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Abstract: This paper analyses the permanent and temporary differences of South African firms for the period covered in the SARS-NT panel. The analysis provides valuable information about the differences between accounting profits and the taxable income of South African firms. The paper contributes to the understanding of the effect of specific book-tax differences for different categories of South African firms and provides a basis for the assessment of tax risk and evaluation of tax incentives by the South African tax authorities. In addition, it provides evidence of the trend of the creation or reversal of temporary differences for the 2013–18 tax years. Previous studies concerning book-tax differences focused on listed companies only. In our opinion, this paper is the first to include, in addition to listed companies, SME data as well as other companies' data that are not publicly available.

Key words: accounting profit, taxable profit, permanent taxable differences, temporary taxable differences

JEL classification: H25, M41, M48

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1 Background and introduction

In 1979, the International Accounting Standards Board (IASB) published 'IAS12 – Accounting for Taxation on Income'. The accounting standard for income tax was re-issued in 1996 as 'IAS12 – Income Taxes'. Companies applying International Financial Reporting Standards are required to adhere to the accounting treatment of (i) transactions and (ii) the future recovery and settlement of assets and liabilities in the financial statements (IASB 2017). For purposes of IAS12, income taxes include both domestic and foreign taxes, payable on the taxable income of a company.

In developing accounting standards, the IASB normally first publishes an exposure draft for public consultation. Feedback from practitioners, academics, and other stakeholders is then analysed and considered prior to the announcement of an accounting standard. The majority of the comments on IAS12 comprised of issues relating to the accounting for deferred tax assets or liabilities resulting from temporary differences.

The inconsistencies between accounting and taxation are a necessary concomitant of the current day and age. According to Green (1995), accounting and taxation have different objectives, are subject to different rules, and serve different purposes. For accounting purposes, information is normally prepared for decision-making and control purposes. The main purpose of taxation is to raise revenue to fund the economic and social obligations of government and to ensure that revenue is collected in an equitable manner. In the US Supreme Court case *Thor Power Tools Company v. Commissioner of Internal Revenue*, it was stated that '[g]iven this diversity, even contrariety of objectives, any presumptive equivalency between tax and financial accounting would be unacceptable.'

In the next session, a literature review is provided about the relationship between accounting and tax practices in selected countries. The methodology is described in Section 3, followed by the results and discussion in Section 4. Section 5 concludes while the limitations of the paper are discussed in Section 5.

2 Literature review

In the ancient barter economies, tax was initially levied on payments in kind. According to this system, people paid a certain percentage tax, normally 10 per cent of the annual produce of the land, to the religious leaders or other forms of government (Shaw 1975). During the Middle Ages, the balance sheet was used to calculate the tax liability of a taxpayer, and tax systems comprised mostly of wealth and property taxes (Wolfe 1966). The estimation of tax liabilities based on net asset values inevitably resulted in the undervaluation of assets. During the eighteenth century, a consumption tax system was in place in most of Europe. This tax system was however criticized for the heavy burden on the poor, and renewed calls were made for a tax system that corresponds with the economic ability of a taxpayer (Pfaff and Schröer 1996).

At the commencement of the nineteenth century, taxes in Germany were levied based on the class or status of a taxpayer. Personal finances or economic wealth were ignored, and it was not necessary to keep records of any kind. In 1851, a more equitable form of taxation was introduced in Prussia. According to this system, tax was levied on the net cash received during a particular tax period. At the time, many different practices existed to calculate tax within the different regions in Germany. In Sachsen, for example, tax was calculated based on separate tax accounts, while

commercially prepared accounts were used to determine taxable income in Bremen and Hamburg. The concept of taxing net receipts compared to the practice of using commercially prepared accounts to determine tax liabilities received a lot of attention during this time. Arguments against commercial accounts as the basis of the tax calculation maintained that excessive depreciation would reduce the tax base. Proponents of the commercial accounting method however suggested that it would be more cost-effective and uncomplicated not having to compile a second set of accounts for tax purposes. Tax reform in 1925 mandated that the Fiscal Court of the Reich should monitor principles of good bookkeeping. Although this function provided more authority to tax principles, commercially prepared accounts were authoritative for tax purposes, as long as it represented proper bookkeeping and was not in contradiction of any tax rule. Profit was seen as a net increase in capital, adjusted for withdrawals and contributions. Accounting rules were also mandated by the legal system or by the 'statue of the courts'. In addition, the setting of accounting standards and the interpretation of good bookkeeping practices was considered to be a responsibility of the government (Pfaff & Schröder 1996).

In Denmark, the first State Tax Act was introduced in 1903. Tax was calculated on annual revenue minus annual expenses according to the accrual principle. The initial legislation provided very broad guidance. Taxable income included business activities, interest, and dividends, while increase in capital values and gifts were tax free. Expenses were deductible for tax purposes if the expense was incurred in the production of income. In 1912, the Bookkeeping Act was promulgated, which required a summary of assets and liabilities. The State Tax Act confirmed the right of the tax authorities to dictate which items should be included for tax purposes. At an early stage, differences between accounting and taxation were cited, where accounting followed 'orderly and prudent business practice' compared to the right of the tax authorities to decide which income and expense items should be subject to tax. In this regard, the tax authorities could not justify additional depreciation or the impairment of inventory. After the Second World War, the situation in Denmark changed, when the tax rules were amended to incorporate fiscal objectives. Most companies continued to apply tax rules to compile financial statements, but the information was criticized for providing a 'distorted' reflection of the financial results. As a result, the auditing profession proposed two alternatives to address the differences between accounting and tax regulations. The first alternative was to adopt the Anglo-Saxon model, which required the disclosure of tax on the accounting profit in the income statement, current tax payable, as well as a deferred tax liability in the balance sheet. The other proposed alternative was to disclose the tax adjustments on the face of the income statement. According to this alternative, there would be no deferred tax assets or liabilities, but only untaxed reserves included in the balance sheet. The differences between accounting and taxation continued until 1981, when Denmark became the first Scandinavian country to separate financial statements and tax statements following the implementation of the Fourth EC Directive (Christiansen 1996).

In Sweden, a small number of differences existed between accounting and tax practices (Artsberg 1996). Up to 1955, companies were allowed to choose their own depreciation rates on assets, and the companies' valuation of inventories was accepted for tax purposes. Artsberg described the aforementioned practice as a 'too generous attitude of the tax authorities to valuation matters', which resulted in the undervaluation of assets. As a result, tax legislation reform condemned the use of free depreciation and valuation of assets. During this time, companies were also allowed to create hidden reserves with no related tax consequences or liability. The evolution of the stock exchange in Sweden required more comprehensive reporting, and hidden reserves, in particular, posed a problem to shareholders' information needs. Amendments to the Swedish accounting rules subsequently required companies to disclose all types of reserves, including 'untaxed reserves' (Rudnfeldt 1993). The differentiation of accounting and tax practices in Sweden were criticized because of the 'imprisonment' or restrictions of capital and the non-neutrality of the system

(Artsberg 1996). Practitioners expressed their concern that the tax authorities would invent their own rules, and that it would not be cost-efficient to apply different rules, especially for smaller companies. The practitioners furthermore argued that the accounting practices, including the depreciation and inventory valuation practices, evolved over time from commercial reasons, and that these commercial circumstances reflected the best estimate of a company's ability to pay tax.

Business profits in the UK were taxed since the eighteenth century. Both natural persons and legal entities were required to pay tax at a rate of 10 per cent on annual profits exceeding £200. At the time, generally accepted accounting principles and methods consisted of a wide variety of practices that could not always be relied on. For this reason, tax rules developed independently from accounting practices. The 'profit' and 'income' concepts were not defined in the early tax regulations, and different rules evolved over time for different types and sources of income. In 1845, surveyors were appointed by the UK government to assess the reasonableness of amounts declared for tax purposes. In support of information provided for tax purposes, registered companies were required to submit annual balance sheets, although not necessarily of a good quality (Edwards 1989). Towards the end of the nineteenth century, the number of registered companies increased, which resulted in a renewed emphasis on proper record-keeping and financial information. At the beginning of the twentieth century, there were approximately 60,000 registered companies in the UK. At the time, these companies were the only source of income tax in the UK. During the build-up to the Second World War, in an effort to finance the UK Government defence force, tax rates increased to as much as 50 per cent of taxable profits. A number of avoidance schemes existed, and concerns were raised about the significant differences between tax and accounting requirements. In this regard, the Institute of Chartered Accountants in England and Wales issued specific guidance about matters affecting taxation and the relationship between the business community and the tax authority. The first important recommendation required that the tax charge disclosed in the financial statements should be based on the annual profit for a period, and that not only the tax liability that accrued over previous periods should be disclosed. The second major recommendation declared that income tax is an expense with the view of 'tax as a distribution to the government as a stakeholder'. Another recommendation suggested that depreciation should be changed from the reducing balance method to the straight-line method. The tax authority, however, continued to use the reducing balance method, which resulted in considerable timing differences that required specific accounting guidance about the disclosure of deferred tax in the financial statement of companies (Lamb 1996). The legal distinction between accounting and taxable profits in the UK were therefore confirmed, which resulted in a practice of disclosing accounting profits in accordance with accounting rules followed by adjustments according to the tax rules to determine the taxable profit or loss for a particular year. In 1985, the Accounting Standards Committee issued Statement of Standards Accounting Practice (SSAP) 15 to provide guidance about the accounting treatment of deferred tax and included, amongst others, specific guidelines about timing differences pertaining to depreciation vs wear-and-tear allowances, the revaluation of assets, and tax consequences of a taxable loss. In addition, SSAP 15 provided accounting guidance about permanent differences, for example entertainment, gifts, and fines that are not deductible for tax purposes.

In the Netherlands, the Commercial Code of 1837 required that merchants should keep a journal to record transactions and the 'affairs of the trade'. Companies were required to compile a balance sheet and a profit or loss statement. The initial regulations provided guidance about the measurement of assets, but there were no requirements for liabilities and the income statement until 1971, when the Accounting Act was promulgated. The Accounting Act provided more detailed guidance and required that financial statements should be 'generally acceptable' and that it would enable users to make 'sound judgments and decisions' based on the content of the financial statements. Accounting practices in the Netherlands were also influenced by the

Enterprise Chamber and the Council for Annual Reporting. The Enterprise Chamber enabled interested parties and the Public Prosecutor to interpret the soundness of the judgments made in the preparation of the financial statements, similar to the Securities and Exchange Commission in the United States. The Council for Annual Reporting provided reporting guidelines to preparers for financial statements. In summary, the accounting practices in the Netherlands have been influenced by the Anglo-Saxon model with a great deal of flexibility. In this regard, accounting has been described by Nobes and Parker (1991) as a system that is 'extremely judgmental' in nature. The Act on Company Taxation was introduced in 1893 to regulate the taxation of company profits. The initial aim of the act was to only tax distributed profits. In 1917, however, the War Profit Tax Act required that undistributed profits should also be taxed. More detailed guidance about the calculation of taxable profits was provided in the Profit Taxation Decree in 1940, which determined that companies should be taxed on the movement in the capital during a financial year. At the time, there was however no specific guidance about the valuation of assets and liabilities in the balance sheet, apart from the requirement to determine values based on 'sound business practice' and on current cost or current replacement values (fair values). In 1947, however, the Tax Reform Act was published, which required that fixed assets and inventories should be recognized for tax purposes at historical costs. It is therefore evident that the Dutch system has different methods to determine accounting and taxable profits, where the goal of accounting profits is to provide fair presentation of the financial position, and the goal of tax is to determine a fair tax charge (Hoogendoorn 1996).

In 1914, accounting has been described as an under-developed discipline in France. There were no specific accounting rules or regulations, and the determination of profits has been described as 'being subjected to all sorts of creativity and fantasy' (Frydlander and Pham 1996). Accounting was considered to be at a lower level of the legal hierarchy compared to tax rules and regulations in the French context. Although the principle of unity was confirmed for purposes of simplicity and cost implications, an 'unbalanced relationship' existed between accounting and taxation due to the 'aggressive interpretation' of the autonomy of fiscal law by the tax authorities. It is suggested that taxation played a major role in influencing accounting practices in France. The influence of tax on accounting has been cited as an important instrument of the state to influence the economic and social behaviour of companies. The fiscal authorities continued to affirm the autonomy of tax law and demanded the application of tax rules, often at the expense of accounting practice. Moreover, the tax authorities introduced a number of regulations to limit the scope of accounting judgments that restricted the autonomous development of accounting in the French context. In this regard, accounting has been described as the 'necessary basis', or the mere starting point, before taking into account autonomous tax rules (Frydlander and Pham 1996).

3 Methodology

Gallego (2004) analysed the number and types of tax adjustments for listed Spanish firms. Her study comprised of audited annual accounts from 1996 to 1998 and consisted of 273 firms. She found that that welfare schemes, provision for pensions, monetary corrections, accelerated depreciation, and exemptions for reinvestment are the most frequent types of permanent and temporary differences.

The assumption that companies will disclose inflated income figures to the shareholders and bear the extra income tax expense is not always true (Erickson et al. 2004). It may be possible to manipulate accounting earnings and at the same time evade taxes by utilizing tax incentives (Dharmapala and Desai 2009). Rohaya et al. (2009) provided empirical evidence that Malaysian listed firms reported higher financial accounting income to shareholders and lower taxable income

to the tax authority. They suggested that the large gap between accounting income and taxable income is a result of extensive tax planning and concluded that taxable income provides useful information about the quality of reported earnings.

Kourdoumpalou and Karagiorgos (2012) investigated the interaction between taxable earnings and accounting earnings. Their investigation focused on corporate tax behaviour and the extent of tax evasion by Greek firms. They found that 16 per cent of Greek firms are involved in tax evasion. Mingjun (2016) analysed large book-tax differences in relation to earnings management and the influence on future earnings. His analysis included temporary book-tax differences and the level of tax planning by Fama–French 10 industries companies.

The focus of this paper will be on differences between accounting and taxable profits of South African firms. South African companies are required by the Companies Act (28 of 2008) to prepare financial statements in terms of International Financial Reporting Standards (IFRS). The South African Income Tax Act (58 of 1962) imposes normal tax in respect of taxable income, as defined in Section 1 of that legislation.

The South African Revenue Service (SARS) and National Treasury firm-level panel (hereinafter the ‘SARS-NT panel’) contain information about company income tax (CIT) data (National Treasury and UNU-WIDER 2021). The CIT data comprise firm characteristics, financial information, and specific detail about the accounting profits of firms and the adjustments made for tax purposes (Pieterse et al. 2018).

It is submitted that gaining an understanding of the trends in and correlation between various measures of profitability determined for South African companies in terms of accounting standards and tax legislation, respectively, will be beneficial to:

- firstly, the South African Revenue Service when performing risk assessment on returns submitted by taxpayers; and
- secondly, the South African National Treasury when performing analysis of the estimated impact of changes in tax legislation.

To gain such an understanding, the proposed research will aim to answer the following research question: *What describes the trends between various descriptors of profitability prepared for accounting and tax purposes by South African companies?*

In answering the aforementioned research question, we analysed the permanent and temporary differences of the companies from the available data. The South African Revenue Service and National Treasury Firm-Level Panel, as described by Pieterse et al. (2018), was utilized to firstly summarize the main income and expenditure items and to calculate the accounting profit or loss for each firm included in the data panel.

The calculation of the accounting profit or loss was subsequently adjusted for the different types of adjustments in order to calculate the taxable income for each firm, as well as for each financial year covered in the data panel. The analysis furthermore comprises of a summary of the permanent and temporary differences, whether the differences are positive or negative, as well as a comparison and analysis of permanent and temporary differences for the different financial years covered in the data panel.

For purposes of the initial analysis, only data from the ITR14 information have been included in the results below. Information pertaining to the previously used IT14 tax return was excluded due to the significant differences between the current and the previous versions of the South African

tax return for companies. Companies classified as small business corporations (SBC) were eliminated due to the fact that these companies paid SBC tax instead of the normal income tax of 28 per cent (915,364 observations).

The remaining panel data comprised of a significant number of companies with an accounting profit equal to nil. From the total remaining observations (4,252,979) only 1,793,967 of the observations represented companies with an accounting profit or loss for the tax year under review. The information is summarized in Table 1 below.

Table 1: Companies with a net profit or loss per tax year

Tax year	Mean	Standard deviation	Frequency
2013	ZAR3,131,666	1.26E+08	309,951
2014	ZAR3,793,308	1.55E+08	307,429
2015	ZAR3,774,206	2.07E+08	305,562
2016	ZAR5,129,799	4.38E+08	307,241
2017	ZAR4,300,577	2.28E+08	300,635
2018	ZAR3,530,982	1.84E+08	263,149
Total	ZAR3,951,161	2.46e+08	1,793,967

Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

Before excluding dormant or non-active companies from the data, however, we observed that certain dormant companies had notable tax adjustments. In addition, companies with accounting losses were also not eliminated as these companies had meaningful tax adjustments during the tax year under review.

4 Results and discussion

This section of the paper presents a descriptive analysis of the relationship between accounting profits and taxable income.

4.1 Relationship between accounting profit and taxable income

The starting point for the analysis performed was to gain an understanding of the relationship between the accounting profit and the taxable income of entities in the population. Table 2 provides an overview of the relationship between the weighted average net accounting profits and the weighted average taxable income for all entities in the population across the years covered by the data.

For purposes of the analysis, the adjustments made to net accounting profit to calculate taxable income were categorized as:

- Adjustments of a permanent nature. These are adjustments made only to accounting profit or taxable income and do not represent timing differences.
- Adjustments of a temporary nature. These are adjustments made to both accounting profit or taxable income and represent timing differences.
- Adjustments that may contain both items, or where it was not possible to determine whether it is permanent or temporary in nature.

Table 2: Comparison between average accounting profit and taxable income across the population

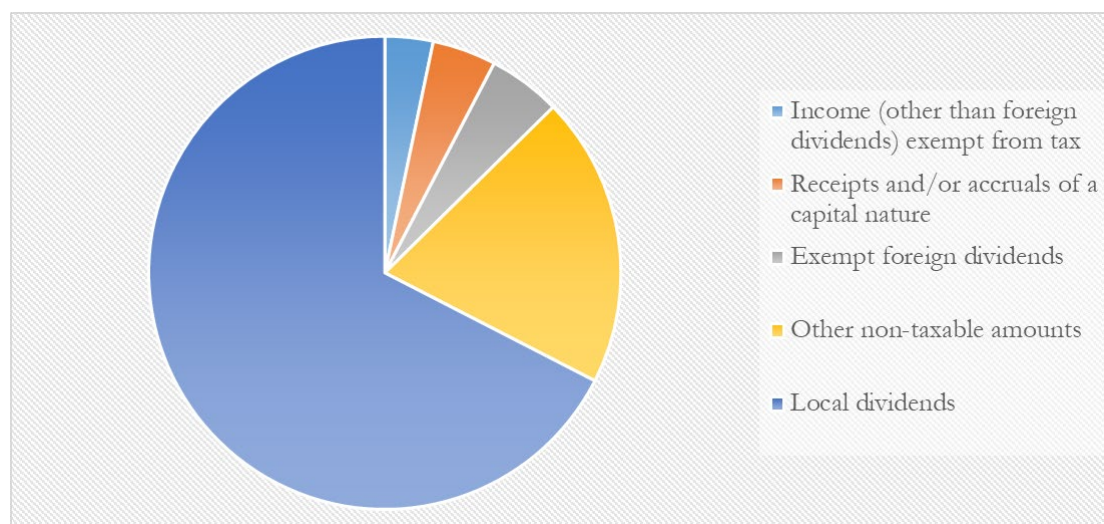
	Weighted average	Percentage of accounting profit
Net accounting profit	ZAR1,666,656	
Non-taxable permanent adjustments	(ZAR1,180,509)	-71%
Non-deductible permanent adjustments	ZAR112,994	7%
Temporary differences	ZAR44,114	3%
Deductible temporary differences	(ZAR1 407,917)	-84%
Taxable temporary differences	ZAR1,452,031	87%
Combined/unknown	ZAR42,209	3%
Taxable income	ZAR647,921	39%

Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

Although the effect of the gross average amounts of deductible and taxable temporary differences are significant in relation to the average net accounting profit, the net effect over a period of approximately five years was only three percent of average net accounting profits. This is in line with the expected outcome, since timing differences should reverse and eliminate over time.

The significant effect of non-taxable permanent items is perhaps the most noteworthy observation from Table 2. At first glance, this appears to suggest that a large portion of accounting profits remain untaxed. Figure 1 presents the top 5 items that contribute approximately 93 per cent of the total non-taxable adjustments of a permanent nature.

Figure 1: Top 5 non-taxable average permanent adjustments



Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

Local dividends that are exempt in terms of section 10(1)(k) of the Income Tax Act are the single biggest contributor to this adjustment category. It accounts for approximately 63 per cent of the non-taxable adjustments of a permanent nature. These dividends do not represent profits that went untaxed, but rather profits that have already been subject to income tax in another entity

when earned. Instead, this exemption prevents cascading of corporate income tax at the level of every shareholder through whose hands the dividends pass.

Foreign dividends are similarly intentionally exempt (or partially exempt in some instances) from normal tax, even though South Africa lacks the ability to directly tax the foreign companies that pay these dividends (National Treasury 2011). This exemption arguably does not represent a leakage from the tax base.

The items in Figure 1 that may be of concern to the legislature and the SARS are the non-taxable items broadly categorized as ‘Other non-taxable amounts’ (19 per cent), ‘Capital receipts and accruals’ (4 per cent) and ‘Income exempt from tax, excluding foreign dividends’ (3 per cent). The ITR14 tax return does not describe and categorize these amounts that were not subject to tax. As a result, the tax authorities may not have information to assess the risk that taxpayers treated these amounts incorrectly.

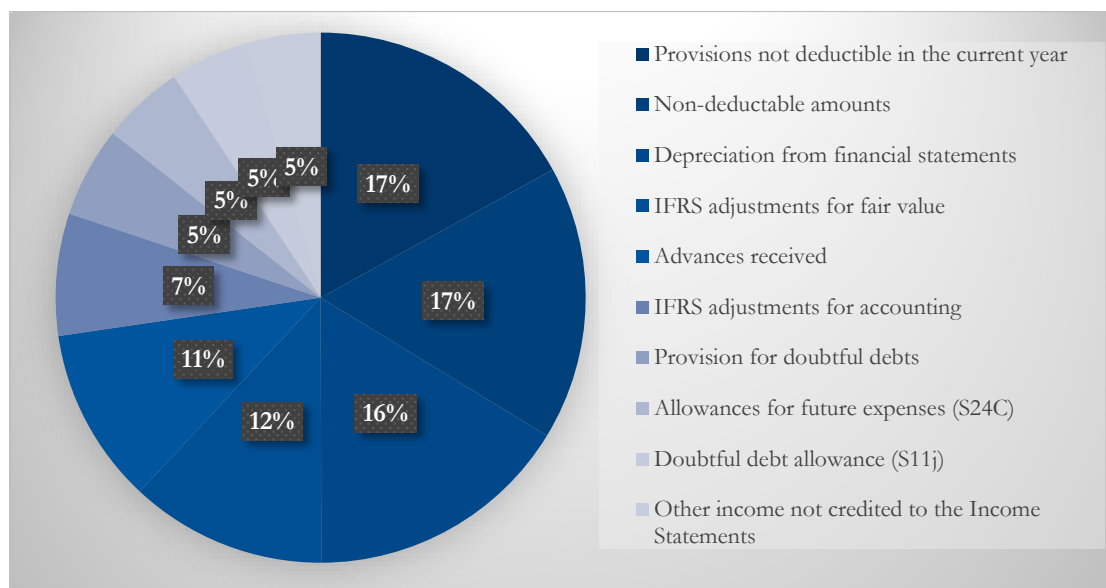
4.2 Further description of adjustments

An understanding of adjustments that have the most significant impact, either in aggregate or individually, should assist the tax authority to effectively focus compliance and investigative efforts.

Figure 2 presents the top 10 adjustments that increase taxable income (credit adjustments). These adjustments account for approximately 78 per cent of all credit adjustments made by companies. Figure 3 presents the top 10 adjustments that decrease taxable income (debit adjustments). These adjustments account for approximately 83 per cent of all credit adjustments made by companies.

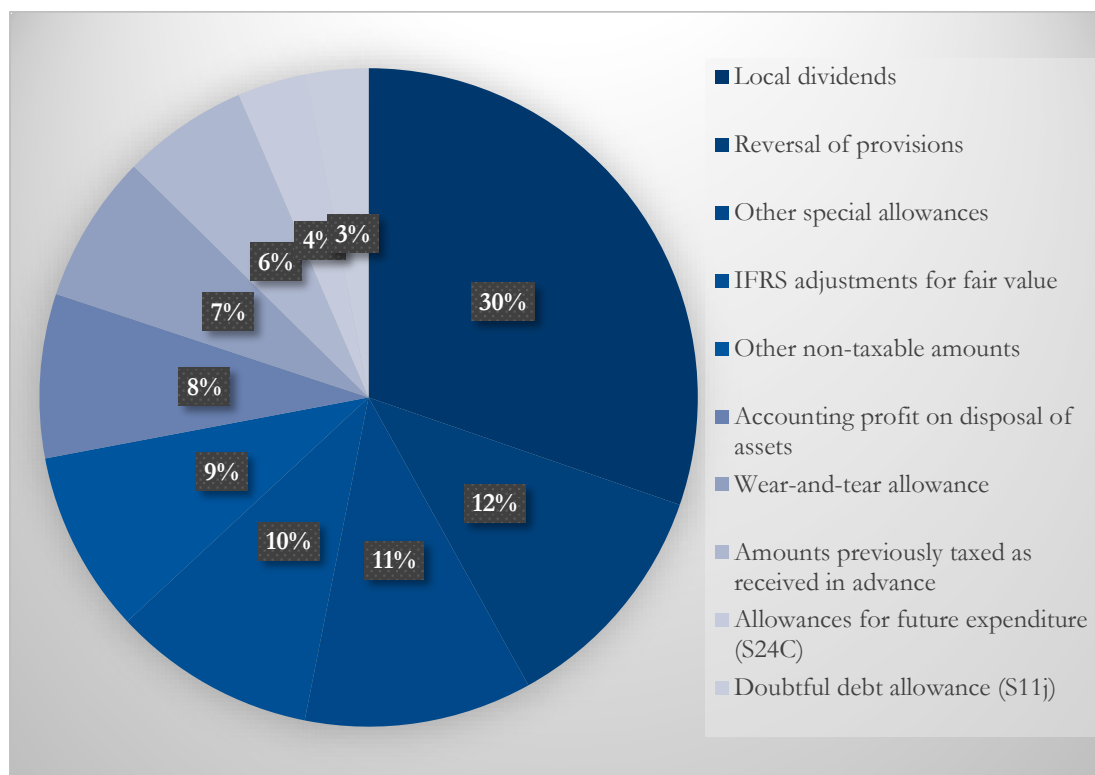
These adjustments in these two figures were ranked based on the average effect on the calculation of taxable income. This means that they account for the most significant adjustments on an aggregated basis in the context of the overall population of companies. The individual adjustments by specific taxpayers may not necessarily be significant.

Figure 2: Top 10 credit adjustments by average amount



Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

Figure 3: Top 10 debit adjustments by average amount



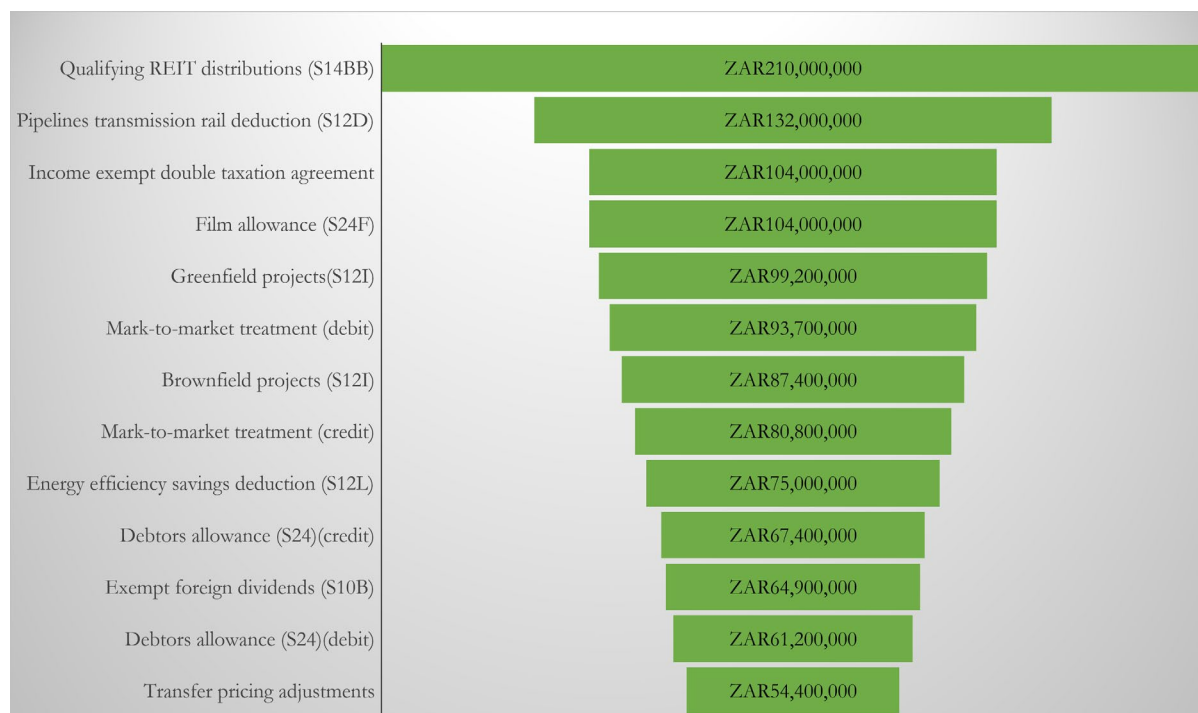
Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

It is again evident that significant components of these adjustments fall into broad categories, such as 'Other special allowances', 'Other non-taxable amounts' and 'Other non-deductible amounts'. It is unclear what these categories of adjustments would include. As noted earlier, such descriptions are not conducive to effect monitoring of compliance and risk assessment by the tax authorities.

While it is useful to understand the most prevalent adjustments made by companies, industry-specific knowledge may be of more value to the tax authorities. This would assist them to focus on the most relevant adjustments made by entities in specific industries. We did not perform this analysis in this paper (at the time of the analysis, it was discovered that all the industry codes were not included in the data panel). We do however recommend that it should still be performed.

In contrast to the above adjustments that have the most significant effect on the calculation of the average taxable income, there are several adjustments that may not impact the average taxable income significantly across the population but are significant in amount when they occur. These are adjustments with a high mean, as opposed to a weighted average value. From the perspective of the tax authority, these adjustments may be focus areas, given the substantial amounts involved in relatively few adjustments. Figure 4 shows the adjustments for which the mean amount per adjustment exceeded ZAR50 million in the overall population.

Figure 4: Adjustment with mean per adjustment in excess of ZAR50 million



Source: authors' calculations based on National Treasury and UNU-WIDER (2021).

Similarly, to the most significant adjustments by average amount, it would arguably be useful to determine the adjustments with the most significant mean in various industries. This would assist tax authorities to focus their attention on those high value adjustments in each industry.

5 Conclusion

Despite the worldwide application of IFRS, the autonomous nature of tax rules cannot be denied. From an accounting perspective, most companies calculate accounting profits in accordance with internationally recognized accounting practices. For tax purposes, however, taxable income should be calculated based on national tax legislation. This paper provides evidence of the adjustments that are made between accounting profits and taxable income by South African companies. Our analysis identified the major types of tax adjustments, as illustrated in Figure 2 and Figure 3, where credit adjustments represent adjustments that increase accounting profits compared to debit adjustments that should be deducted from accounting profits to calculate taxable profits.

Our analysis provided evidence that timing differences reversed over the five years covered in this paper. In this regard, we observed a marginally 3 per cent difference between deductible (84 per cent) and taxable (87 per cent) temporary differences, as illustrated in Table 2. The non-taxable permanent differences (71 per cent) in Table 2 did, however, exceed the non-deductible permanent differences (7 per cent) by a significant margin. This difference could be interpreted as an excessive deduction allowed by the tax authority. A further analysis revealed that the majority of the non-taxable permanent differences comprised of dividends received. However, in the South African context, most dividends are subject to dividend withholding tax. The tax revenue generated through dividend withholding tax was however outside the scope of this paper and could be the subject of a future research paper.

6 Limitations of the paper

The results reported are subject to the following limitations:

- The data relating to industry codes attached to the entities in the population was not complete at the time of the realization of this paper. A further analysis of the results by industry would arguably provide researchers and policy-makers with a much deeper insight into the reasons for the difference between accounting profits and taxable income in a more focused way than when considering the population as a whole.
- The number of dormant companies included in the panel data is a cause of concern. As explained in the methodology section of this paper, more than 50 per cent of the companies did not report an accounting profit. Our analysis revealed that 1,911,112 companies included in the panel data were classified as dormant according to the main industry code (CP_Misc = 9994). Our analysis also revealed that 2,452,652 companies of the total panel data reported zero values for both accounting profit and taxable income. Further analysis of dormant and non-active companies is required to determine the effect on the results reported in this paper.

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