and as proven before by Li et al. 2014 who experienced similar challenges.

Table 5.7: Correlations analysis

		TDA	SIZE	AGE	PROF	BR	TAX	TANG	GA	INF	INT	ENG
						Correlations						
TDA	Pearson Correlation	1										
	Sig. (2-tailed)											
SIZE	Pearson Correlation	.347**	1									
	Sig. (2-tailed)	0,005										
AGE	Pearson Correlation	0,129	0,175	1								
	Sig. (2-tailed)	0,304	0,163									
PROF	Pearson Correlation	-0,242	0,021	0,101	1							
	Sig. (2-tailed)	0,052	0,870	0,422								
BR	Pearson Correlation	-0,026	0,022	-0,179	0,088	1						
	Sig. (2-tailed)	0,839	0,861	0,154	0,484							
TAX	Pearson Correlation	0,090	-0,042	0,075	-0,085	-0,096	1					
	Sig. (2-tailed)	0,475	0,741	0,553	0,498	0,447						
TANG	Pearson Correlation	-0,041	0,113	.551**	0,108	-.366**	0,010	1				
	Sig. (2-tailed)	0,748	0,369	0,000	0,393	0,003	0,937					
GA	Pearson Correlation	-.466**	-0,135	-0,108	-0,097	-0,060	-0,028	0,077	1			
	Sig. (2-tailed)	0,000	0,282	0,394	0,441	0,633	0,824	0,543				
INF	Pearson Correlation	-0,036	0,173	.275*	0,136	0,077	-0,100	0,018	0,012	1		
	Sig. (2-tailed)	0,777	0,168	0,026	0,281	0,544	0,427	0,886	0,924			
INT	Pearson Correlation	-0,018	0,168	0,241	0,089	0,200	-0,079	0,010	-0,010	.857**	1	
	Sig. (2-tailed)	0,884	0,180	0,053	0,482	0,110	0,530	0,937	0,937	0,000		
ENG	Pearson Correlation	0,054	-0,181	-.284*	-0,140	0,042	0,139	-0,030	-0,051	-.874**	-.574**	1
	Sig. (2-tailed)	0,670	0,149	0,022	0,265	0,738	0,269	0,809	0,687	0,000	0,000	

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher (EViews statistical software: 2018)

The following guidelines have been proposed:

	Coefficient, r	
Strength of Association	**Positive**	**Negative**
Small	.1 to .3	–0.1 to –0.3
Medium	.3 to .5	–0.3 to –0.5
Large	.5 to 1.0	–0.5 to –1.0

Sources: Laerd Statistics

Source: Timothy Gehle, Oct 2013, Laerd Statistics

The results of the correlation coefficients analysis demonstrate that the total debt ratio (TDA) is positively related to size as indicated by a positive coefficient of 0.347. The relationship is, however, not strong since the coefficient is almost close to 0. Moreover, GA was found to influence debt negatively and this is shown by a coefficient of -0.466. It is also worth noting that this association is moderately strong since the value is below 0.5.

There is a positive association between age and TDA as shown by a correlation coefficient of 0.129, positive. The association is weak, however, since the value is close to 0.1. This outcome mirrors that by Dang (2013: 176), Bassey, Arene and Okpukpara (2014: 44), Baltacı and Ayaydın (2014: 50), and Nyamita (2014: 166) who noted that size and age are indications of trade-off and agency theory. This implies that large and old MoEs tend to use more debt to finance their activities.

On the other hand, the results above show that Profitability (PROF, -0.242) and Growth Opportunity (GA, -.466) variables are negatively related to the total debt ratio (TDA). The Growth opportunity's (GA, -.466) association to debt ratio (TDA) is negative but of medium/moderate strength, while the Profitability (PROF, -0.242) association to debt ratio (TDA) is small/weak, in a negative direction and not statistically significant at the 5% level of significance, although statistically significant at the 10% level of significance . In support, Nyamita (2014: 166) found a negative correlation between Profitability (PROF) and total debt ratio (TDA). The results of the study suggested that profitable and growing MoEs tend to use less debt to finance their activities. The findings in a study by Elomo (2014: 28), however, discovered that variables, such as profitability (PROF) and growth opportunity (GA), within private entities in South Africa are positively correlated to total debt, given the fact that there are different results in relation to profitability. Other researchers using data from other MoEs apart from Johannesburg can further investigate this concept.

The results of the correlation coefficient analysis also demonstrate that variables, like tangibility (TANG) (-0.041), business risk (BR) (-0.026), inflation rate (INF) (-0.036), and interest rate (INT) (-0.018), are negatively related to debt. Their association is, however, weak considering that the coefficients are very close to -0.1. The p-values also indicate that the association of these variables with total debt e is of no statistical significance. The results on effective tax rate and economic growth corroborate Nyamita's (2014: 166) findings where total debt leverage (TDL) was found to be positively and significantly related with several measures of factors influencing debt financing, such as interest rate (INT) and gross domestic product (GDP).

In terms of the study, GDP was used to measure economic growth (EGN) which was found to be positively related to total debt (TDA). In conclusion, the results above demonstrated that size and growth opportunity significantly influence total debt. The section below shows results from the regression analysis carried out to determine whether a relationship exists between the debt finance as a dependent variable and a number of independent firm and macro-specific factors.

5.6   PANEL DATA

5.6.1   Panel data regression results

Chisasa (2014: 62) describes panel data as a combination of both cross-section and time series data. When dealing with panel data, the same cross-sectional unit is surveyed over time. In short, panel data consists of both space and time dimensions and regression models based on such data are known as panel data regression models. This section presents the results of the panel data regression modelling. The Panel data regressions (EGLS (Period SUR) analysis was used to identify the factors influencing debt financing within the CoJ. This was done by determining the nature of the relationship between debt and various factors. Moreover, the significance of such relationships was determined at 5% in accordance with previous researchers such as Nyamita (2014), Feragen (2014), Ebiringa *et al.* (2014) and Masocha (2017), to mention only a few. This implies that if the p-value is >0.05, the result is statistically insignificant; on the other hand, if the p-value is <0.05, it is statistically significant. The model includes all the independent variables identified in the earlier chapters of this study.

The multiple regression results on Table 5.8 presents results that included all the variables of interest and established the adequacy of the model and the statistical significance of each variable in the context of the complete set of variables considered. The observations consisted of 65 with-in a period of five years (2011–2015), while the cross-section included was 13 and the method applied was EViews statistical software.

Table 5.8: Panel data regressions

Dependent Variable: TDA
Method: Panel Least Squares
Date: 11/20/18   Time: 10:37
Sample: 2011 2015
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.182432	1.018209	0.179170	0.8585
ENG	0.024881	0.062033	0.401086	0.6899
GA	-0.010749	0.002725	-3.944323	0.0002
INT	-0.026488	0.100781	-0.262831	0.7937
BR	-0.000494	0.001618	-0.305350	0.7613
PROF	-0.006317	0.002484	-2.542696	0.0138
SIZE	0.039318	0.014180	2.772684	0.0076
TANG	-0.000947	0.001433	-0.660782	0.5115
TAX	0.001392	0.003317	0.419763	0.6763
AGE	0.008114	0.009085	0.893113	0.3757

R-squared	0.400170	Mean dependent var		0.724967
Adjusted R-squared	0.302016	S.D. dependent var		0.306618
S.E. of regression	0.256165	Akaike info criterion		0.254650
Sum squared resid	3.609134	Schwarz criterion		0.589171
Log likelihood	1.723872	Hannan-Quinn criter.		0.386640
F-statistic	4.076956	Durbin-Watson stat		0.650151
Prob(F-statistic)	0.000475			

Source: Researcher (EViews statistical software: 2018)

In order to obtain the regression result in Table 5.9, it was considered important to establish, in addition to the above result (Table 5.8), a set of predictors (independent variables) that would maximize the adjusted R square value. The resulting optimal regression model, provided a set of predictors (independent variables) that maximized the proportion of variance in the dependent variable that could be predicted by the resulting set of variables. In generating the final results, variables with the highest probability value (i.e. insignificant) were discarded one by one and the regression model was re-run with the remaining variables until the adjusted r-square value was at its optimal value. The identification of the optimal value was accomplished when the optimal value for the adjusted r-square value was obtained. Regression results in Table 5.9 below include final independent variables (INT, PROF, SIZE, EG, AGE and BR) which have an impact on the outcome of the optimal data regression model. The adequacy of the model is measured by the adjusted R² value, which shows the percentage of variance in the dependent variable explained by the set of independent variables.

Table 5.9: Optimal panel data regression

```
Dependent Variable: TDA
Method: Panel Least Squares
Date: 11/27/19   Time: 21:54
Sample: 2011 2015
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.665310	0.376627	-1.766494	0.0826
PROF	-0.005525	0.002171	-2.544346	0.0136
SIZE	0.025891	0.012130	2.134454	0.0370
AGE	0.016900	0.006243	2.706897	0.0089
LBR_1	0.142085	0.022382	6.348082	0.0000
EG	0.063147	0.036515	1.729343	0.0891
INT	0.042928	0.026269	1.634179	0.1076

Root MSE	0.202021	R-squared	0.559108
Mean dependent var	0.724967	Adjusted R-squared	0.513499
S.D. dependent var	0.306618	S.E. of regression	0.213865
Akaike info criterion	-0.145505	Sum squared resid	2.652813
Schwarz criterion	0.088660	Log likelihood	11.72892
Hannan-Quinn criter.	-0.053112	F-statistic	12.25860
Durbin-Watson stat	1.220234	Prob(F-statistic)	0.000000

Source: Researcher (EViews statistical software: 2019)

As indicated above, the process to arrive at the final optimal panel data regression on table 5.9, started with the selection of the variable with the highest significance value above 0.1 the variable selected were deleted from the analysis and the regression model calculated. The process stop when the deletion of an additional variable, cause no, or a decrease, in the adjusted R square value. Table 5.9 therefore presents the relevant independent variables as the factors that were included in the optimal regression model. Howeever, Table 5.9 does not address the possibility of serial interaction and heteroscedasticity. As a result, Period SUR (PCSE) standard errors & covariance was run to address serial interaction and heteroscedasticity.

The data in Table 5.10 doesn not only analyzes the findings, but also discusses and addresses any potential serial interference and heteroscedasticity. It is worth noting that there are a number of models used to tackle autocorrelation and heteroscedasticity, i.e. Prais-Winsten, Durbin Watson, Arellano-Bond AR (1) and AR (2) p-tests, Bruesh-Godfrey, just to mention a few.

However, the most widely discussed approaches, the Cochrane-Orcutt, Prais-Winsten, Hatanaka, and Hildreth-Lu procedures, are multi-step approaches designed so that estimation can be performed using standard linear regression.

These approaches proceed by obtaining an initial consistent estimate of the AR coefficients and then by estimating the remaining coefficients through a second-stage linear regression. Thus, all these approaches suffer from important drawbacks which occur when working with models containing lagged dependent variables as regressors, or models using higher-order AR specifications (In the same vein, there is no clear serial correlation (MacKinnon & Davidson (1993) and Greene (2008). The rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Therefore, there is no cause for concern in results table 5.10 about serial interaction and heteroscedasticity because Period SUR (PCSE) standard errors & covariance was introduced to deal with any possible autocorrelation and heteroscedasticity.

Table 5.10: Panel data EGLS (Period SUR)

Dependent Variable: TDA
Method: Panel EGLS (Period SUR)
Date: 11/27/19   Time: 22:00
Sample: 2011 2015
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65
Linear estimation after one-step weighting matrix
Period SUR (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.151930	0.341482	-0.444914	0.6580
PROF	-0.003547	0.001130	-3.139223	0.0027
SIZE	0.015681	0.008494	1.846053	0.0700
AGE	0.008758	0.005027	1.742232	0.0868
LBR_1	0.147954	0.015585	9.493612	0.0000
EG	0.053154	0.023138	2.297232	0.0252
INT	0.023255	0.023686	0.981785	0.3303

Weighted Statistics

Root MSE	0.958310	R-squared	0.738048
Mean dependent var	3.834926	Adjusted R-squared	0.710949
S.D. dependent var	2.623073	S.E. of regression	1.014492
Sum squared resid	59.69327	F-statistic	27.23572
Durbin-Watson stat	1.909236	Prob(F-statistic)	0.000000

Unweighted Statistics

R-squared	0.531991	Mean dependent var	0.724967
Sum squared resid	2.815974	Durbin-Watson stat	1.076358

Source: Researcher (EViews statistical software: 2019)

The Panel EGLS (Period SUR)s model analysis shows a weighted statistics r² (r-squared) value of 74% (0.7380) and unweighted statisticsn r² (r-squared) value of 72% (0.7249). The weighted statistics shall therefore be used for the purpose of the results of the study for the interpretation of the r-square. The change in the dependent variable (debt), therefore, is largely explained by change in the independent variables. Clearly, this suggests that changes in debt are perfectly explained by changes in independent variables, such as interest rate (INT), profitability (PROF), size, economic growth (EG), age and business risk (BR).

5.6.2 Empirical results entity specific factors

Table 5.11 below gives an interpretation and summary of the results from panel data EGLS (Period SUR) in Table 5.10. It shows the factors influencing debt financing of MoEs within the CoJ, and those factors include interest rate (INT), profitability (PROF), size (SIZE), economic growth (EG), age of the entity (AGE) and BR (Business risk). It is important to mention, however, that not all in-dependent variables contributed to the strength of the model. As a result, such variables were automatically eliminated. The discussion that follows Table 5.11 affirms or rejects what has been the predicted in the hypotheses section in Chapter 1. Before discussing the regression results, it is important to take note of the predicted association between debt and the various independent variables, based either on theory or on empirical evidence.

Table 5.11: Hypothesis predictions vs outcomes

Variable	Predicted Effects	Outcomes Effects	Association
Interest rate	Negative	Positive	Insignificant
Profitability	Negative	Negative	Significant
Size	Positive	Positive	Insignificant
Economic growth	Positive	Positive	Significant
Age	Positive	Positive	Insignificant
Business risk (BR/LBR_1)	Positive	Positive	Significant

Source: Researcher's own compilation (2018)

- **Testing hypothesis H₁:** Interest rate influences debt financing negatively

  The predictions in Table 5.10 show that a positive relationship between interest rate and debt. This is confirmed by the regression results showing a positive coefficient of 0.0233. Interest rate was, therefore, found to be positively related to debt. Despite this positive association, a p-value 0.3303 is indicative of a insignificant relationship since an acceptable p-value of 0.05 is considered for the purposes of this study. These results imply that interest rates in South Africa influence the debt of MoEs positively. In other words, an increase in interest rates cause higher borrowing costs, consequently, they would less demands on goods and services because less spending.

  The results of the study resonated with the findings by other researchers such as Mekonnen (2016: 133) and Lemma, and Negash (2013: 1104) that found a positive relationship between interest rate and debt. This, however, is in contrast to results from studies conducted by Huang & Song, 2006: 32; (Antoniou, Guney & Paudyal, 2008: 73; De Jong, Kabir & Nguyen, 2008: 1961; Jõeveer, 2013: 306; Foster & Young, 2013: 6; Nyamita, 2014: 175), who found a negative relationship between interest rate and debt financing. Suffice it to say that previous researchers have given us inconsistent results based on different models. In conclusion, the results from this study rejects the predicted null hypothesis on section 1.8 in Chapter 1 that says that interest rate influences debt negatively.

- **Testing hypothesis H₂:** Profitability influences debt financing negatively

  The results in Table 5.10 show that profitability, measured by operating profit as a ratio of annual sales, negatively influences the debt of MoEs within the City of Johannesburg. This is shown by the negative coefficient of -0.0035. The relationship is, however, significant as showned by a p-value of 0.0027. These results affirmed the findings by several researchers, such as De Jong, Kabir and Nguyen (2008: 1961), Luscombe (2009: 59), Smith (2012: 157), Jõeveer (2013: 306), Nyamita (2014: 171) and Mekonnen (2016: 133) who found profitability to have a negative influence on debt.

These results, together with those mentioned above, are in accordance with the predictions of the pecking order theory. The pecking order theory presumes that entities with higher profitability prefer to use internal financing before opting for debt, so a negative relationship is expected between profitability and debt (Baltacı and Ayaydın, 2014: 49). Briefly, the results of the study suggest that profitable MoEs use less debt in financing their activities. This could be a sign that the powers of management and the boards of MoEs in terms of debt-related decisions are limited. As a result, they tend firstly to utilise profits before borrowing funds. In conclusion, one can say that the results confirm the predicted hypothesis in Chapter 1, and they align to the foundations laid by the pecking order theory.

- **Testing hypothesis H$_3$:** Size influences debt financing positively

The results are indicative of a positive relationship between the size of an entity and debt, as shown by a coefficient of 0.0157. Moreover, the relationship is statistically insignificant with a p-value of 0.0700. It is important to note that the outcome of these tests is consistent with the findings by other researchers, such as Abor (2007: 120) and Mkhawane (2010: 48), who found a positive relationship between size and debt. In support of a positive relationship between size and debt, the results are consistent with both trade order and pecking order theories, both of which predict that large entities should be highly leveraged compared to small entities (Sibindi 2017: 150). In the context of MoEs, their results suggest that, when the entities grow, they require more financial resources and they stand to benefit from an interest tax shield. Moreover, the results suggest that MoEs require more debt only when they grow. As a result, they tend to depend more on formal finance as opposed to informal sources of finance, such as provisions, which tend to be inadequate (Abor 2007: 120).

In contrast, there are couple of researchers who have observed that a negative relationship exists between size and debt. Among those are Rajan and Zingales (1995: 1451), Titman and Wessels (1988: 14), Nyamita (2014: 173), Baltacı and Ayaydın (2014: 49). The findings of the above researchers resonate within the principles of pecking order theory.

Baltacı and Ayaydın (2014: 49) have indicated that the pecking order theory of debt financing often assumes that bigger, more diversified state-owned companies will use less debt and thus expect the size of the company to be negatively linked to debt financing. In conclusion, the contrary outcome of the hypothesis suggests that, in the context of the City of Johannesburg, the MoEs do not follow the principle of pecking order theory. Size, therefore, has a positive influence on the debt of MoEs within the CoJ and the results confirm and support the predicted hypothesis in section 1.8.

- **Testing hypothesis H4:** Economic growth influences debt financing positively

The empirical results on Table 5.10 show a positive association between economic growth and debts with a coefficient of 0.0532. This relationship is, however, significant as shown by a p-value of 0.0252. The results are consistent and affirm the predicted hypotheses as indicated in Table 5.11. The findings are similar to Alfaro et al. (2004) and Choong et al. (2010: 108) that says economic growth affects the debt financing positively. This means that growth in the economy allows the company to borrow less, hence, Choong et al. (2010: 108) believe that in a developed economies with advanced capital markets, private debt such as bank loans improves the country's economic growth, hence private debt, like bank loans, is still common amongst European state-owned corporations.

In contrary, Agbloyor et al. (2014: 138) posits that in decaying private capital flows into its component parts, factors such as private debt, foreign equity portfolio investment and foreign direct investment, have a negative impact on economic growth. Thus, economic growth result into a decrease in debt financing while it increases the equity financing Boyd and Smith (1998: 552). Although Agbloyor et al. (2014: 148) argued that economic growth could have a negative impact on debt financing. However, that cannot be generalized because most of the researchers mentioned earlier confirm the outcome of these results that there is a positive relationship between economic growth and debt financing. Such positive effects on debt financing indicate that more efficient positive economic growth results in more prudent lending and consequently the results affirmed the predicted hypotheses.

Testing hypothesis H₅: Age influences debt financing positively

The age of the entity is one of the independent variables that was hypothesised to have a positive and insignificant relationship with the debt of MoEs. The variable was measured as the number of years the MoE has been in existence since its establishment. The variable was set or estimated to have a positive relationship with debt. The panel regression results in Table 5.9 show that age has a positive (0.0088) association with debt and that the association is insignificant at 5% (0.0868). The results align with the prediction of the null hypothesis set in section 1.8 of Chapter 1. This also affirms the findings by Abor (2007: 59) who indicated that the age of the firm is significantly and positively related to total debt ratios. Firms that are operational for longer, therefore, have a better opportunity to access the debt provided compared to newly established firms.

On the other hand, previous researchers, such as Luscombe (2009: 62), Smith (2012: 155), Nyamita (2014: 176) and Bassey *et al.*, (2014: 44) observed a negative relationship between age and debt. Their observation is aligned with the principles of the pecking order theory, where a negative relationship between age and debt is recognised. According to the pecking order theory, older entities with higher retained earnings follow the hierarchical ladder, where retained income is used before incurring debt (Luscombe, 2009: 49). In conclusion, even though there is a disagreement among researchers, the results from this study suggest that MoEs within the CoJ do not conform to the pecking order theory.

- **Testing hypothesis H₆:** Business risk influences debt financing positively

  As is shown in Table 5.9, business risk is also one of the specific factors that influence debt within MoEs in the CoJ. The results indicate that there is a significant positive relationship between business risk and debt, indicated by the positive coefficient of 0.14795 and a p-value of 0.0000. Gaud *et al.* (2005: 63), Foster and Young (2013: 7), Lemma and Negash (2013: 1109), and Sibindi (2017: 151) affirm this outcome, to mention only a few.

Moreover, this is in line with the pecking order theory discussed in the literature review. Briefly, the results imply that MoEs with more debt tend to have high business risks.

Contrary to the above results, some researchers found a negative relationship between business risk and debt (Frank & Goyal, 2003: 3; Deesomsak, Paudyal & Pescetto, 2004: 398; Antoniou, Guney & Paudyal, 2008: 77; De Jong, Kabir & Nguyen, 2008: 1961; Frank & Goyal, 2009: 32; Lim, 2012: 197; Baltacı and Ayaydın, 2014: 54; Nyamita, 2014: 174). Even though most of these results based on an outcome model noted a negative relationship between business risk and debt, this cannot be generalised among entities in developing countries

5.7   CONCLUSION

This chapter has provided, and discussed, the empirical results of the study in line with the research objectives. In analysing the results of the factors influencing debt financing of MoEs for the CoJ, the study first presented the descriptive statistics followed by both Spearman correlation and Panel Regression analysis. An optimal panel regression model was also used to test factors influencing debt financing. Looking at the outcomes, the results of the model concluded that independent variables, such interest rate, profitability size, economic growth and age, are some of the major factors that influence the debt of MoEs within the CoJ. The optimal regression analysis, however, focused at 74% on the variation in debt, which was explained by the change in independent variables.

The results of the test hypothesis showed that profitability is negatively related to debt. On the other hand, interest rate, size, economic growth , business risk, and age were found to be positively associated with debt. The results of the regression model, therefore, confirmed the set's null hypothesis that independent variables, such as age, economic growth, business, risk and size, have a positive, whereas profitability has a negative relationship with debt financing. In fact, interestingly, the only null hypothesis that was rejected was one that tested the relationship between interest rate and debt. The next chapter will give a summary of the entire results discussed above and present the findings as well as providing some recommendations.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1   INTRODUCTION

The main objective of this study was to establish the factors that influence the debt financing of municipal-owned entities (MoEs) within the City of Johannesburg (CoJ). In order to achieve this objective, three additional objectives were also set, namely to analyse the different types of debt financing used by the various MoEs for the MoEs, to determine the extent of debt financing substantively preferred by MoEs in the CoJ, and to establish the acceptable level of debt financing for MoEs for the CoJ. The chapter summarises the findings and interpretation of the results presented in the previous chapter. It further provides the key findings, conclusion, recommendations, implications, the limitations of the study, and recommendations for areas of further research.

This chapter is organised as follows:

- Section 6.2 is the summary of the research findings of the study;
- Section 6.3 details the key findings;
- Section 6.4 outlines the contribution of the study to literature;
- Section 6.5 discusses some of the limitations of the study;
- Section 6.6 gives recommendations based on the results obtained from the study; and
- Section 6.7 outlines suggestions for future research; and section 6.8 concludes the chapter.

6.2   SUMMARY OF THE STUDY

In answering the research objectives of the study, certain factors were identified using past empirical research. These factors include size, age, profitability, business risk, the corporate tax rate, the nature of assets (tangibles), growth opportunity (entity), the inflation rate, economic growth, and the interest rate. The study employed a quantitative approach, using both descriptive and correlational research designs.

Longitudinal data was collected from a sample of 13 MoEs from the CoJ. Secondary data was extracted from annual financial statements of the entities concerned for the period 2011–2015. To interpret and analyse the data, Spearman correlation and Panel EGLS (Period SUR)regression analysis was run. The results from these analysis tools were presented and interpreted. A summary and detailed discussion of these results follows in the sections below.

As mentioned above, the objective of the study was to establish the factors that influenced the debt financing of MoEs for the CoJ. This was done by determining whether a number of identified factors are related with debt. The study is premised on the basis that the extent of borrowings for MoEs are confined within the legislative framework prescribed in the Municipal Finance Management Act, no 56 of 2003 of National Treasury. As a result, the prescript of the legislative frameworks makes it complex for MoEs to engage in borrowings without the approval of the parent municipality because, in most cases, the debt financing of MoEs has a direct impact on the finances of the parent municipality. In the past, similar studies have been conducted by various researchers, namely Foster and Young (2013), Nyamita (2014), Sebapadi (2016), Sibindi (2017) and Malaza (2017) using data from developed and developing countries. It is on that basis that the study attempted to narrow the gap in the literature by using data from a developing economy such as South Africa.

6.3   FINDINGS REGARDING THE OBJECTIVES OF THE STUDY

The findings are presented in terms of the objectives of the study, which are listed below:

- To analyse the different types of debt financing used by the various MoEs for the CoJ;.
- To determine the extent of debt financing substantively preferred by MoEs in the CoJ;
- To establish the acceptable level of debt financing for MoEs for CoJ; and
- To identify the factors that influence debt financing within the MoEs in the CoJ.

The results can be summarised as follows.

### 6.3.1 Different types of debt financing used by MoEs within the CoJ

As was seen in the previous chapter, most entities prefer to use debt financing before opting for equity finance. This objective was set, based on Myers (1984: 16) who argues that, in terms of the pecking order theory, entities prefer to use debt before opting for equity financing. In comparison, none of the similar studies had been conducted on MoEs particularly within the CoJ metropolitan municipality. This study, therefore, tried to close this gap. A study by Nyamita (2014: 190) found that the use of debt by entities varies between private and public entities in developed and developing countries. According to the empirical literature by Benmelech *et al.* (2013; 485) and Chen *et al.* (2013; 4), debt financing models are classified according to long and short-term debt as well as public and private debt. Furthermore, studies by Adamolekum (1999: 42–43) and Nyamita (2014: 191) found that SOEs use bank loans, loans from government funding agencies and/or international financial institutions as a source of financing. On the contrary, studies by OECD (2005: 21) and Balmaceda *et al.* (2014: 47–48) found that debt financing in the form of bonds and notes was the common type of debt financing used by SOEs

The findings of this study revealed that the most commonly used types of debt financing are short-term lease financing (83%), long-term lease financing and short-term loans from shareholders (72%). The other popular type of debt financing appeared to be long-term loans from shareholders ranked at 48%, while there was an insignificant use of bank loans and bank overdrafts ranked at 15% and 2% respectively. Apart from the above sources of pure debt financing, there were other significant types of liabilities used by MoEs, such as trade and other payables (89%) and taxation and VAT payables (49%). Consumer deposits appeared to be insignificant and less popular with a ranking of 32% and project funds payable at 28%. The findings further showed that MoEs had other significant obligations in a form of provisions, and these include current provision at 75%, employees' retirement benefit at 54%, while long- and short-term deferred income were insignificant at 32% and 28% respectively.

It was also very interesting to note that deferred tax, at 15%, was the smallest liability of MoEs during the period of the study. Given the findings in Table 5.2, it appeared that, during the period of the study, there were unique types of debt financing, such as provisions, as well as other liabilities or obligations related to total debt financing. It can, thus, be concluded that short-term lease financing, long-term lease financing and short and long-term loans from shareholders were the most commonly used sources of debt financing, while bank loans and bank overdrafts were the least used source of debt financing by MoEs within the CoJ. This finding is in line with the legislative framework prescribed in the Municipal Finance Management Act 56 of 2003 of National Treasury.

The fifgure below summarises the types of debt finance used by MoEs within the CoJ.

Figure 6.1: Total liabilities of MoEs
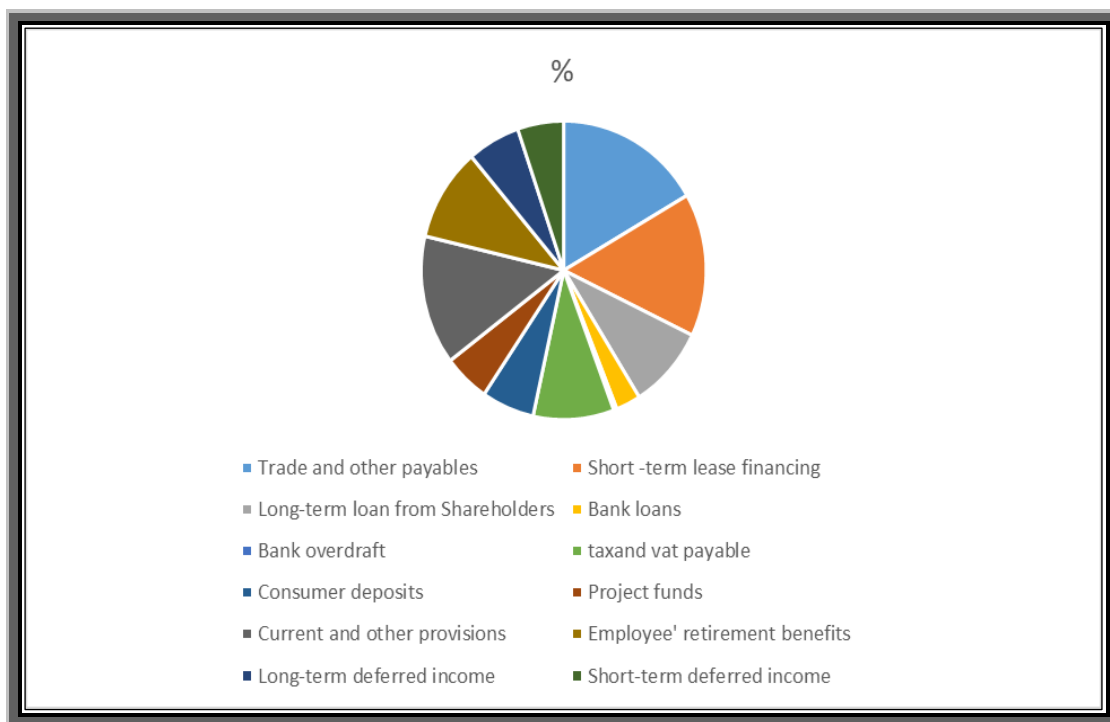
Source: Researcher's own compilation

6.3.2 The extent of debt substantively preferred by MoEs and the acceptable level of debt for MoEs

The results of this study demonstrate the trends and behaviour relating to the extent of debt and the acceptable debt level among MoEs within the CoJ. The preferences of debt in this study are demonstrated by their use within the MoEs. The acceptable debt level and its limits are measured by the entity's multi-year business plan referred to in section 87 (5) (d) of the MFMA, which is determined by both shareholder and the municipal entity in the budgeting process. The findings revealed a certain level of consistency in the behaviour of the total debt ratio from 2011–2015. This finding, in Table 5.4, suggested that the extent of the total debt ratio of MoEs fluctuated during the period of the study with a stable average of 72%. This corroborates the findings of Wright (2004: 573), Frank and Goyal (2005: 156) and Lemmon *et al.* (2008: 1584) that echo the fact that, in the end, debt levels of entities appear to be stable. According to Frank and Goyal (2005: 158), the stability of the debt-financing level resembles the trade-off theory. There is discord in empirical findings as another researcher has argued that the pecking order theory better explains the debt financing level where internal funds are used over external debt (Nyamita 2014: 195).

Comparatively, in Table 5.4, short-term debt appeared to have grown to 58% during the year 2015, while long-term debt declined to 13%. Despite this, Table 5.4 indicated that the acceptable total debt level of MoEs within the CoJ is based on an average range of 71%, consisting of a short-debt and long-term debt of 49% and 22% respectively. The total equity level was fluctuating, with an average of 28%, which is higher than long-term debt but below short-term debt. Despite this, the above evidence in the study confirmed that, on average, the extent of debt within MoEs for the CoJ followed the principle of the trade-off theory, whereas in 2015 it could suggest that the pecking order theory that says which internal funds are preferred over external debt was followed. Nevertheless, when observing the overall trend of the results on Table 5.4 in the absence of 2015, it could be concluded that the MoEs followed the trade-off theory that says debt is preferred over equity within the CoJ during the period of the study.

6.3.3   Factors influencing debt financing of MoEs within the CoJ

The main objective of the study has been to investigate factors that influence the debt financing of MoEs for the CoJ. The results of previous, similar studies conducted in various sectors identified common factors, such as profitability, size, asset tangibility, entity growth, risk, corporate tax, liquidity, interest rate, inflation, etc. to have an influence on debt financing (Huang & Song, 2006: 16; Luscombe, 2009: 9; Lim, 2012: 191; Nyamita, 2014: 96 and Otieno, 2015: 41). The identified factors in this study were chosen based on the past empirical studies. The factors included size, age, profitability, business risk, the corporate tax, nature of assets (tangibility), growth opportunity, inflation rate, economic growth, and the interest rate. The results of the study are consistent with other studies conducted in local and international, private and public, entities. In essence, the relationship and impact were established by the setting and testing of hypotheses between independent variables and debt financing (dependent variable). The results are summarised in the sections to follow. While running the regression model to analyse the relationships between debt and the various factors, the model showed that 74% of the variation in debt financing was a result of the identified independent variables. Following recommendations by Flake and Lawrence (1998: 276), the other independent variables, which were identified in the first regression analysis, were excluded from the panel data EGLS regression model to get final results.

- **Interest rate**

Regarding interest rate and debt, the results demonstrated that interest rate generally influences the debt financing of MoEs positively. In other words, an increase in interest rates cause higher borrowing costs, consequently, there is less demands on goods and services because less spending. These results were, however, found to be insignificant during the period of the study 2011–2015. The findings does not resonate with the views by Luscombe (2010: 16) that says that the high possible cost of financial distress overshadows the compensation of the interest tax shield and so dejects borrowing. Luscombe (2010), however, noted that sometimes an increase in base interest rate could yield a greater tax shield benefit for entities that rely on debt finance.

Yet, according to Sibindi (2017: 18), such tax shield benefits can be enjoyed only by entities financed by debt up to an optimum point where there is equality between the present value of the interest shield and the present value of financial distress (bankruptcy costs). In the report by Johnston (2019), cost of borrowing when interest remains low, firms can borrow more easily. Low interest loans can finance business growth and increase profitability, as companies can raise enough from new ventures to pay interest on loans and have money left over for profits. In summary, a low interest rate gives MoEs an opportunity to acquire more debt financing.

- **Profitability**

The results confirmed a negative relationship between profitability and debt financing. This relationship was found to be significant at 5% level of confidence. These results are a confirmation that MoEs within the CoJ followed the pecking order theory during the years being studied (2011–2015). According to pecking order theory, it is presumed that entities with higher profitability will choose internal funding to debt financing, and so the relationship between profitability and debt financing is expected to be negative (Baltacı and Ayaydın 2014: 49). These results confirmed the set null hypothesis of the study concerning profitability and debt. This is also a confirmation of the Municipal Finance Management Act 56 of 2003 National Treasury that mandates management and boards of directors' limited delegation of powers to participate in debt financing. In addition, managers of MoEs cannot engage in borrowings without following the bureaucratic process of the municipality council as well as the National Treasury. As a result, they must first make use of their retained profits before borrowing externally.

- **Size**

The results of the study highlighted a positive relationship between the size of the entity and debt financing. This relationship was found to be insignificant. The positive influence affirms the set hypothesis, and it is an indication that the more MoEs grow, the more financial resources they require to finance their activities. This helps larger MoEs to benefit from the debt interest tax shield.The findings of this study are consistent with the remarks by Luscombe (2010) that a number researcher has discovered a positive association between debt financing and size. Luscome (2010: 22) also noted that smaller entities had higher bankruptcy costs, while larger, more diversified entities had a better capability to bear debt.

This contrasts with the views of researchers such as Titman and Wessels (1988: 14), Rajan and Zingales (1995: 1451), Nyamita (2014: 173), and Baltacı and Ayaydın (2014: 49), who observed a negative relationship between debt financing and size. If one consideres the pecking order theory, the expectation would be that size would be related to debt negatively. This is because the pecking order theory predicts that larger SOEs that are diversified use less debt financing (Baltacı and Ayaydın 2014: 49). In summary, the results of the study suggest that MoEs for the CoJ did not follow the pecking order theory of debt financing during the period of the study.

- **Economic growth**

The economic growth has been proven to have a positive association with MoE's debt financing in the CoJ and the association is significant. As described above, a positive relationship between economic growth and debt financing implies that, growth in the economy allows the MoEs to borrow less and this is detrimental to the borrowing. It is interesting to note that researchers, such as Huang and Song (2006: 32), Antoniou, Guney and Paudyal (2008: 73), De Jong, Kabir and Nguyen (2008: 1961), Foster and Young (2013: 6), Jõeveer (2013: 306), and Nyamita (2014: 166), have argued that the growth on the economy causes an increase in financial distress and results in agency costs of debt financing. Whereas other researchers Alfaro et al. (2004) and Choong et al. (2010: 108) argued that, an increase in economic growth warrants the acquisition of less debt by companies. In summary, the rise in the economic growth measure by the consumer price index gives a leeway for MoEs not to seek debt because they would be profitable and sustainable.

- **Age**

The results of the study have also shown a positive relationship between the age of the entity and its financial leverage (debt financing). Furthermore, the results highlighted a strong, insignificant relationship. This suggests that firms that have been operational for a long time generally acquire more debt provided they are credit worthy. The results support the views by Abor (2007: 33) that say that, as the entity grows, it establishes itself as a continuing business and consequently increases its capacity to take on more debt and so age is positively related to debt. Luscombe (2009: 78) disputes this and argues that a negative relationship exists between age and debt financing. In fact, the author argues that older and surviving entities have more retained earnings and so prefer to use their retained earnings rather than using debt, as per the pecking order theory.

Even though there are contrary views by researchers, an important issue emerging from these findings is that the age of MoEs in Johannesburg is one of the significant factors influencing debt financing.

- **Business risk**

The results of the study have shown a significant positive influence of business risk on debt financing. The results support the pecking order theory that states that one of the fundamental determinants of the capital structure of an entity is the level of its risk. This is because the more an entity is exposed to such risk, the more it is impelled to reduce its level of debt within its capital structure, which is a confirmation of a pecking order theory (Abor 2007: 38). It is, however, noteworthy that the findings of this study do not generally represent the findings by other researchers. For instance, studies by Frank and Goyal (2003: 3), Deesomsak, *et al.* (2004: 398), Antoniou, Guney and Paudyal (2008: 77), De Jong, Kabir and Nguyen (2008: 1961), Frank and Goyal (2009: 32), Lim (2012: 197), Baltacı and Ayaydın (2014: 54) and Nyamita, (2014: 174) have shown a negative relationship between business risk and debt financing. It is evident from the results of this study that MoEs within the CoJ followed the pecking theory from 2011 to 2015.

6.4 CONTRIBUTION OF THE STUDY

Despite the empirical evidence on debt financing, there has been limited or in-significant number of studies conducted in South Africa. This study has investigated the factors that influence the debt financing of MoEs for the CoJ. The study, therefore, contributes to the body of knowledge and helps to fill the gap in the literature based on three set objectives: (i) factors influencing debt financing; (ii) types of debt financing used by the various MoEs; (iii) the extent of debt financing substantively preferred and acceptable debt level by MoEs in the CoJ.

6.4.1 Factors influencing debt financing within MoEs for the CoJ

This study has established that there are six factors influencing the debt financing of MoEs within the CoJ both positively and negatively. The factors include interest rate, profitability, size, economic growth, age, and business risk. The findings have shown that profitability significantly influence debt financing negatively.

In addition, business risk and economic growth significantly have a positive relationship with debt financing. Whereas, size, age and interest rate have an insignificant positive relationship with debt financing. The results suggest that MoEs adopted the pecking order theory on profitability during the period 2011–2015 within the CoJ.

Based on these results, one could encourage the policy and decision makers in local government and its entities to follow the pecking order theory when considering debt financing. In addition, other factors, including size and business risk, had a positive influence on debt financing of MoEs. These factors demonstrated that MoEs pimarily follow the pecking order theory, but sometimes lean towards the agency costs theory (Nyamita, 2014: 213).

6.4.2 The types of debt used by the various MoEs

The findings showed that MoEs within the CoJ used different types of debt during the year of the study. These debts varied between short and long-term debt. The pure types of debt financing used included short-term lease financing, long-term lease financing and short-term loan from shareholders, long-term loans from shareholders, bank loans and bank overdrafts. The other types of liabilities used by MoEs were trade and other payables, taxation and VAT payable, consumer deposits, as well as provisions, such as current provision, employees' retirement benefit and deferred income. This information will assist decision makers, such as board directors, the City Council and management to strike a balance with regard to the different types' debt financing used within the MoEs. Furthermore, this will help MoEs to comply with the legislative framework prescribed in the MFMA, even though there are bureaucratic processes, which make it difficult for MoEs to engage in borrowings on their own initiative.

6.4.3 The extent of debt substantively preferred and acceptable debt level by MoEs

The findings have indicated that, on average during the years of study, MoEs of the CoJ relied more on debt compared to total assets. In fact, it was noted that the borrowings throughout the period being studied were consistent, with MoEs relying on short-term compared to long-term debt. It was also noted that some entities, during the period of the study, were technically insolvent while others

were at high risk of been liquidated. There are other possible explanations for this result. For example, the preference of debt was based on its usage, while its acceptable level was measured by the limits set by MoEs in consultation with the shareholders during the multi-year business plan and budget processes. Decision makers within the MoEs should monitor the extent of borrowing carefully and ensure that it is within the frameworks of its business plan.

Moreover, decision makers have the responsibility of making proper and reasonable plans that will not expose MoEs to insolvency or the possible risk of liquidation. Finally, the acceptable level of debt and its limits should be streamlined and capped at a particular percentage, one that will not result in the entities facing financial distress.

6.5   LIMITATION OF THE STUDY

As indicated above, the objective of the study was to determine the factors that influence the debt financing for MoEs for the CoJ. The study was confined to the MoEs within the CoJ in Gauteng Metropolitan Municipality. Given the availability of literature in relation to debt financing, there was some limitation noted during the interpretation of the results in the study. The first limitation was based on the collection of primary data. The study intended to administer a questionnaire to all CFOs and Finance Managers to clarify issues not covered in the annual financial statements. Owing to a poor response rate from the targeted respondents, however, the primary data was disregarded. From there, secondary data was used as the main source of data.

Given the fact that the study focused only on MoEs within the CoJ, this could present opportunities for future study. The study under review has received at-tention in the past owing to its relevance and importance in developed and developing countries. There have, however, been limited research studies con-ducted in South Africa particularly on MoEs and SoEs. The fact that the study was limited only to the CoJ, thus, means that the findings cannot be generalised to be applicable to all MoEs and SoEs in South Africa

6.6 RECOMMENDATIONS

The empirical results established by the study clearly have a significant impact on decision makers within MoEs for the CoJ. It is apparent that the study warrants researchers, boards of directors, management, finance students and shareholders (parent municipalities) to consider these findings in their respective areas, and as a base to carry out further research in this area. The recommendations of the findings of the study are, therefore, provided as follows:

- It is apparent from the study that MoEs within the CoJ relied very much on debt, particularly short-term debt. It was, however, also noted that some of these MoEs were facing impending insolvency and liquidation, thus making short-term debt an unfavourable option. It is, therefore, recommended that decision makers could encourage MoEs to balance the use of debt instruments between short and long-term to reduce the risk of impending insolvency. An important issue emerging from these findings is that it is the responsibility of the shareholder to encourage MoEs to consider the balancing of both short- and long-term debt. In the context of this study, municipal heads and managers can encourage MoEs to ensure that there is a balance between short term and long-term debt.

- Secondly, MoEs should implement a balancing approach by minimising the risks of insolvency and maximise the direct benefits associated with borrowing. This will reduce the chances of exposure to the risk of bankruptcy or insolvency.

- The study also recommends that decision makers within the MoEs should use short- and long-term leases and short-term loans from shareholders as a major source of debt financing (parent municipality). On another hand, these types of debts cannot be the only ones to be used by MoEs, without looking at other capital market instruments, such bonds, notes, debentures, to mention only a few.

- Borrowings of MoEs are confined within the prescripts of Municipal Finance Management Act, no 56 of 2003 of National Treasury. Management and the boards of directors should, therefore, familiarise themselves with such legislative prescripts before seeking approval for borrowings from the parent municipality or shareholder.

- The findings clearly demonstrate that specific factor, such as the interest rate influence debt financing positively. This implies that, when the interest rates rise, MoEs may pay more in interest and debt-related costs. The study recommends that MoEs use fewer bank loans because they attract high interest rates and acquire less external debt during a rapid economic growth. Instead, they can use loans from shareholders (parent municipalities) which come as an interest free loan or with low interest payments.

- It is recommended that MoEs with higher profitability should be encouraged to follow the principles of pecking order, were entities with higher profits should first make use of internal funds before using debt and new equity financing.

- The study further recommends that the board of directors and managements should be empowered and given delegated authority to make borrowing decisions on behalf of MoEs without being subjected to the prescripts of the Municipal Finance Management Act, no 56 of 2003 of National Treasury. To ensure consistency, however, they would need to comply with the Companies Act 71 of 2008 section 8, which deals with financial assistance.

6.7 AREAS FOR FUTURE RESEARCH

The study has investigated the factors that influence the debt financing of MoEs for the CoJ. The findings of the study have led to a number of recommendations for further research, not only for researchers, but also for management and boards of directors of MoEs. The findings identified six different factors, which had an influence on debt financing of MoEs within the CoJ, from 2011 to 2015. Precisely, the following recommendations are proposed for future research:

- A similar study could be conducted and designed to make comparisons among the various types of debt financing of different MoEs in Gauteng or in South Africa at large.

- A similar study could also be carried out with a larger sample size over a longer period. This could allow for an extensive study of the factors that influence debt in South African MoEs.

- Other researchers could also investigate the factors influencing investment decisions of MoEs/SOEs in South Africa.

6.8 CONCLUSION

The aim of the study has been to investigate the factors influencing debt financing of MoEs within the CoJ. As mentioned before, there is a plethora of studies and empirical literature dealing with debt financing and focusing on private and public entities. Although the results of this study focused on MoEs for the CoJ, common independent variables, such as interest rate, profitability, size, economic growth, age, and business risk were found to be the main factors that influence debt financing of MoEs within the CoJ. The study also revealed that borrowings in MoEs are skewed within the legislative prescripts of the MFMA, which gives management or board of directors minimal power to make binding decisions regarding debt compared to private entities. Another interesting conclusion drawn from the study is that MoEs with higher profitability levels use less debt. As a result, there is less interest associated with debt. Briefly, it can be concluded that MoEs for the COJ pursued the pecking order theory during the period of the study 2011–2015. These findings, summarised above, have confirmed that the objectives and aim of the study have been met.

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APPENDIX A

ETHICAL CLEARANCE CERTIFICATE

UNISA | university of south africa

UNISA COLLEGE OF ACCOUNTING SCIENCES ETHICS REVIEW COMMITTEE

Date 2017-09-19

Dear Mr OM Galane

| ERC Reference: |
| 2017_CAS_050 |
| Name: Mr OM Galane |
| Student/ Staff #:36971227 |

Decision: Ethics Approval from 2017-09-19 to 2022-09-18

Researcher: Mr Mr OM Galane   galanom@unisa.ac.za

Working title of research:

The Factors that Influence Debt Financing of Municipal Owned Entities for the City of Johannesburg

Qualification: Postgraduate research

Thank you for the application for research ethics clearance by the Unisa College of Accounting Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period indicated above.

The application was reviewed by the College of Accounting Sciences Research Ethics Review Committee on 19 September 2017 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment, and approved.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Accounting Sciences Research Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of

participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.

6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.

7. No field work activities may continue after the expiry date of this certificate.
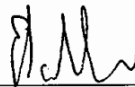
Note:

The reference number of this certificate should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Yours sincerely,

Ms L Grebe
Chair of CAS RERC
E-mail: grebel@unisa.ac.za
Tel: 012 429 4994

Prof E Sadler
Executive Dean CAS

APPENDIX B

LANGUAGE EDITING CERTIFICATE

EDITING AND PROOFREADING CERTIFICATE

7542 Galangal Street

Lotus Gardens

Pretoria

0008

09 May 2019

TO WHOM IT MAY CONCERN

This certificate serves to confirm that I have edited and proofread Oupa Galane's dissertation entitled, **"FACTORS THAT INFLUENCE DEBT FINANCING OF MUNICIPAL OWNED ENTITIES: A CASE STUDY OF THE CITY OF JOHANNESBURG"**.

I found the work easy and intriguing to read. Much of my editing basically dealt with obstructionist technical aspects of language, which could have otherwise compromised smooth reading as well as the sense of the information being conveyed. I hope that the work will be found to be of an acceptable standard. I am a member of Professional Editors' Guild.

Hereunder are my particulars:

Jack Chokwe (Mr)

Contact numbers: 072 214 5489

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Professional
EDITORS
Guild

The Reverend David Swanepoel
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22 June 2019

TO WHOM IT MAY CONCERN

This is to certify that I have completed the English Editing of the text of a dissertation to be submitted in fulfilment of the requirements for the degree of

MASTER OF PHILOSOPHY IN ACCOUNTING SCIENCES

in the subject

MANAGEMENT ACCOUNTING

at the

UNIVERSITY OF SOUTH AFRICA

The dissertation is entitled

FACTORS THAT INFLUENCE DEBT FINANCING OF MUNICIPAL OWNED ENTITIES: A CASE STUDY OF THE CITY OF JOHANNESBURG

by

OUPA MADALA GALANE

I am qualified to have done such editing, being in possession of a Bachelor's degree in English from Rhodes University, Grahamstown, an Honours Degree in English and HED with English as prime teaching subject from the University of South Africa, and having taught English to Matriculation, First Year University Level, GCSE and A level in both South Africa and the United Kingdom of Great Britain for over 40 years, as well as having been Senior (English) Associate Editor of a national magazine for two years. I have edited Master's Dissertations and Doctoral Theses for several years for several universities and institutions in South Africa and abroad as well as editing documents/papers for publication for various publishing concerns and a number of international academics.

I trust that this declaration is satisfactory.

DAVID JOHN SWANEPOEL

APPENDIX C

TURNITIN REPORT

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ENTITIES: A CASE STUDY OF THE CITY OF JOHANNESBURG

By

OUPA MADALA GALANE

Submitted in accordance with the requirements

For the degree of

MASTER OF PHILOSOPHY IN ACCOUNTING SCIENCES

in the subject

MANAGEMENT ACCOUNTING

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: MR STEVEN NDLOVU

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