Tax Research in South Africa[1]

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Abstract: This framing paper has two main goals. We first provide a brief survey of the economic literature on taxation South Africa. Second, we attempt to offer some ideas about areas and topics on which more information is needed and which are therefore suitable topics for further research. Replications of earlier studies, conducted by older South African data or elsewhere, is also considered in this context. We present our thoughts on gaps in the literature and make some recommendations on future research possibilities.

Key words: taxation, South Africa, literature, tax incidence

1. Introduction

This framing paper reviews relevant economic literature on taxation in South Africa[5] and offers some thoughts on further research. Notice that this note focusses on economics research, and therefore other areas (including research in tax law) are not dealt with in detail. The paper also synthesizes some of the findings from a South African Revenue Service (SARS) report on questionnaire responses by tax experts. The actual summary is available as a separate document.

In addition to the more theoretical work on taxation, applied tax research usually consists of studies in these broad areas:

- **Tax incidence**: This is related to examining who eventually will pay the financial burden of a tax. The financial burden can fall on a different individual than the one who actually remits the tax to authorities. For example, the value-added tax is passed through to prices, and eventually consumers are affected by the tax because of diminished real income. Similarly, the corporate income tax can lead to higher prices for consumers and lower wages and salaries for workers, in addition to reducing the rate of return of firm owners.
- **Distributional impacts of tax-benefit policies**: Much of this work examines the impact of tax-benefit policies on the distribution of income and consumption possibilities and on the reduction of market income inequality by fiscal instruments between households at different income levels. However, interest in examining differences between groups of people (e.g. divided by ethnicity, gender, or area) has increased in recent years.
- **The causal impact of tax policies on taxpayer behaviour**: this work typically utilizes variation in the tax treatment generated by tax reforms or discontinuities in the tax schedules to create a situation where some, but not all, taxpayers face tax changes. This quasi-experimental research strategy, combined with having access to large administrative databases, has dominated modern empirical tax research recently. Researchers have used this approach to examine the impacts of taxation on various outcomes, including labour demand and supply, investment and savings, and reactions in taxable income. The reactiveness of the tax base, or the elasticity of taxable income, has been shown to be a key variable of interest, as it is (under certain conditions) a valid summary measure of the distortions the tax system creates; see Saez et al. (2012) and Kleven (2018) for surveys.
- **Work on tax systems more broadly:** this involves the impacts of administrative procedures on tax collection, in particular, the consequences of compliance measures meant to mitigate tax avoidance and evasion. The theoretical underpinning for such work is provided by Keen and Slemrod (2016) who show how the responsiveness of the tax base to administrate measures is another useful indicator which is needed to guide tax policies. Given globalization and the importance of multinational enterprises for small open economies, work on gauging the extent of international tax avoidance is of special interest.

[5] Much of this work is very recent and has been made possible by access to administrative, taxpayer-level, data. For a description of these data, see Pieterse et al. (2018).

- **The role of taxation as a corrective device:** It is well known that tax instruments can also be used to restore efficiency in the presence of externalities. Examples include the impacts of corrective environmental taxation and subsidies on R&D expenditures.

This paper proceeds as follows. Section 2 offers a short literature review on empirical work in the economics research on taxation in South Africa. The section is organized by research on different tax instruments. In Section 3, we appraise the literature reviewed in the light of the broad thematic research areas outlined above and attempt to identify important areas of missing information. This can hopefully be used in thinking about future research topics in the area of tax.

2. Literature review

2.1 Personal income tax

As mentioned in the introduction, a key outcome measure is the responsiveness of the personal income tax base, that is, taxable income to changes in the marginal income tax rate. As far as we know, the only study in this area using South African data is the one by Kemp (2017). He uses administrative data provided by SARS and the National Treasury and examines the elasticity of taxable income based on the idea of 'bracket creep' or 'fiscal drag'. This refers to the notion that if the tax band thresholds are not raised in the same proportion than income growth, taxpayers close to a kink point in the marginal income tax schedule face an increase in their marginal income tax rate, whereas people located further away from the kink points form a comparison group. The estimated elasticity of taxable income is in the area of 0.25-0.3, whereas the elasticity of broad income (income before deductions) is lower. These findings are well in line with international evidence. A caveat, that the author of this carefully conducted econometric paper raises, is that the identifying variation used for measuring tax changes could ideally have been greater.

The Employment Tax Incentive, targeted to employers of young low-income workers is a major tax policy measure that is meant to reduce unemployment among the youth in South Africa. Ranchhod and Finn (2015) use the Quarterly Labour Force Survey (QLFS) data to examine the impacts of the initiative on youth employment, finding a zero impact. It is important to note that they estimated the effect of being eligible, in other words the intention to treat effect rather than the treatment impact on the treated. Ebrahim et. al. (2017) instead use tax data to examine the change in labour demand for youth at firms claiming the tax incentive. The authors find, with the exception of the very large firms, that there is an increase in youth employment at subsidy claiming firms in comparison to non-subsidy claiming firms. They use a matched difference-in-difference approach.

Rasmussen (2017) simulates, using a tax-benefit microsimulation model, that does not include behavioural reactions, the impacts of introducing a negative income tax in South Africa. The tax consists of a lump-sum grant given to all, which is taxed away when income increases via a proportional income tax. She simulates two different amounts of lump-sum benefits and finds that the poverty eradication achieved with the policy implies a great fiscal burden for the government.

Continuing in the area of distributional impacts, Wright et al. (2018) consider different options of financing a universal child benefit via changes in the personal income tax. The analysis is conducted using SAMOD, a static tax-benefit microsimulation model for South Africa. The simulated reforms offer different alternatives that the policy makers can consider should they wish to expand child benefits.

A large-scale evaluation of the redistributive impacts of fiscal policies in South Africa, conducted using the so-called Commitment for Equity method and 2011/12 data, is available in Inchauste et al. (2015). They find that the burden of taxes—namely the personal income tax, the value-added tax, excises on alcohol and tobacco, and the fuel levy—falls on the richest in South Africa and social spending results in sizable increases in the incomes of the poor. The extent of inequality and poverty reduction using these instruments in considerably large compared with other emerging markets: Inequality falls from 0.77 to 0.69 due to direct taxes and transfers as measured by the Gini index and food poverty headcount ratio from 40.8 per cent to 23.4 per cent. Needless to say, even after taxes and transfers, inequality remains extremely high.

Maboshe and Woolard (2018) continue this analysis and dig deeper into some details of the tax system, in particular tax allowances. They find that the medical tax credit and the (partial) exemption of interest income are actually regressive, i.e. they increase income inequality. They also document how the distribution of the transfers is not particularly well targeted among Whites, Coloureds, and Indian/Asians. The large majority of transfers are, however, highly progressive.

A unique study that uses an experimental economics approach for examining the determinants of attitudes towards taxation is the one by Gcabo and Robinson (2007). They find that the subjects' behaviour is, to a large extent, determined by economic factors, along the lines of expected utility theory, but psychological factors are also important.

2.2 Taxes on consumption

A couple of studies investigate the suitability of zero rating of certain expenditure items in value-added taxation as a redistributive device. Jansen and Calitz (2015) examine the implications of removing zero rating on the real incomes of the poor. Their results indicate that zero rating helps the poor proportionally more than other income classes because of a greater expenditure share of zero-rated goods among low-income households.

van Oordt (2018) studies the same matter but he also asks whether the same poverty reduction could be achieved with a lower cost by using the recouped revenue from abolishing zero rating to finance cash transfers to the poor. To do so, he builds on his earlier work (van Oordt 2016) and uses a QUAIDS consumption demand system for South Africa for eight broad consumption categories and a separate model for different foodstuff demand. He uses the model to simulate the impacts of various scenarios where zero rating is (partially) abolished and the revenues are used to finance cash transfers. His main conclusion is that cash transfers are the preferred instrument if all the additional revenue from eliminating the zero rate can be earmarked and there is no leakage in targeting the transfer.

2.3. VAT: Value Added Tax

In South Africa, Value-Added Tax (VAT) is critical revenue to the government, it is levied at 15 per cent of goods and services produced, imported in South Africa. According to Sandford et al. studies have suggested that the VAT is the most burdensome of all business taxes. Sandford noted that it was a tax whose compliance costs tend to be disproportionately high, constituting a major disadvantage to set against its significant merits. VAT compliance costs comprise of three core elements as per taxpayers', these are unpaid helpers' time, tax practitioners' fees and incidental costs (such as computer software packages) there are a number of other costs that need consideration.

In an attempt to improve compliance and VAT revenues but still taking into consideration compliance costs, developing countries can consider many of the legal designs and administrative remedies. Legal design features include technological solutions that support electronic invoicing, higher VAT thresholds, limitation of exemptions and zero-rated items, moving to a single-rate VAT, introducing special small business schemes (subject to caveats) and providing an option for the cash method of accounting for VAT. Administrative remedies that warrant attention include the centralization of VAT systems and their collection processes, the introduction of integrated electronic systems that replace time-consuming manual practices, risk-based registration and audit processes that accord with appropriate risk identification and management protocols, keeping filing of returns and supporting documentation to a minimum, the introduction of streamlined refund systems that maintain processing times of 30 days or less and lastly, but by no means least, the provision of appropriate resources and the upskilling of revenue officials to ensure delivery of efficient and quality services to taxpayers.

The outcomes of the research by Evans et al. (2014) are reasonably consistent across all four countries (Canada, UK, South Africa and Australia) and confirm that compliance costs for the small business sector continue to be high in both absolute and relative terms. Even within the sector they are very regressive, and transactional taxes such as the GST/VAT continue to be the cause of the highest compliance costs. The research also shows that those compliance costs do not appear to be diminishing over time (Lignier and Evans 2012; Lignier, Evans and Tran-Nam 2014). Whilst money and time spent on compliance are the items most frequently measured, small business owners may also experience anxiety and psychological costs in meeting their tax obligations (Woellner, Coleman, McKerchar, Walpole and Zetler 2001).

The use of value-added tax (VAT) zero-rating has become widely accepted internationally to mitigate the progressivity of the tax. From an economic perb spective, it remains contestable whether VAT zero-rating is the most cost-effective way of targeting the poor. Calitz and Jansen (2016) address some topical issues on VAT zero-rating in South Africa. They first ask whether (conceptually) zero-rating should be a consideration within the context of tax theory literature, and then quantify the impact on the poor if zero-rating was to be removed, as well as the tax revenue implications thereof. They compared the cost of VAT zero-rating with the benefit, using data sourced from the Income and Expenditure Survey 2010/11 and the Estimates of National Expenditure. Their findings showed that VAT zero-rating (compared with existing social transfer programmes) is not cost-effective when targeting the poor.

2.4 Corporate income tax

World Bank (2015) calculates effective marginal tax rates (EMTR) for capital investment across different sectors in South Africa. The analysis is based on sector aggregates of parameter values, such as depreciation rates, capital structure, and tax allowances, to calculate the effective tax burden on marginal investments. They note that with the exception of certain type of mining, all sectors face a lower EMTR than the statutory corporate tax rate of 28 per cent. There is, however, substantial variation in EMTRS, which range from -19 to around 31 per cent. This is due to some sectors benefitting from accelerated depreciations and the beneficial tax treatment of debt. The results indicate the policy measures that work towards a more neutral corporate tax system should be considered.

Carreras et al. (2017) also examine effective tax rates (ETR) but more based on a data-driven, rather than theory-based, method. They use the ratio of tax liability over gross profits as their measure of an effective tax rate, and they provide descriptive analysis how ETR is the highest for smaller firms, lowest for mid-size firms and again higher for the largest companies. One of their findings is that expenses do not fully explain the pattern of ETR across the distribution, especially for small corporations.

Based on simulations conducted using a computable general equilibrium model, Erero and Gavin (2015) investigate the impacts of the dividend tax increase on the South African economy. The authors find the initial effect to be small and positive, but that the impact grows over time. The surprising finding of a positive growth impact from the dividend tax increase is due to rise in the savings rate driven be greater government resources.

Turning to econometric work, Boonzaaier et al. (2018) investigate the consequences of the Small Business Tax regime for the behaviour of target group firms. This is a tax incentive targeted to companies whose turnover does not exceed 20 million rand and which fulfil some additional criteria. The profits of these companies are taxed at a progressive scale from zero to 28 per cent. Using the bunching approach, they find that firms strongly respond to these tax incentives (i.e. firms' profits tend to be located in the areas just below the kink points where the marginal tax rate on profits increase). However, the authors argue, the large number of observations before the kink point suggests a significant part of this response is due to reporting rather than real behaviour. One indication is that bunching at the upper kink point is very sharp and the excess mass moved immediately when the location of the kink point was changed in a consecutive year.

Lediga et al. (2018) offer a rich analysis of corporate taxation and the effects of enforcement in a paper which combines information from SARS corporate income tax returns, audits, and the country's commercial register. In 2008 and 2014, SARS merged information from companies listed in the commercial register in an attempt to find out evading firms. The comparison of the two administrative data sets revealed 300,000 evading firms. After these extensive-margin evaders were forced to register also as taxpayers, they still continued to report lower incomes than firms that had always been in the tax net. The analysis suggests that the gap in reported income is due to the smaller size and productivity of non-compliant firms, which is in line with the idea of there being a 'missing middle'[6] of firms in developing/emerging economies, where some firms choose to remain smaller to 'fly under the radar'. One of the findings corroborating this mechanism is that when firms were audited, their reactions in terms of corrected income at the intensive margin were similar irrespective of their earlier extensive-margin evading status. The additional revenue gathered from these companies amounted to 2.2 billion

[6] See Dharmapala et al. (2011).

rand, suggesting that cross-checking across different administrative data bases is a promising avenue for boosting compliance.

In response to a concern about tax compliance costs, governments have often endeavoured to implement tax policies in the form of concessions that produce favourable outcomes for the small business sector (Pope 2008: 14). Such special tax concessions for small business fall mainly into two categories: positive concessions that provide a lower rate of taxation, an exemption or an accelerated deduction; and relieving concessions that excuse the taxpayer from requirements otherwise imposed (Payne 2003: 87). While the first category of provisions can be expected to have some impact on the burden of tax compliance, it is the second category that is expected to have the more significant impact on the compliance costs of all small businesses. Such relieving provisions include registration thresholds, simplified accounting rules and time related concessions.

Small business taxpayers surveyed for the study by Evans et al. (2014) perceived that they were deriving benefits from tax compliance activities in the form of better financial information that helps them to manage their businesses. The two main sources for these benefits seemed to be the enhanced quality and accuracy of record keeping and access to better knowledge of financial affairs. The generally consistent results suggest that the realisation of managerial benefits was not dependent on the specific nature of tax compliance obligations. However, even though managerial benefits were perceived by a majority of taxpayers in all four countries, their importance might vary. Further research is required in each country to attempt to measure the extent of these benefits.

A deductive research approach was adopted using a survey strategy (Saunders et al. 2007: 119-122, 138). An empirical study was conducted collecting data from respondents by means of an electronic questionnaire distributed by the SARS, which was the measurement instrument in this study.

The findings of the survey indicate that there is possibly a slight bias towards the larger end of the small business sector, but that comparison with previous tax compliance cost studies was nevertheless justified. It was estimated that it took small businesses (not on the turnover tax system) an average of 255 hours per year to comply with tax legislation. Turnover tax respondents spent just under two thirds of the time (155 hours) to comply with their tax obligations compared to similar businesses not registered for this tax. The mean gross tax compliance cost for small businesses is R63 328 per year (R53 356 internal plus R9 882 external tax service provider costs). Net tax compliance costs could not be calculated as the value of the managerial benefits could not be quantified. Notwithstanding this, it was confirmed for the first time in South Africa that a large majority (75 per cent) of the respondents perceived there to be benefits to tax compliance. In particular, they believed that keeping tax records was an incentive to keep better and more accurate records and that this, in turn, led to a better knowledge about the financial position and profitability of their businesses

This study uses multiple regression analyses to investigate the factors influencing small business internal tax compliance costs (hours spent on internal tax compliance activities). Not only did the regression analyses results provide information on the significant determinants per tax type but they also enabled a comparison to be made to understand whether or not these determinants are the same across the different tax types. The statistically significant determinants of internal tax compliance costs included the following: number of employees (PAYE), sector (CGT and income tax), legal form (VAT and income tax), age of the business (CGT and turnover tax), turnover (VAT, income tax, PAYE and turnover tax), the level of education of the respondent (income tax), the accounting knowledge of the respondent (income tax and PAYE), the use of an external service provider (VAT and PAYE) and the type of accounting system used (VAT).

Finally, there are interesting studies in the area of taxing multinational companies. Reynolds and Wier (2016) estimate how profits of multinationals based in South Africa are related to the tax rate of the parent company, while controlling for other determinants of profitability. The results, stemming from firm-level analysis, suggest that reported profits in South Africa tend to be the lower, the lower is the tax rate in the home country, suggesting that multinational companies have managed to find ways to shift income using transfer mispricing. Interest payments are, likewise, driven by the tax difference. The extent of the link between profitability in South Africa and parent tax rate appears to be stronger than in high-income countries.

Wier (2018) uses very detailed transaction-level data to examine whether multinational companies adhere to 'arm's-length' pricing practices in their international transactions. He is able to compare transactions on a similar product within the same company group that take place between high and low tax rate affiliates. He finds that related imports from low tax countries are overpriced by at least 8 per cent compared to the estimated arm's-length price. This is a statistically significant piece of evidence which is highly indicative of purposeful transfer mispricing. The size of the effect is, perhaps somewhat surprisingly, not greater than what has been found in earlier studies using data from high-income countries. He also examines the efficacy of recent policy measures targeted to combat transfer mispricing. These measures did not appear to have any long-term effects on international income shifting.

2.5 Corrective taxation, tax mix, and tax simplification

Alton et al. (2014) offer a computable general equilibrium analysis of the likely outcomes of introducing a carbon tax in South Africa. A carbon tax large enough to help react the emission reduction target reduces employment and welfare as well – but not taking into account all the potential benefits. The way the revenues are recycled to the economy has strong distributional impacts.

While a study within public health, Manyema et al. (2014) is partially based on economic research. This paper estimates the likely impact of taxing sugary drinks based on consumption data from the 2012 SA National Health and Nutrition Examination Survey and a previous meta-analysis of studies on own- and cross-price effects of the consumption of these drinks. They find that such a sugar tax could significantly lower obesity and related illnesses.

Tobacco taxes are known to reduce tobacco consumption and to be regressive, such that tobacco control policy may have the perverse effect of further harming the poor. However, if tobacco consumption falls faster amongst the poor than the rich, tobacco control policy can actually be progressive. Koch (2018) took advantage of persistent and committed tobacco control activities in South Africa to examine the household tobacco expenditure burden. For the analysis, they used the two South African Income and Expenditure Surveys (2005/06 and 2010/11) that span a series of such tax increases and have been matched across the years, yielding 7806 matched pairs of tobacco consuming households and 4909 matched pairs of cigarette consuming households. By matching households across the surveys, the authors were able to examine both the regressivity of the household tobacco burden, and any change in that regressivity, and since tobacco taxes have been a consistent component of tobacco prices, their results also relate to the regressivity of tobacco taxes. Like previous research into cigarette and tobacco expenditures, they found that the tobacco burden is regressive; thus, so are tobacco taxes. However, their results showed that over the five-year period considered, the tobacco burden has decreased, and, most importantly, falls less heavily on the poor. Thus, the tobacco burden and the tobacco tax is less regressive in 2010/11 than in 2005/06. Thus, increased tobacco taxes can, in at least some circumstances, reduce the financial burden that tobacco places on households.

The role of government in the economy has always been a hotly debated issue in the economic theory. From a policy perspective, an important aspect of this debate in developing countries is trade-off that society faces between direct and indirect taxes. A fundamental question is whether or not the mix between direct and indirect taxes can be linked to optimum growth and prosperity. De Wet et al. (2005) used the two-sector model originally proposed by Feder (1983) and Odedokun (1999) to investigate the impact of government intervention through revenue collection activities on economic outcomes. The authors have developed a method to directly estimate the impact that the government revenue collection would have on economic growth and the efficiency losses attributed to resources being withdrawn from the real sector. The estimation results have indicated that the scope of government to directly influence economic growth through taxes is limited. However, in line with economic theory there is evidence that real output growth is negatively related to direct tax revenue collection but that indirect tax collections have no significant effect. Their results imply that by altering the relative ratio between direct and indirect taxes government may be able to influence economic growth. Specifically, by decreasing the direct tax burden, economic growth could increase.

Requests to simplify taxation are frequently heard but attempts to achieve actual tax simplification have rarely met with much lasting success. To investigate further Steyn and Stiglingh (2016) contribute to the literature by providing the experience of tax simplification in South Africa. In addition to tax simplification in general, the authors provide information on simplification in relation to the following aspects: tax systems, tax law, taxpayer communications, tax administration and any more fundamental approaches. A considerable degree of complexity is inevitable given the different aims of taxation and the complex socioeconomic environments in which tax systems have to operate in different countries. The key question is how to distinguish complexity which is necessary for the functioning of a successful tax system from that which is not. The authors focus on the relevant factors and issues involved in classifying unavoidable and unnecessary complexity not only with respect to legislation but also tax policy and administrative systems.

2.5 Taxpayer rights in South Africa

Fritz (2018) informed that both South Africa and Nigeria allow persons the right to have a dispute adjudicated by an impartial forum. The author demonstrated that Nigeria's general approach ensures that a taxpayer's right of access to the courts remains intact, however the South African 'pay now, argue later' rule unreasonably and unjustifiably limits a taxpayer's right of access to the courts. The South African approach of 'pay now, argue later' results in the effective and efficient collection of taxes, whereas the Nigerian approach of suspending the payment obligation pending dispute resolution need not be as effective from a revenue collection point of view. The author denotes that South Africa should consider whether there are not less invasive alternatives to affect the speedy collection of taxes whilst ensuring that a taxpayer's right of access to the courts is not unreasonably and unjustifiably limited.

Keulder (2015) explains that Tax Administration Act (TAA) and the Customs and Excise Act (CEA) provide SARS with the power to conduct a search and seizure without first obtaining a warrant with justification that it enables SARS to act straight away, thus preventing tax evaders from destroying or hiding evidence of their evasion. The author expounds that certain circumstances need to be present before a warrantless search may be conducted, and certain guidelines must be adhered to when a warrantless search and seizure operation is conducted and demonstrates that the warrantless-search framework of the Customs and Excise Act is inconsistent with the warrantless-search framework of the Tax Administration Act.

Keulder (2015) established in examining the constitutionality of the 'pay now, argue later' rule that a balance has to be achieved between the speedy collection of taxes and the taxpayer's right to approach the court. The court held in Metcash Trading Ltd (CC) that this balance is in fact achieved and, accordingly, that the pay now, argue later rule is constitutional in terms of the VAT Act. Therefore, it does not create a precedent regarding income tax matters. The court still needs to determine whether the pay now, argue later rule in income tax matters will muster constitutional scrutiny. The author concluded that the legislature has failed to make productive use of the opportunity to draft legislation that would achieve a balance between SARS's duty and a taxpayer's right of access to the courts.

Nondabula (Taxpayer), brought an application to interdict SARS from invoking the provisions of s179 of the Tax Administration Act, No. 28 of 2011 (TAA) pending the final determination of the Taxpayer's objection to an additional assessment of his income tax. Furthermore, the Taxpayer sought an order that SARS withdraw its third-party notice, in terms of which SARS instructed Absa to withhold and pay over monies held in the taxpayer's bank account. The case reiterated the fact that in as much as taxpayers have a duty to pay tax, SARS has duties that it has to comply with in order to be entitled to collect such tax. A taxpayer that is faced with a situation where an assessment is raised by SARS, which does not meet the formal requirements of §96 of the TAA and which does not provide the grounds for raising the assessment, should be aware that SARS is not entitled to enforce payment based on such an assessment as such an assessment is unlawful.

Fritz (2017) indicated that whilst obtaining a warrant on an ex parte basis achieves a balance, the same cannot be said for not requiring specific details with regard to what items may be searched for in terms of a warrant and allowing warrantless searches based on the subjective discretion of a SARS official. The article further considers the income tax-related search-and-seizure provisions in Canada and New Zealand in order to address the imbalances. From the comparative analysis, the author indicated that it is unnecessary for SARS to be permitted to conduct warrantless searches based on its subjective discretion in the current search-and-seizure framework.

3. Taking stock and thoughts on future research

Even this partial overview reveals that there is an increasing body of applied economic and econometric work on the South African tax system, and much of it is very recent. Many of the papers have not yet been published in peer-reviewed journals, which is also one reflection of the fact that the studies are so new. Indeed, some of the papers arguably have a great potential to get published in quality journals.

Some areas appear to be fairly well covered, but even within such areas, there is scope for further work. In addition, many studies are currently underway; a list of these can be found at the SA-TIED project webpage; see http://sa-tied.wider.unu.edu/data. We aim to summarise potential future research areas below:

1. One area on which there is virtually no research is the first broad area mentioned in the introduction of this note, namely tax incidence. This can be a result of lack of sufficient tax variation for examining the matter, but in principle, research on the incidence of, for example, the corporate income tax would be of great relevance.

2. While there is already work on the distributional impacts of the whole fiscal system, additional studies on simulating likely impacts of policy reforms, taking into account dynamic impacts, would be welcome.

3. Work on careful causal analyses of the impacts of taxation has started, but continues, of course, to be an area of great interest. Little is known, for instance, on the impact of taxes on informal sector activities and the scope of them. Likewise, the analysis of behavioural reactions to taxes and tax incentives by other firms than corporations, i.e. sole proprietors and partnerships, is completely missing. In general, knowing the overall impacts of tax incentives on small and medium-sized firms (SMEs) is crucial given their role in employment generation.

4. While microsimulations on personal and consumption taxation exist, in our understanding there is not a similar model for taxation of firms and their owners. Such a model would help understand how potential changes to corporate taxation affect different firms, and it would also open up a way to further study of behavioural reactions by firms.

5. Another topic with little existing research is corrective taxation, e.g. on other environmental taxes rather than a tax on carbon.

6. Taxation of the digital economy is a new topic everywhere, including in South Africa

7. Research on tax compliance or avoidance has just only started. Interesting research questions abound: How large are the compliance costs (especially for SMEs)? Should the tax system be simplified and if so, how should this be accomplished? What is the role of behavioural economics in tax compliance? How large are the tax gaps? It would be particularly worthwhile to examine the success of different kinds of compliance interventions, including audits. However, the currently available data set does not facilitate such analysis, and this is an important consideration when planning improvements in the data front.[7]

[7] We understand that such data are particularly sensitive and can probably only be accessed within SARS.

8. Tax administrative procedures have not yet been examined, but they should. More work on understanding how international best practices can be implemented is needed. The tax capacity and tax efforts of local governments should also be investigated.

9. One area where there has been great progress in many other African countries but not in South Africa is research based on field experiments.[8] In this strand of work, researchers and tax administrations collaborate and study the effectiveness of different types of (compliance) interventions, often in a randomized controlled trial fashion. Such research holds a great promise to offer insights into improving tax practices.

4. New data, new approaches

The South African Revenue Service made anonymized tax data available to researchers through a joint SARS-National Treasury-UNU-WIDER initiative. These data include Company Income Tax (CIT), Personal Income Tax, Value-Added Tax and Customs Tax data. The data include the population of employees and firms in the formal sector.

The tax administrative data is anonymized at SARS and is only available to researchers within the National Treasury Secure Data Facility in Pretoria, South Africa. The tax administrative data offers several advantages over survey data:

- Large sample size: Full population paying taxes in South Africa.
- Longitudinal in nature: Tax data available from 2008 to 2017.
- Linked data: The CIT, PIT, Customs and VAT data are all linked in the CIT-IRP5 panel; see Pieterse et al. (2018) for a full description of the CIT-IRP5 panel.

The data permits analyses at the individual and firm-level encouraging new research approaches to examining tax policy questions.

The tax administrative data is not suitable to answering all tax research questions and we would therefore accept and encourage proposals using other data as well.

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