Investigating the Treatment of Deferred Tax in the Debt-to-Equity Ratio

Ockert Fourie and Surika Van Rooyen

Abstract One of the most useful tools to determine financial performance is the financial statements published by a company. The objective of this study is to gain a better understanding of the treatment of deferred tax in the debt-to-equity ratio and to determine how this differs between theory and practice. The study employs a qualitative method approach to collect empirical data through interviews. Data are collected from detailed interviews with academics and professionals in practice. Even though there is a multitude of ways in which deferred tax can be treated in the calculation of the debt-to-equity ratio, participants from academia and practice overwhelmingly respond that they would rather include deferred tax as part of the debt. In so doing the item is not merely excluded, and this ensures that no unnecessary loss of information occurs. The study only focused on stockbrokers and portfolio managers who are professionals in practice. Only one input was considered regarding the debt-to-equity ratio, and many other inputs could have an impact on the calculation of this ratio. The professionals in academia only comprised two subject fields; other fields could also be taken into consideration when looking at this aspect. The study recommends that, when calculating the debt-to-equity ratio, deferred tax should be included in the calculation to ensure that the ratio remains comparable and as simple as possible. Furthermore, it is also recommended that the debt-to-equity ratio should be calculated including and excluding deferred tax and that both these ratios should be disclosed. By computing both ratios the user has the freedom to select the ratio that best suits their needs, and the impact of the deferred tax will not be ignored.

Keywords Accounting standards · Debt · Debt-to-equity ratio · Deferred taxes · Equity · Financial statement analysis · Ratio analysis

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1 Introduction

The end product of an organisation's accounting cycle is the financial statements that are delivered from this process, which provide a representation of the company's financial position and periodic performance (Albrecht et al., 2015; Robinson, 2020). Financial statements form the lens through which the business is viewed, and it is important to gain a better understanding of how entities' operations are presented through the financial statements (Penman & Penman, 2010). Jesswein (2010) contends that "financial statements are the lifeblood of finance". The importance of financial statements cannot be understated and is an integral part of an entity's operations.

Financial statements are prepared for a group of diverse users, and each one of these users has certain objectives that they want to achieve through analysis (Gibson, 2013; Robinson, 2020). By comparing the views of White et al. (2003) with that of Burke (2011), one could posit that financial statements are used by investors and creditors to make better economic decisions and guide them regarding where to place their scarce investment resources. Potential equity, debt, and credit suppliers, as well as company management, can dramatically reduce their cost of searching for financial information by using a company's general purpose financial statements (Colson, 2005). Shareholders use the financial statements of the firm to measure actual performance compared to expectations (Albrecht et al., 2015).

The comparative and relative importance of data presented in financial statements can be emphasised through various financial data analysis techniques which can be used to evaluate the position of a firm (Gibson, 2013; Robinson, 2020). The analysis of financial statements can be achieved through a variety of tools designed to meet specific needs (Subramanyam, 2014). Damjibhai (2016) states that a very powerful measurement tool that can be used to measure organisation performance is ratio analysis. Ratio analysis also serves as a prediction tool that can be used to prevent financial distress and fraudulent financial reporting (Arshad et al., 2015).

Two problems often encountered with ratio analysis are, firstly, the inclusion or exclusion of certain items in a specific ratio and, secondly, ensuring consistency. A lack of uniformity is one of the problems that arise when calculating certain ratios (Gibson, 2013; Robinson, 2020). Financial statement analysis has no standard setters, is not codified, and has no framework. It, therefore, lacks structure in contrast to financial accounting (Entwistle, 2015). There are certain aspects of the debt-to-equity ratio that can be problematic for an analyst, specifically the appropriate treatment of deferred taxes. Correia et al. (2019) maintain that the appropriate treatment of deferred tax is an issue that arises from the debt-to-equity ratio. IAS 12 is the international accounting standard that regulates the proposed treatment of deferred taxes purely from a financial accounting perspective. The classification of deferred taxes in ratio analysis lies in the hands of the analyst (Correia et al., 2019; Lasman & Weil, 1978). Given the subjectivity in terms of the treatment in ratios a need arises to analyse the inputs used in the ratios to determine the appropriate treatment to achieve consistent and accurate information.

There are two main sources of financing available to a company, namely debt, and equity. Both these sources differ and have well-known characteristics (Bartlett et al., 2014). The debt-to-equity ratio serves the purpose of displaying the proportion of debt financing used by the company compared to equity funds invested (Madan, 2007; Palepu et al., 2020). The debt-to-equity ratio is one of the key ratios in terms of risk and debt management for an entity. According to Correia et al. (2019) the debt-to-equity ratio indicates to what extent shareholders' funds cover debt and is an indication of medium financial risk. The debt-to-equity ratio is commonly used to measure financial leverage and is also useful for credit analysis (Penman & Penman, 2010). The debt-to-equity ratio can therefore be used to determine a company's debt position, especially from the perspective of future investors and creditors. The lower this ratio, the better a company's debt position is in terms of long-term debt-paying ability (Gibson, 2013; Robinson, 2020).

Debt-to-equity is one of the most commonly used debt management ratios (Bartlett et al., 2014). The debt-to-equity ratio provides crucial information to creditors, analysts, shareholders, and potential investors regarding the strength or weakness of a company, for example, long-term survival and the probability of future dividend payments (Muti'ah & Ahmad, 2021; Axson, 2010). The debt-to-equity ratio can be used to calculate the share price of an entity with greater precision (Safania et al., 2011; Simanullang & Simanullang, 2022) and has an impact on the share price of a company (Simanullang & Simanullang, 2022). The importance of the debt-to-equity ratio and the role it plays in financial statement analysis can't be understated, this emphasises the importance of the correct calculation of this formula. The appropriate treatment of deferred tax is one of the subjective items in the calculation of this ratio. Correia et al. (2019) maintain that the appropriate treatment of deferred tax is an issue that arises from the debt-to-equity ratio.

The question could therefore be asked: what is the appropriate treatment of deferred tax when calculating the debt-to-equity ratio? The inclusion or exclusion of this amount can have a significant influence on the debt-to-equity ratio, which is viewed as one of the key risk formulas for any entity.

The research objective of this study is to gain a better understanding of the treatment of deferred tax in the debt-to-equity ratio and to determine how this differs in theory and practice. Different opinions of theorists were analysed and compared. This was done to gain better insight regarding the inner workings of the debt-to-equity ratio and to identify to what extent the literature agrees or disagrees regarding certain aspects of this ratio. Interviews will be performed, and the results obtained from professionals in practice and academia will be compared and analysed to determine whether any differences or similarities exist in the participants' treatment of deferred taxes. and based on this information a comparison between theory and practice will be made.

This study makes an empirical contribution through the research conducted which indicated that there are a multitude of ways that a ratio can be calculated and understanding the purpose of the ratio and how the different inputs affect the calculation is the key to successfully analysing the information disclosed in financial statements. The research can be used as a starting point by financial statement users

to investigate the effect that deferred tax can have on other ratios based on the figures reported in the financial statements. This will facilitate discussion regarding ratios and show that the items included in calculations are not set in stone and have a variety of implications.

2 Literature Review

The literature study will follow a two-pronged approach. Firstly, the work of theorists regarding this specific ratio will be carefully reviewed and considered. Consideration will also be given to locally (nationally) and internationally published academic research on this matter. This will be performed to gain a thorough understanding of the current and proposed treatment of deferred tax in the debt-to-equity ratio. Different opinions of theorists will be analysed and compared. This will be done to gain a better insight regarding the inner workings of the debt-to-equity ratio and to identify to what extent the literature agrees or disagrees regarding certain aspects of this ratio.

To fully understand the theory behind ratio analysis, the importance of financial statements must first be understood. A better understanding of the role of financial statements enhances the understanding of the importance thereof. The economic consequences of the business activities of a firm are summarised in its financial statements (Palepu et al., 2020). Penman and Penman (2010) maintains that the primary source of information regarding a firm is the financial statements they publish. According to Singla (2014) some of the most valuable information of past performance and present position of an entity are stored in financial statements.

Potential equity, debt, and credit suppliers, as well as company management, can dramatically reduce their cost of searching for financial information by using a company's general purpose financial statements (Colson, 2005). Financial statements portray the role of supporting external users in evaluating the current and projected performance of the company and are one of the least expensive and most widespread methods of communication management (Dobrin, 2010).

2.1 Financial Statement Analysis

The standard analysis of financial statements distinguishes shareholders' probability from the risks that arise from operations that emerge from the companies' borrowings to finance operations (Nissim & Penman, 2003). This analytical process aims to establish trends for the enterprise over a certain period and to compare the results and trends with those of competitors to identify appropriate measures to improve current strengths and weaknesses (Skae, 2018).

Financial statement analysis is an incremental and critical tool that is useful for gauging prospects of the real economy that is of interest to academics and

practitioners (Konchitchki & Patatoukas, 2014). Gibson (2013) maintains that financial statement analysis is a process of judgement and that one of the primary objectives is the identification of considerable changes in amounts, trends, relationships, and investigating the reasons underlying the changes in the aforementioned. The analysis of financial statements can be achieved through a variety of tools designed to meet specific needs (Subramanyam, 2014).

Analysts use ratios to make projections about the future; this means that it is important that the analyst should understand the factors that could affect such ratios in the future and how past events can affect the ratio (Correia et al., 2019). Analysis corrects where accounting measurement is defective and the analyst supplements the financial statements with other information when the picture is not complete, but to do this the analyst must know what the statements are truly saying (Penman & Penman, 2010). The analyst plays an important role in enabling outside parties to evaluate the firm's current and prospective performance (Palepu et al., 2020).

The financial analyst can be viewed as a critic in terms of a dramatic context and portrays the role of a silent messenger between the stage and audience that assesses the quality of the plot (financial statements) and the performance of the main actors (management) (Bildstein-Hagberg, 2003). The financial analyst forces the market to act and becomes an active creator of trade, by upsetting the structure that separates the reckonable and controllable from the unknown and ambiguous (Bildstein-Hagberg, 2003).

2.2 Ratio Analysis

A multitude of figures is presented in a company's financial statements. These figures do not mean a great deal to the user in isolation; hence it needs to be compared with something else. This is where ratio analysis can be used (Bartlett et al., 2014; Welc, 2022). Ratio analysis is when different account balance relationships are compared (Gibson, 2013; Robinson, 2020). Ratios simply express the mathematical relationship between one variable and another and allow the user to analyse the financial information on which the ratio is based (Bartlett et al., 2014; Damjibhai, 2016; Welc, 2022). The computation of these ratios might be a simple arithmetic process, but the true challenge lies in the interpretation of the ratio which can be more complex (Subramanyam, 2014). Ratios are used to interpret statements to determine where an entity's strengths and weaknesses lie as well as to determine current financial conditions and historic performance (Damjibhai, 2016).

Financial ratios can be used to help equity investors and creditors make intelligent investment and credit decisions through the comparison of the risk and return of different firms (Welc, 2022; White et al., 2003). Ratio analysis is seen as one of the principal tools of financial analysis and includes an assessment of how various line items in the company's financial statements relate to each other (Palepu et al., 2020). Financial statements can be standardised across firms and over time using ratio analysis, facilitating comparative analysis (Welc, 2022; White et al., 2003).

Different analysts stress different attributes regarding the same ratio, meaning that ratios are diverse and have a multitude of application possibilities in more than one specific ratio analysis category (Duhovnik, 2008). Researchers and practitioners find that ratios that express relationships between various items from the three financial statements, serve as effective indicators of various dimensions of probability and risk (Stickney et al., 2007). Ratios calculated from financial information have long been considered accurate predictors of business failure and have proven to make an accurate distinction between failed and non-failed companies several years before failure (Maricica & Georgeta, 2012).

The ratio itself is important, but the financial analyst draws more value from the relationship between the variables used to calculate the ratio and how these variables change over time and compare to suitable benchmarks (Bartlett et al., 2014). Ratio analysis helps the user to understand the firm's liquidity and provide valuable insight into the financial future of the company. Through the use of this technique, appropriate action can be taken to improve the firm's liquidity (Klumpp & Cole, 2014).

The interpretation and studying of how a ratio changes over time and the comparison of a company's specific ratio with suitable benchmarks that enables the analyst to draw certain comparisons and conclusions is one of the instrumental goals of ratio analysis (Bartlett et al., 2014). Ratio analysis also serves as a prediction tool that can be used to prevent financial distress and fraudulent financial reporting (Arshad et al., 2015). Like most other techniques in financial analysis, a ratio is not relevant in isolation. Ratios are useful when interpreted in comparison with prior ratios, predetermined standards, and the ratios of competitors (Subramanyam, 2014; Bartlett et al., 2014).

The most challenging aspects of ratio analysis lie in the skillful application and interpretation of the ratios, and therein lies the success of this analysis technique (Subramanyam, 2014). Financial managers often encounter one specific challenge created by ratio analysis, namely the inconsistency in the utilisation of ratios in different texts and how they are used by different entities (Skae, 2018). The lack of benchmarks that indicate optimal levels is often a problem when it comes to ratio analysis and the evaluation of a ratio often depends on the view and skill of the analyst (White et al., 2003).

There is no standard definition of ratios; however, there is a certain consensus about the importance and significance of certain ratios, but no agreement on how the ratios should be calculated (Duhovnik, 2008). Gibson (2013) states that different computations of the same ratio can be derived from each author or source on financial analysis. A standard list of ratios or standard calculations of these ratios does not exist. Each financial analysis author and source makes use of a different list of ratios and even different calculations. This is one of the challenges of ratio analysis (Gibson, 2013; Robinson, 2020).

2.3 Debt-to-Equity Ratio

There are two main sources of financing available to a company, namely debt and equity. Both these sources differ and have well-known characteristics (Bartlett et al., 2014). Debt forms part of a company's liabilities which represents an obligation to make payments of cash, goods, or service at an amount that is determinable on a reasonably predictable future date as compensation for benefits or services received in the past (Stickney et al., 2007). Shareholder equity refers to the amount that remains after a company's liabilities have been deducted from its assets. It is referred to as residual interest because these shareholders are exposed to the maximum amount of risk associated with the company. This entitles them to the residual interest (Gibson, 2013; Robinson, 2020; Subramanyam, 2014).

Debt management and financial leverage play an important role in financial management and have several implications. By using certain ratios, the analyst will attempt to assess the impact of financial leverage on risk (Correia et al., 2019). Leverage is when relatively more debt financing is used in the capital structure. Leverage aims to increase the returns on equity investors' funds in exchange for the acceptance of higher financial risk (Correia et al., 2019).

Debt-to-equity is one of the most commonly used debt management ratios (Bartlett et al., 2014). Debt management ratios are also known as solvency ratios (Bartlett et al., 2014). Debt management ratios are used to determine the company's adherence to its stated financing policies, its target capital structures, and agreed-upon debt-to-equity proportions (Bartlett et al., 2014). The analysis of a firm's capital structure is essential and plays a pivotal role in evaluating long-term risk and return prospects, indicating the important role debt plays as well as the risk that comes with it (White et al., 2003). Debt management ratios attract the interest of certain stakeholders, such as banks and credit providers, because these ratios provide some indication of the prospects and current financial well-being of the company (Bartlett et al., 2014).

The debt-to-equity ratio serves the purpose of displaying the proportion of debt financing used by the company compared to equity funds invested (Colline, 2022; Madan, 2007 Palepu et al., 2020). The debt-to-equity ratio provides crucial and important information to creditors, analysts, shareholders, and potential investors regarding the financial strength or weakness of a company, for example, the probability of long-term survival and the expectation of future dividend payments taking place (Axson, 2010).

The numerator comprises both secured and unsecured loans, and the denominator consists of ordinary, and preference share capital, reserves, and surpluses (Colline, 2022; Madan, 2007). The numerator of the debt-to-equity ratio will be debt. The debt used in the calculation of this ratio can include all liabilities; all liabilities excluding current liabilities or only long-term interest-bearing debt can be used, and debt held on behalf of other companies and the government will be excluded from debt (Colline, 2022; Lasman & Weil, 1978).

Many borrowings may include a covenant that protects the issuer (Subramanyam, 2014). One of these covenants can include the maintenance of a constant debt-to-equity ratio, and if this covenant is not upheld it could lead to the immediate repayment of the outstanding amount (Subramanyam, 2014). The long-term debt-to-equity ratio can be used to calculate the share price of an entity and helps to ensure that the calculation is done with greater precision (Safania et al., 2011). The debt-to-equity ratio is the most commonly used ratio worldwide when it comes to measuring financial risk. The higher the ratio, the higher the financial risk of the company, since a higher ratio implies higher interest charges and increased exposure to possible interest changes (Bartlett et al., 2014).

2.4 Background to Deferred Tax and Income Taxes (IAS 12)

Deferred tax is regarded as an obligation or asset that the company will recover or pay at a future date due to differences between information reported in terms of international financial reporting standards and the income tax act (Koppeschaar et al., 2016).

Deferred tax liability is defined as the amount of income tax that will be payable in future periods in respect of a taxable temporary difference, and a deferred tax asset is the amount of income tax that will be recovered in a future period (Görlitz & Dobler, 2021; Koppeschaar et al., 2016). Deferred tax assets (liabilities) provide progressive information regarding future tax benefits (payments) that will be realised upon reversal of the account. The benefits (payments) associated with deferred tax assets (liabilities) are substantial items for many firms (Laux, 2013).

Deferred taxes can be found in the Statement of Financial Position and is the estimated amount in need for the upcoming period that exists as a result of temporary differences between financial accounting standards and tax regulations (Ifada & Wulandari, 2015). Deferred tax is viewed as an obligation or asset that will be payable or recoverable at a date in the future (Görlitz & Dobler, 2021; Koppeschaar et al., 2016). Deferred tax and income tax amounts influence the assessment of a firm's financial position such as the current ratio and debt ratios (Stickney et al., 2007). A deferred tax asset (liability) provides forward-looking information about future tax benefits (payments) that are a result of the deferred tax account reversing in the future (Laux, 2013).

Laux (2013) indicates that, based on findings, investors seem to value only the information content of certain items of deferred tax; Laux, therefore, questions the information's ability to offset the cost of delivering and utilising it. One way to view the deferred tax balance is to see it as an interest-free loan that the government provides to the firm and that needs to be repaid in the future; therefore, the item is a liability. By using this framework, the presence of deferred taxes effectively increases the financial gearing and consequently creates ordinary share systematic risk (Chandra & Ro, 1997).

2.5 *Treatment of Deferred Tax in the Debt-to-Equity Ratio*

A problem area of ratio analysis is the lack of uniformity in the way certain ratios are calculated. This becomes especially pertinent when the debt-to-equity ratio is calculated. To make comparison possible the debt-to-equity ratio of the firm should be calculated similarly to industry ratios (Gibson, 2013; Robinson, 2020). Correia et al. (2019) state that the appropriate treatment of deferred tax is an issue that arises from the calculation of the debt-to-equity ratio. Given the history of the diversity of accounting policies regarding deferred taxes as well as the variety of different prevailing views on the nature and cash flow implications, it becomes important to determine and understand how the market perceives deferred taxes (Chandra & Ro, 1997).

The following proposed treatments of deferred tax in the calculation of the debt-to-equity ratio is provided by Huss and Zhao (1991):

- Liability treatment: The deferred income tax credit will be included as part of the company's long-term liabilities.
- Equity treatment: The deferred income tax credit is added to shareholder equity; or
- Excluded from the ratio: The deferred income tax credit will not be used in the calculation of the debt-to-equity ratio.
- Asset reduction treatment: The firm's assets are reduced by the deferred income tax credit.

2.5.1 Deferred Tax: Liability Treatment

The reason for treating deferred tax as a liability is based on the assumption that the tax will be paid and redeemed in the near future by the person who bears the tax responsibility (Huss & Zhao, 1991). Many analysts are of the opinion that the net worth of the firm is understated by the amount of the deferred tax liability since this item will likely never become due and it is therefore not a liability at all (Fridson & Alvarez, 2022).

The deferred income tax line item reported on the Statement of Financial Position does not have all the attributes of a liability, as there is a lack of legal obligation as well as relative certainty of the amount and relative certainty of the date the obligation will be settled. Moreover, unlike a true long-term liability, the amount displayed in the statement is not a present value calculated using a historical market interest rate. All these factors add to the item not being a true liability (Lasman & Weil, 1978).

When an assessment of ordinary share risk is done, the market regards deferred taxes not as a tax burden, but as an indicator of favourable future cash flows or perhaps as a permanent transfer of the government's stake in the overall value of the firm to shareholders. The market rewards firms' efforts to defer or minimise taxes by viewing such firms as lower-risk investments. Many doubts and questions are raised

regarding the treatment of deferred taxes as a liability and whether this treatment is an appropriate basis for formulating accounting rules for deferred taxes (Chandra & Ro, 1997).

2.5.2 Deferred Tax: Equity Treatment

In a growing company, the deferred tax will never really reverse, and therefore the deferred tax liability should be added to equity when calculating the debt-to-equity ratio (Bartlett et al., 2014). Jeter and Chaney (1988) concur that the appropriate treatment of deferred taxes lies in the consistent growth of the account and how likely future reversal might be. The reasoning behind deferred tax liability forming part of equity is because, if the company continues to pay taxes at less than the statutory rate, the deferred tax account will continue to grow (Fridson & Alvarez, 2022). Equity treatment is motivated by the fact that increases in deferred taxes are de facto earnings (Huss & Zhao, 1991). The view of recording the deferred tax liability as shareholders' equity will have certain implications, one of which is that this treatment will be negatively related to ordinary share risk (Chandra & Ro, 1997).

The high persistence and strength of the observable negative correlation between deferred tax and risk is an indication that the market does not regard deferred taxes as a liability but might instead view it as a form of equity. Deferred taxes are not redeemable as long as the firm is experiencing increasing amounts of originating temporary differences each year (Chandra & Ro, 1997).

Tax benefits included in the cost of an asset lead to classical accounting relations being preserved by expensing only a portion of the deferred tax expense. If the deferred tax liability is not expensed against the price of the asset, and the benefits are not reflected in the price of the operating assets, proper accounting determines and requires the deferred taxes to be valued as equity, increasing the value of the firm (Amir et al., 2001). Deferred taxes become repayable and in effect reverse temporary differences when the reported temporary differences exceed the originating differences during the year when such a firm reduces the size of its depreciable assets while earning increased taxable income, which is rare. Thus, the view of the market might be that deferred taxes is a permanent tax saving or a transfer of the government's share of firm value to shareholders, thereby increasing shareholder equity (Chandra & Ro, 1997).

2.5.3 Deferred Tax: Excluded from the Debt-to-Equity Ratio

The financial analyst must determine whether the deferred tax will be included or excluded when the debt-to-equity ratio is calculated (Lasman & Weil, 1978). The treatment of deferred taxes can lead to information being reported in a manner that does not reflect the economic substance of the item. When anticipating that the total amount of deferred taxes will not reverse in the future, the reported liability will be higher than the economic substance of the event (Jeter & Chaney, 1988).

Amir et al. (2001) state that, through analysis performed, the results show that the deferred tax liability, as currently recorded in accordance with financial accounting standards, overstates the firm's liabilities. According to Chandra and Ro (1997) when the debt-to-equity ratio is being calculated and an adjustment is made for deferred taxes as a liability, the deferred taxes account will relate negatively to the market beta and the standard deviation of ordinary share returns. This negative relation will persist when the accounting beta, financial gearing, and the variability of operating returns are controlled, and this negative relation will be prevalent over subsamples of firms where the selected characteristics differ. Huss & Zhao (1991) posit that one of the ways to calculate the debt-to-equity ratio is to completely exclude deferred tax from the calculation to minimise the influence of this item.

2.5.4 Deferred Tax: Asset Reduction Treatment

Relative to current standards, when deferred taxes are accounted for in terms of international accounting standards, it leads to the liability being overstated. The overstatement should be accounted for as equity. Further, the effect of this overstatement will depend on whether the tax benefits are capitalised into the original cost of the asset that led to the deferred tax liability being recognised. If so, the tax liability should be reduced to net present value; if not, the entire balance should be reported as equity (Amir et al., 2001).

Tax deductibility and the taxability regarding the deferred tax liability is something that can be taken into account when the value of an asset is being determined (Huss & Zhao, 1991). Huss and Zhao (1991) maintain that asset reduction treatment is one of the ways in which deferred tax can be treated when calculating the debt-to-equity ratio. This proposed treatment suggests that the deferred tax liability should be treated as a reduction in the value of the firm's assets.

2.6 Summary

The research shows that deferred tax can either be included as a liability; excluded from liabilities; included as part of equity; or be partially offset against the price of the asset. Each one of these proposed treatments will have a different outcome when calculating the debt-to-equity ratio and this ratio can considerably be affected by the different treatments, which can lead to different decisions being made based on a ratio that can be affected by one substantial item.

3 Methodology

The constructivism paradigm was adopted during the study, as subjective meaning based on interpretation was developed to answer the research questions in the best possible manner. Social constructivists adhere to the belief that individuals seek understanding of the world in which they live and function. This understanding is gained by developing subjective meaning from their own life experiences (Creswell & Creswell, 2017). The frame (world) in which the study is performed is the world of science and scientific research. An aspect (deferred taxes) is taken from the world of business (the calculation of the debt-to-equity ratio) and searched to find truthful knowledge thereon (what is the proposed treatment of deferred taxes in the calculation of the debt-to-equity ratio?). The study is classified as empirical, collecting primary numeric and textual data (a combination thereof), with a low level of control.

The research uses an exploratory research design given the absence of detailed prior research (O'Dwyer et al., 2011; Sundin et al., 2010). A qualitative approach is necessary as it offers deeper insights than those which would have been obtainable using a quantitative approach (Holland & Doran, 1998; O'Dwyer et al., 2011). The qualitative approach was utilised in this study, as more focus is placed on words and correspondence than on numbers which represent concepts and opinions. The qualitative study consisted of a research interview conducted with participants which include academic practitioners and professionals in practice. The type of data gathered and used in this study is textual data, as the responses of the interview questions regarding descriptive questions are interpreted as textual results.

This method is designed to provide insights into the calculation of the debt-to-equity ratio. The research consisted of an inductive thematic exercise inspired by grounded theory (Leedy & Ormrod, 2015). The researcher made use of dialogue, which is important due to its ability to extract detail (Rowley, 2012). Accordingly, this research contributes to the understanding of the treatment of deferred tax in the debt-to-equity ratio. The use of dialogue further, ensured validity (Leedy & Ormrod, 2015).

3.1 Data Collection

Semi-structured interviews were used to collect data. The interview questions were open-ended which ensured that participants were able to interpret the topic freely and the researcher could gauge their stance (Holland, 2005). This was advantageous, as participants were encouraged to talk widely around the topic, without the restriction of a "correct" or "incorrect" answer (Holland & Doran, 1998).

Participants were purposively selected, based on their knowledge of and experience with the calculation of the debt-to-equity ratio. Although this purposeful selection could have introduced bias (Creswell & Poth, 2016; Solomon & Maroun,

2012), it was inappropriate to rely on non-technical perspectives to determine the treatment of deferred tax given the exploratory nature of this research (Creswell & Poth, 2016). This selection, through the reliance on informed and experienced professional judgement, ensured that a large basis of uniform responses was received (Creswell & Creswell, 2017).

Detailed interviews Semi-structured interviews were conducted, giving respondents the freedom to interpret questions and express themselves. If necessary, follow-up questions were asked. An interview agenda which covered general questions regarding the treatment of deferred tax in the debt-to-equity ratio was used. The use of an interview agenda ensured that the study remained exploratory and intentionally unobtrusive within the wider study of ratio analysis. Interviews were carried out individually to ensure that participants did not influence one another (Rowley, 2012). Before the commencement of the interview, the interview agenda was made available to the participants to ensure that participants were informed and could provide a sufficient response (adapted from O'Dwyer et al., 2011). Interview questions were derived from prior literature regarding treatment of deferred tax in the debt-to-equity ratio (Correia et al., 2019; Chandra & Ro, 1997; Fridson & Alvarez, 2022; Huss & Zhao, 1991; Lasman & Weil, 1978).

Ten academic practitioners were selected of which five specialise in accounting and five in financial management, which represent a fair reflection of both sides of the theory. Accounting academics was specifically chosen because of their focused knowledge of deferred taxes and to gain insight into the treatment of the item in terms of IAS 12, a specific accounting term based on International Financial Reporting Standards. Financial management academics were chosen because of their focused knowledge regarding financial statement analysis, specifically the calculation of the debt-to-equity ratio, to gather data regarding what the proposed treatment of deferred taxes is when calculating this ratio. The professionals in practice chosen consist of stockbrokers and portfolio managers who focus on investing and selling shares in firms. The reason for the selection is that these professionals calculate specific ratios based on a company's statements and use these ratios in their decision-making process. The sample of ten participants consists of traders, fund managers, quantitative-, and equity analysts.

A total of 20 interviews were performed ranging between 45 and 90 min. They were digitally recorded. The duration and number of interviews were informed by the need to achieve "conceptual saturation". The researcher relied on a relatively small sample size of participants because of the exploratory nature of this study (Leedy & Ormrod, 2015; Ryan, 2002). It is important to note that the purpose of qualitative research is to explore a problem, offer deeper insight, and not generalise information (Creswell & Creswell, 2017; Leedy & Ormrod, 2015). Small sample sizes are an inherent characteristic of qualitative research (Rowley, 2012).

Trustworthiness was illustrated by recording, transcribing, and coding the interviews conducted. The results of these interviews were interpreted, and the results obtained from professionals in practice were compared and analysed to determine whether any differences or similarities exist in the participants' treatment of deferred

taxes. The results of interviews with academics were also interpreted to determine what the specific views are from an academic perspective and based on this information comparison between theory and practice was made. The results of the interviews and the literature study were used to draw a conclusion regarding deferred taxes and the debt-to-equity ratio.

3.2 Data Analysis

The processes of analysing and interpreting data were iterative and involved a grounded theory approach. The purpose of this was to identify themes from the analysis and re-analysis of transcripts and summary notes. After each interview, a discussion between the researcher and supervisor occurred. The purpose of this discussion was to reflect on the interview and ensure that all complications were probed before subsequent interviews took place. This discussion was recorded. The researcher then reanalysed the interview recordings and took note of any important points, as well as any practical details. These notes were then compared to the discussions between the supervisor and researcher. The purpose of this was to ensure consistency, with any discrepancies being followed upon. Each interview was then transcribed, and initial summary notes made.

After transcripts and summary notes were analysed, key themes, as well as similarities and differences, were identified and aggregated. The researcher then grouped similar comments under open codes. Data points were then compared to the initial discussion between the supervisor and researcher to ensure validity and consistency. The transcribed interviews were then made available to the participants for review. As each interview was completed, transcribed and analysed, it was coded, with consideration made for the main points identified in the recordings, and the research questions (Leedy & Ormrod, 2015; Rowley, 2012).

During the coding process, the researcher remained aware of new codes that affected previous interviews. At the identification of a new theme, the researcher re-coded previous transcripts. This process continued until a sufficient level of conceptual saturation and familiarity was achieved (Creswell & Creswell, 2017; Holland & Doran, 1998). On the achievement of saturation, the open codes were then re-examined and grouped under different axial codes.

Interpretive studies are inherently subjective as the researcher is integrally involved in collecting data. Nonetheless, the selected research method does not threaten the validity and reliability of the data collected (Creswell & Creswell, 2017). The researcher further reduced bias by subjecting all open and axial codes collected to a peer review (Creswell & Poth, 2016). Additionally, prior research was used to inform the interview agenda, as well as the selection of open and axial codes (Creswell & Creswell, 2017).

4 Findings and Analysis

From the data gathered three main themes could be identified under which the research interviews could be classified. The main themes identified include the following:

- Factors other than deferred tax are taken into consideration when calculating the debt-to-equity ratio.
- Current treatment of deferred tax as a liability in this ratio and the impact thereof; and
- The different proposed treatments of deferred tax in the calculation of the debt-to-equity ratio.

The main themes were then split into sub-themes to help better sort and categorise the responses made by participants.

The information below provides a summary of the views of participants in academia and practice and indicate what the key takeaway points are from data collected in relation to the sub-themes identified.

4.1 Factors Other than Deferred Tax Taken into Consideration When Calculating the Debt-to-Equity Ratio (Theme 1)

The first theme emerging from the interviews regards factors other than deferred tax which can be taken into consideration regarding the debt-to-equity ratio. It consists of three sub-themes, namely:

- What value can be placed on the calculation of the debt-to-equity ratio and the information that can be extracted from this ratio? (sub-theme 1)
- Should information reported in terms of International Finance Reporting Standards (IFRS) be adjusted when calculating certain ratios?
- Will the type of analyst influence the inputs used to calculate the debt-to-equity ratio?

Sub-theme 1 responses: The debt-to-equity ratio provides crucial information regarding the company to a wide variety of stakeholders. A debt-to-equity ratio is a tool that delivers particularly valuable information regarding long-term survival, financial risk, and the level of debt financing being used by a company. The debt-to-equity ratio would have more meaning and be more valuable if this ratio is investigated and used for external purposes compared to looking at the ratio internally.

The responses from participants correlate with the findings of Axson (2010) who find that the debt-to-equity ratio provides crucial and valuable information regarding the company to a wide variety of stakeholders. It could also be determined that the

ratio delivers valuable information regarding some key areas, for example financial risk, solvency, leverage, and share price, and is a ratio that summarises the entire Statement of Financial Position. This correlates with the findings of Bartlett et al. (2014), Axson (2010), and Palepu et al. (2020) who propose that the debt-to-equity ratio is a tool that delivers very important information regarding long-term survival, financial risk, and the level of debt financing being used by a company.

Most of the participants in practice opine that the ratio is not the most important ratio to calculate or use and that the ratio is likely used more often as a check ratio. The true importance of this ratio actually comes through when the ratio is quite sizeable, which could then be a flag for further investigation. Gibson (2013) makes a similar finding regarding ratio analysis, viz. that some ratios have stronger importance compared to other ratios, and that a certain ratio might have a higher preference in one industry compared to another.

Sub-theme 2 responses: The participants in the field of accounting note that information reported in terms of IFRS already considers what management requires to make decisions and that there is no requirement to adjust these figures. The professionals in practice state that, if the information could be standardised across companies, it would allow them to cover more ground over a shorter period, a sentiment echoed in the literature. However, given the above, many of the participants in practice and academia support the statement that IFRS figures should be adjusted to increase and improve comparability. If adjustments are correctly applied, it makes the information more understandable and accurate. However, adjustments regarding figures reported in terms of IFRS should not be overemphasised as much time is devoted to the development of reporting standards to ensure that accurate management decisions can be made.

The responses from participants agree with the statement made by Skae (2018) that too many adjustments to financial information could open the door for manipulation, which poses a problem when accurate conclusions need to be made. A large number of the participants support the statement that IFRS figures should be adjusted to increase and improve comparability. Skae (2018) agrees that different accounting policies applied by companies can cause limitations in terms of comparability and that, by adjusting certain information, this limitation can be addressed.

Sub-theme 3 responses: The overwhelming response from academia and practice regarding this question is that the analyst and their background will in some way influence the inputs used to calculate a ratio. Each analyst has their own goals when they calculate and look at different ratios, which affects the way a ratio is calculated. Analysts also employ individual methods and techniques to calculate a certain ratio to ensure the correct information can be extracted from the ratio. The focus must be placed on the analyst who calculates and discloses a certain ratio because the background of the analyst and their views will affect how inputs like deferred taxes are treated in the calculation.

These responses correlate with previous research and results delivered from others. For example, the fact that there are no specific benchmarks to indicate optimal levels is often a problem that can be encountered with ratio analysis, and the evaluation and calculation of a ratio often depends on the views of the analyst

(White et al., 2003). The participants' responses show a relationship with Gibson's (2013) findings that there is no standard calculation for ratios, and that each analyst and source on financial analysis makes use of different calculations to calculate certain ratios.

4.2 Current Treatment of Deferred Tax as a Liability in the Debt-to-Equity Ratio and the Impact Thereof (Theme 2)

The second theme regards how deferred tax as a liability should be treated in the debt-to-equity ratio and what the impact of this is. Four sub-themes were identified, namely:

- The role the industry plays in the treatment of deferred tax in the debt-to-equity ratio.
- Can a deferred tax liability be regarded as a form of debt financing?
- Will the inclusion or exclusion of deferred tax from debt influence decisions made based on the calculation of the debt-to-equity ratio? and
- Is a deferred tax liability an influential item in the calculation of the debt-to-equity ratio?

Sub-theme 1 responses: The participants who primarily focus on financial accounting state that the type of industry in which an entity operates would not have an impact on the deferred tax liability and its treatment in the debt-to-equity ratio. This is because every single company must pay taxes regardless of their industry. If the deferred tax liability is treated differently between industries, comparability would be directly affected and be less effective. More than half of the participants responded that they believe this type of industry would affect the treatment of deferred taxes. The responses are substantiated by providing examples from two different industries, like banking and mining, and explaining why differences between these two industries exist.

The information used to calculate ratios across industries could be standardised as far as possible—if all the debt-to-equity ratios in one industry include deferred taxes while another industry excludes it from the ratio, comparability will be heavily affected which could lead to incorrect decisions being made. Participants provided a possible solution, viz. to rather disclose the ratio including and excluding deferred taxes so that the user thereof can see both ratios and use the one that best suits their needs and through this, the impact of a specific industry can be better managed.

Sub-theme 2 responses: Most of the participants from academia and practice are of the opinion that deferred tax liability cannot be a form of financing as it can become repayable at any moment. The fact of the matter is that it is ultimately a postponement of payment rather than financing provided by the nation's tax collecting authority regarding an amount of tax that will become repayable in a

future period. When comparing a deferred tax liability with, for example, a bank loan, it clearly shows that deferred taxes do not consist of the same debt format as a loan as it is an obligation to pay taxes. When calculating the debt-to-equity ratio it should be properly disclosed that the deferred tax liability is not a form of debt financing and that this item should not be taken into consideration when looking at the company's long-term capital structure.

The responses of the deferred tax liability not being a form of debt financing corresponds with those of Koppeschaar et al. (2016), namely that a deferred tax liability can be viewed as a future tax obligation and the repayment of income tax in a future period is the result that will occur upon realisation of this liability.

Sub-theme 3 responses: All the participants, from both academia and practice, agree that the inclusion or exclusion of deferred tax from the debt-to-equity ratio would affect decisions made based on this ratio, but that the effect thereof would not always be material. According to the participants, there are instances where the exclusion of the deferred tax liability can have an extremely material effect, especially if the liability is exceptionally large in proportion to the company's other debt. The type of decisions that the debt-to-equity ratio is used for would also be affected by how substantial the treatment of deferred tax is when calculating this ratio.

The solution regarding the problem of decisions being affected by the inclusion or exclusion of deferred tax is either to reduce the risk by always including the deferred tax liability in the calculation of the ratio or to disclose the ratio including and excluding deferred tax so that the user could see what impact the deferred tax liability has on the debt-to-equity ratio.

Sub-theme 4 responses: four professionals in practice and four professionals in academia view the deferred tax liability as an influential item; the level of influence, however, is directly related to the size of the liability. The reason for the item being influential is that the item will have an impact on the management decision-making process, and with most companies, the deferred tax liability can be quite sizeable and due to this, it will have a material impact on decisions made by management.

Six professionals in practice and four professionals in academia note that the deferred tax liability would not be an influential item as it is not an item that receives a large amount of focus when it comes to calculating ratios. Decisions might be affected in some way, but the effect of how the deferred tax liability is treated might not be that material. The solutions that can be implemented are to calculate the debt-to-equity ratio including, excluding deferred taxes, and to disclose both ratios. This will reduce the risk of the item materially affecting decisions as both alternatives of the ratio can be viewed.

The responses from participants correlate with Chandra and Ro's (1997) findings that the debt-to-equity ratio can be calculated in a variety of ways, and that when this ratio is adjusted for deferred taxes this change will then be negatively related to the company's ordinary share risk. Financial risk measures and decisions based on these measures could be affected in a negative manner. Participants posit that, if the deferred tax liability is small in relation to other debt and equity, the inclusion or

exclusion of this item will not have a significant impact on decisions made by the company.

4.3 *The Different Proposed Treatments of Deferred Tax in the Calculation of the Debt-to-Equity Ratio (Theme 3)*

The third theme regards the different proposed treatments of deferred tax in the calculation of the debt-to-equity ratio. It is divided into four sub-themes namely:

- How will the participant treat the deferred tax liability in the calculation of the debt-to-equity ratio?
- Can a deferred tax liability be treated as equity in the calculation of the debt-to-equity ratio?
- Can a deferred tax liability be offset against the cost price of an asset when calculating the debt-to-equity ratio? And
- Would the exclusion of the deferred tax liability deliver a more accurate debt-to-equity ratio?

Sub-theme 1 responses: The overwhelming response to this question from participants in academia and practice move towards treating the deferred tax liability as part of the debt in the calculation of the debt-to-equity ratio. This is because it is still an obligation to repay an amount in the future. Since the users of financial statements and ratios are the same, and because IFRS attempts to take everything into account for decision-making purposes, twelve of the participants, six from academia and six from practice feel that the current treatment of the item as a liability is correct. The participants who state that the item should be included as part of debt agree with the views of Huss and Zhao (1991), that the treatment of deferred tax as a liability assumes that the tax will be paid and redeemed in the near future.

The exclusion of deferred tax from liabilities correlates with Bartlett's et al. (2014) view that in a constantly growing company the deferred tax liability will never really reverse due to assets continuously being replaced. Thus, the deferred tax liability should rather be excluded from debt. The main issue faced by professionals in practice is a lack of time to calculate the debt-to-equity ratio in several separate ways. Based purely on the responses from the interviews it is determined that the deferred tax liability should be included in the calculation of the debt-to-equity ratio as this treatment ensures that the item is considered when the debt-to-equity ratio is calculated.

Sub-theme 2 responses: The fact that the deferred tax liability is an obligation to repay an amount to the nation's tax collecting authority makes it more of a liability than equity, and the fact that the equity holders have no share in this amount can be contradictory towards the decision to recognise it as equity.

Six of the participants from academia state that the deferred tax liability still represents an obligation to pay any outstanding amount and, as such, the item cannot

be treated as equity. The equity holders have no claim towards the deferred tax liability as this amount must be paid to the nation's tax collecting authority in the future and the company cannot use these funds put aside as investments in long-term projects as it is still an obligation that can become repayable at any moment.

There is a compelling argument that the deferred tax liability is closer to equity rather than a liability because of its permanence and the fact that it is a long-term source of funding. Six of the ten participants in practice state that they would rather treat the deferred tax liability as equity due to the permanence of the item in a growing company. The responses from participants agree with the research performed regarding this question. The suggestion of participants to treat deferred tax as equity agrees with the findings of Fridson and Alvarez. According to Fridson and Alvarez (2022) the reason why the deferred tax liability should form part of equity rather than debt is based on the fact that, as long as the company continues to pay taxes at less than the statutory rate due to assets continuously being replaced, the account will not reverse. The responses from participants agree with research performed regarding this question.

Sub-theme 3 responses: Six professionals in practice and four in academia posit that one could offset the deferred tax liability against the cost price of the asset that created the temporary differences and that this could be a solution for the whole debt-to-equity dilemma and what should be done with deferred taxes. The problem with this proposed treatment is an "out of sight, out of mind" problem as the company might completely forget about the liability. Furthermore, other ratios could also be negatively impacted by treating the liability like this.

The other half of the participants, consisting of six professionals in academia and four in practice, state that offsetting the deferred tax liability against the cost price of the asset would unnecessarily overcomplicate matters and the treatment of deferred tax like this could have large consequences for other aspects of the company. Treating the liability in this manner will also lead to information being lost as well as information regarding assets being displayed incorrectly, thus negatively impacting the company in the long run.

Sub-theme 4 responses: The majority of the participants state that they would still include the deferred tax liability in the calculation of the debt-to-equity ratio as this item still reflects a future obligation of the entity, and the amount will have to be repaid in a future period. The inclusion of the liability as part of the debt is a better reflection of the debt-to-equity ratio as opposed to completely excluding it from the calculation. It is also proposed that two ratios, one including and the other excluding deferred tax, be calculated.

5 Conclusions and Recommendations

With regards to gaining a better understanding of the purpose and implications of the debt-to-equity ratio, it can be posited through reviewing the literature that this ratio conveys a particularly important message regarding the investment structure and

operational activities of the company. The debt-to-equity ratio is one of the most used ratios when it comes to measuring a firm's financial risk. Thus, it could be determined that the debt-to-equity ratio is a crucial ratio that can deliver valuable information regarding the debt management of a company. By examining and comparing the information gathered through the literature study and interviews performed, the conclusion can be drawn that the debt-to-equity ratio is certainly a particularly important ratio from both academic and practice viewpoints. However, the debt-to-equity ratio is not the most important, especially when compared to other ratios that deliver more valuable information.

The viewpoint regarding the debt-to-equity ratio is that the ratio should rather be used as a check ratio. Due to the considerable time constraint imposed on them, professionals in practice do not have time to adjust figures reported in terms of IFRS when calculating certain ratios. The proposed treatment of deferred tax in the calculation of the debt-to-equity ratio is one of the focus areas of this study and determining the separate ways this item could be treated is an area investigated in detail. Based on the literature study and interviews it can be determined that there are many ways of treating deferred tax when it comes to the calculation of the debt-to-equity ratio. Each one of these proposed treatments is supported in some manner by participants in academia and practice. The different treatments of deferred tax have many positive aspects, and some of these alternative treatments help to solve the whole debt-to-equity dilemma regarding the deferred tax liability, but each one of these alternatives can also have negative implications.

As a result of these findings the following recommendations can be made:

- Adjustments regarding figures reported in terms of IFRS should not be overemphasised as much time is devoted to the development of reporting standards to ensure that accurate management decision can be made; thus, making adjustments should not be a focus area when calculating ratios;
- The debt-to-equity ratio should not be calculated and used on its own. The ratio can deliver valuable information, but it is not the only ratio that analysts in practice take into consideration. Using this ratio in combination with, for example, debt-to-EBITDA will increase the value of information extracted;
- Focus must also be placed on the analyst who calculates and discloses a certain ratio because the background of the analyst and their views will affect how inputs like deferred taxes are treated in the calculation. This can have a significant impact on decisions made;
- The information used to calculate ratios across industries could be standardised as far as possible - if all of the debt-to-equity ratios in one industry includes deferred taxes while another industry excludes it from the ratio, comparability will be heavily affected which could lead to incorrect decisions being made;
- When calculating the debt-to-equity ratio it should be properly disclosed that the deferred tax liability is not a form of debt financing and that this item should not be taken into consideration when looking at the company's long-term capital structure;

- The views regarding the treatment of deferred tax in the calculation of the debt-to-equity ratio are similar between academia and practice as the overwhelming responses regarding this item are the same. The main issue faced by professionals in practice is a lack of time to calculate the debt-to-equity ratio in several diverse ways. Based purely on the responses from the interviews and the literature study performed it is recommended that the deferred tax liability should be included in the calculation of the debt-to-equity ratio as this treatment ensures that the item is considered when the debt-to-equity ratio is calculated;
- The deferred tax liability could be treated as equity in the debt-to-equity ratio. It is, however, recommended that disclosure or note should be made indicating that the deferred tax liability forms part of equity. The reason for treating the liability as such should also be stated. The equity holders of the company must also be informed in some way that they have no claim towards the deferred tax liability, and this is still an obligation to pay tax in a future period;
- Financial information should be kept as simple as possible. It is therefore not recommended that the deferred tax liability be offset against the cost price of the asset responsible for the taxable temporary difference. This could complicate matters unnecessarily and could lead to information being lost in the process; and

It is suggested that the debt-to-equity ratio always be calculated in two ways: one ratio should be calculated by including deferred tax in the calculation of the debt-to-equity ratio and another ratio should then be calculated excluding deferred tax from the calculation. By disclosing both ratios the user will be able to see what impact deferred tax has on the calculation of the debt-to-equity ratio, which will reduce the risk of decisions being significantly influenced by the incorrect treatment of deferred taxes. The user can then select the ratio that best suits their needs without completely ignoring the deferred tax liability.

5.1 Areas for Further Research

The study includes only interviews with academics from one of the universities in South Africa as well as portfolio managers and stockbrokers. As a future research opportunity academics from other universities could be included, and professionals from, for example, banks, could be interviewed, as the ratio is often used by banks and considered in terms of debt covenants.

The research only focuses on the treatment of deferred tax in the calculation of the debt-to-equity ratio. Future research could explore other inputs that factor into the calculation of this ratio which can also have a significant impact on the results obtained from this ratio. Other ratios impacted by deferred taxes can also be researched and what impact deferred taxes could have on decisions made based on these ratios. The study primarily focuses on the liability input of the calculation of the debt-to-equity ratio. In furtherance, more focus could be placed on equity and

what should be included as part of this item, because equity is an especially critical component in the calculation of the debt-to-equity ratio.

This study focuses solely on the debt-to-equity ratio from a South African company's perspective. Future studies could be performed to investigate how deferred tax could influence a company in other countries across the globe.

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