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Mitigating the impact of the VAT increase: can zero-rating help?

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Abstract

This report is written against the backdrop of the April 2018 increase in Value Added Tax (VAT) in South Africa from 14 to 15%. This decision elicited widespread opposition from civil society, trade unions, researchers and the public, as it reduces the disposable income of poor and low-income households, makes the tax mix more regressive and has the potential to increase poverty and inequality. An Expert Panel was established by the Minister of Finance to consider ways to ameliorate the impact of the VAT increase on poor and low-income households, including assessing the current list of VAT exempt (zero-rated) items and the potential to expand that list.

Through a detailed analysis of expenditure patterns using Statistic South Africa's Living Conditions Survey 2014/15, the report makes three key findings. First, the report finds that from a selected list of currently zero-rated items, zero-rating is well targeted when taking into account the distribution of spending on those items, as well as health and gender concerns. Second, the report proposes 23 categories of additional goods and services that are ideal candidates for further zero-rating. It assesses these items in terms of expenditure patterns, showing that poor and low-income households would benefit disproportionately from expanding the list of zero-rated items. Additional support to zero-rating these items is given when considering the advancement of various socio-economic rights and health concerns. The report also undertakes gender and age sensitivity analyses, showing the benefit to female-headed and youth and pensioner households. The findings show considerable benefits from the proposed expanded list of zero-rated items to these vulnerable groups. The report also assesses the cost-benefit ratios of zero-rating these items. Third, the report proposes a series of luxury items that are well suited to a higher VAT rate that could generate additional revenue. The report suggests that the proposed measures would contribute towards mitigating the impact of the VAT increase although other complementary measures are also required.

1 Introduction

As of April 2018, Value Added Tax increased by one percentage point from 14% to 15%. As VAT is an indirect tax which affects consumers of specific items, regardless of their income position, the increase reduces the disposable incomes of all South Africans including poor and low-income households. It also makes the tax mix more regressive which is compounded by the recent steep rise in fuel prices.

In this report we assess the success of the current exemption of certain goods from VAT (zero-rating) and the potential for further zero-rating. The analysis focuses on limiting the negative consequences for the poorest South Africans by proposing items that may be added to the current list of VAT zero-rated items. Zero-rating is by no means the only way to ameliorate the impact of the VAT increase. Other potential channels include increases to social grants, improving access to social services, subsidising the cost of public transport and even limited price regulation.

Our analysis, as well as the existing literature, shows that zero-rating is currently overwhelmingly well targeted and that the benefits, in the form of savings from not paying VAT, accrue disproportionately to poor and low-income households. This benefit outweighs the cost to the fiscus and benefit to higher income households. Where zero-rating is not "successful" based purely on the statistical distribution of its financial benefit it is often justified on the basis of health of socio-economic rights considerations.

The report also highlights 23 categories of items that are ideal candidates for additional zero-rating. While protecting poor and low-income households as a whole is a priority, we also focus on the potential benefit from expanding zero-rating to women who face higher rates of poverty and lower incomes. A gender analysis of the tax incidence and identifying goods that benefit women specifically are therefore important parts of our analysis. The analysis does this by differentiating by gender (proxied by female-headed households), and other vulnerable groups defined by age.

The remainder of this report is organised as follows. Section 2 provides brief explanation of the context in which the report is prepared. Thereafter, in Section 3, we briefly review the existing findings on VAT incidence and related matters. Section 4 discusses the methodology used for the analysis. Section 5 presents an evaluation of the current list of zero-rated items, while Section 6 explores the potential to supplement this list with new items. In Section 7, we briefly consider the fiscal benefit from imposing a higher VAT rate on luxury consumption and Section 8 concludes.

2 The context and role of VAT in the tax mix

In the February 2018 Budget Speech, then Minister of Finance, Malusi Gigaba, announced a one percentage point increase in the VAT rate, from 14 to 15%. This is the first VAT increase since April 1993, when it was raised from 10 to 14%. The VAT increase has taken place alongside other increases to indirect taxation, including a 52 cents increase in the fuel levy (3.9% and 4.4% in real terms for petrol and diesel respectively) together with no increase in corporate income taxes (CIT) and very modest increases in person income tax (PIT), due to bracket creep not rate increases, and very modest taxation on income from assets. The increase was justified by the need to plug a large revenue shortfall.

Increasing VAT makes the South Africa tax mix more regressive because it increases the share of tax paid by poor and low-income households in the overall tax mix. This is despite VAT (according to the limited available evidence) not being, in itself, regressive (most likely due to existing zero-rating).[1] VAT's contribution to the tax mix is projected to rise 24.6% in 2017/2018 to 26.3% in 2020/2021.[2]

[1] Gabriela Inchauste et al., 'The Distributional Impact of Fiscal Policy in South Africa' (The World Bank, 1 February 2015), http://documents.worldbank.org/curated/en/502441468299632287/The-distributional-impact-of-fiscal-policy-in-South-Africa.

[2] National Treasury, 'Budget Review 2018' (Government of the Republic of South Africa, 21 February 2018), http://www.treasury.gov.za/documents/national%20budget/2015/review/FullReview.pdf.

Increases to VAT also reduce the disposable income of all households, including poor and low-income households. This must be viewed in the context of a poverty headcount rate for the Statistics South Africa upper bound poverty line (R992 in 2015 prices) of 55.5%.[3] The arguably more comprehensive upper bound poverty line (of R1319 in 2015 prices) developed by Budlender et al. is higher than the StatsSA line, thereby corresponding with a higher poverty headcount.[4]

The VAT increase should also be viewed in light of historic trends in South African tax rates and the tax mix. (For further information see the submission of the Budget Justice Coalition to both the Expert Panel and Parliamentary Finance Portfolio Committee).

- **Personal income tax (PIT) rates have fallen**. For example, in 1997 someone earning R1mn in 2018 rands paid an effective tax rate of 41%, by 2018 this had fallen to 31%.
- **The share of PIT in the tax mix has also fallen** from 43% in 1999 to 30% in 2007 after which it rose to 38% in 2018. This is despite strong growth in the number of PIT taxpayers and significant wage growth amongst higher-income earners. PIT's subsequent rise as share of revenue corresponds to weak corporate profits post 2007/2008.
- **Corporate income tax (CIT) rates have fallen considerably** from 50% in 1990 to 28% in 2018.
- **Capital gains tax is comparatively low.** In 2016/17 it raised only R17bn, a mere 1.5% of tax revenue. Because not all capital gains are taxed, in 2017, individuals only paid a rate of 16% on capital gains, and companies 22%.[5] This is below the OECD and BRICS norm.[6]

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[3] World Bank, 'Overcoming Poverty and Inequality in South Africa: An Assessment of Drivers, Constraints and Oppurtunities' (The World Bank, 2018).
[4] Joshua Budlender, Murray Leibbrandt, and Ingrid Woolard, 'South African Poverty Lines: A Review and Two New Money-Metric Thresholds', Working Paper Series (Southern Africa Labour and Development Research Unit, University of Cape Town, 2015); Arden Finn, 'A National Minimum Wage in the Context of the South Africa Labour Market', Working Paper Series, National Minimum Wage Research Initiative (University of the Witwatersrand, 2015).
[5] SARS, 'Capital Gains Tax (CGT)', accessed 20 February 2018, http://www.sars.gov.za/Tax-Rates/Income-Tax/Pages/Capital-Gains-Tax-(CGT).aspx.
[6] SACTWU and COSATU, 'Submission to the Davis Tax Committee on Possible Wealth Taxation in South Africa', June 2017.

- **Tax on inheritance – estate duty – is levied at only 20%** and raises revenue worth 0.05% of GDP compared with the OECD average of 0.2%.[7]
- **The securities transaction tax (STT) (a tax on sale of shares) raises a small share of income** – bonds are excluded from this and there is no transaction tax on derivatives and other forms of financial transactions. Despite South Africa's market capitalisation to GDP ratio being almost triple the OECD average, revenue from STT lags behind the OECD average.
- **South Africa has no annual "net wealth tax**" that would tax the total value of wealth held in a given year.

This snapshot should itself be viewed against extreme levels of inequality and (for big corporations) large profit margins. South Africa had a Gini coefficient of 0.68 (based on per capita income) and 0.64 (per capita expenditure) in 2015.[8]

Taxation has an important role to play in redistribution and transforming the economy. While other considerations – such as ease of administration – are also important considerations, a well-established body of literature highlights the role taxation can play in either entrenching or reducing inequality.[9]

Fair taxation also contributes towards social cohesion. Given high levels of discontent in South Africa, this is not a minor consideration.

Further, raising VAT can stifle economic growth as household disposable income falls and domestic demand is depressed. Increases to both VAT and the fuel levy will spur inflation, including on basic foodstuffs and other essential goods.

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[7] SACTWU and COSATU.
[8] Statistics South Africa. 2017. Poverty trends in South Africa: An examination of absolute poverty between 2006 and 2015. Statistics South Africa: Pretoria
[9] See, for example, Era Dabla-Norris, Kalpana Kochhar, and Nujin Suphaphiphat, *Causes and Consequences of Income Inequality : A Global Perspective* (International Monetary Fund, 2015); Ingrid Woolard et al., 'How Much Is Inequality Reduced by Progressive Taxation and Government Spending?', *Econ3x3*, October 2015, http://www.econ3x3.org/sites/default/files/articles/Woolard%20et%20al%20%202015%20Fiscal%20policy%20progressivity%20FINAL4_0.pdf; Daniel Jeongdae Lee and Zheng Jian from the Macroeconomic Policy and Financing for Development Division, 'Taxing for Shared Prosperity', MPDD Policy Briefs (United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)), accessed 23 April 2018, https://ideas.repec.org/p/unt/pbmpdd/pb46.html.

It is against this backdrop that civil society organisations, labour federations and the political parties opposed the 2018 increase to VAT and that the Minister of Finance established an Expert Panel to consider ways to ameliorate the impact of the VAT increase. This report was originally prepared as background research to inform the submission to the Expert Panel made by a civil society Budget Justice Coalition (BJC). It is important to note that, after the original Terms of Reference (TOR) were rejected by the BJC, the final version of the TOR allow the Expert Panel to:

- Evaluate the current list of zero-rated items.
- Identify *any items* other than the current zero-rated food items that may be considered for inclusion for zero rating that will achieve the policy intention of providing relief to poor and low-income households with particular consideration of the needs of children, women and other vulnerable groups.
- Make proposals that may alter the fiscal framework for the 2019/20 financial year and beyond. In other words, that the Expert Panel can suggest increases to taxation to cover the cost of suggested measures.
- Consider potential government expenditure programmes that can assist poor and low-income households to weather the VAT increase and make recommendations regarding modifying or expanding these programmes.

3 Brief literature review

Much has been written on the efficiency of VAT, and implementation approaches that can enhance its progressivity and equitability and allow it to play a positive redistributive role. This is a particularly salient issue in developing countries such as South Africa with pervasive poverty and extreme inequality[10]

Differential VAT rates can play an important role in counter the regressivity of VAT. South Africa adopts a single universal VAT rate which brings these equity

[10] For a comprehensive review, see: Bird, RM & Gendron, P. 2007. The VAT in developing and transitional countries. Cambridge University Press, Cambridge and New York

issues to the foreground. A single rate system is regressive, as the poor spend a large proportion of their income on basic necessities, while the rich spend a smaller fraction on similar items. This results in a falling tax burden as income increases, leading to a disproportional impact on the poor.

Moderate regressivity is found in an earlier study in South Africa[11] **and moderate progressivity in a more recent study.**[12] In order to mitigate these concerns, several items are zero-rated with the idea being that these items are consumed disproportionately by poor and low-income households, therefore zero-rating acts as a tax exemption that disproportionately benefits these households. However, zero-rating in absolute terms can disproportionately benefit the rich depending on the distribution of expenditure on zero-rated items.[13] South Africa's system of zero-rating is largely efficient in softening the burden on the poor[14] although, in gross terms, this benefit is smaller for the poor than the rich as the rich spend more in general.[15]

A higher VAT on luxury goods can also serve a redistributive function. As some goods are consumed predominately (and sometimes exclusively) by the wealthy, this approach protects the poor from consumption tax. However, there are definitional challenges in what is considered as "luxury". A simple non-essential goods approach potentially raises social equity considerations as although the poor may not consume the non-essential item as of yet, they may aspire or have the right to consume the good. By taxing such goods, the ability of the poor to realise their aspirational or rightful consumption of items is restricted.

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11 Delfin, S. Kearny, M. Robinson, S. and Theirfedles, K. 2005. Analysis of South Africa's Value Added Tax. World Bank Policy Research Working Paper 3671. Washington: World Bank.

12 Inchauste et al., 'The Distributional Impact of Fiscal Policy in South Africa'.

13 Fourie, F. and Owen, A. 199.3 FOURIE, F. and OWEN, A. (1993). Value-added Tax and Regressivity in South Africa. South African Journal of Economics, 61(4), 308-319.

14 Ada Jansen and Estian Calitz, 'Considering the Efficacy of Value-Added Tax Zero-Rating as pro-Poor Policy: The Case of South Africa', *Development Southern Africa* 34, no. 1 (2 January 2017): 56–73, https://doi.org/10.1080/0376835X.2016.1269635.

15 Muñoz, S & Cho, S. 2003. Social impact of a tax reform: The case of Ethiopia. IMF Working Paper N. 03/232, Fiscal Affairs Department, International Monetary Fund.

As discussed in more detail below, existing exempt goods are largely well-defined.[16] Save for a few exceptions, the current list of zero-rated goods is progressive. The share of total consumption by decile of the current list decreases substantially with a move upwards on the consumption ladder.

An alternative pro-poor welfare policy is targeted government expenditure. Alternative revenue generating tax such as a progressive income tax system with targeted government expenditure in cash transfer and the provision of other public services for the poor can also achieve progressivity, redistribution and poverty alleviation.[17] Similarly, expenditure of VAT generated from a single rate directly on the poor can reduce the asymmetric welfare impact of the taxation. South Africa has a largely well-targeted system of cash transfers which could perhaps be used to alleviate the anti-poor impact of an increased VAT rate.

The institution of other pro-poor policy measures and zero-rating are not mutually exclusively and should be seen as complementary. Considering the cost-benefit analysis of the different approaches (zero-rating or differential rates compared to transfers and other expenditure orientated approaches) is important in assessing the efficacy of the programmes and developing a structure which best serves the country's development. Government expenditure on social grants shows that the administrative costs of the programmes are outweighed by the benefits received by the poor and are another important way of mitigating the impact of VAT. Moreover, fiscal expenditure substantially reduced income equality in the country.[18]

The experience and burden of poverty is not homogeneously shared by any one low-income group. VAT can have important gender and age implications with women and the elderly more vulnerable to its burden as these groups are

[16] Jansen and Calitz, 'Considering the Efficacy of Value-Added Tax Zero-Rating as pro-Poor Policy'.
[17] Keen, M.M., 2013. Targeting, cascading, and indirect tax design (No. 13-57). International Monetary Fund
[18] Van der Berg, S. 2009. Fiscal incidence of social spending in South Africa, 2006. Stellenbosch Working Paper Series No. WP10/2009

often most severely affected by poverty.[19] Casale (2010) finds that "female-type" households, defined by a variety of measures, in the lowest quintiles face a disproportionate burden from VAT. This is especially true for poor female-type households with children. The report, for example, suggests the zero-rating of children's clothing as a policy tool to help protect this vulnerable group (see below).

The literature shows that the discussion of value-added tax is a complex issue. The ideal approach to VAT of goods specific rates is not feasible. Alternative strategies (be it zero-rating, a lower rate for certain goods, a higher rate for other goods, or combinations of any of these) largely succeed or fail in revenue generation, poverty alleviation and redistribution based on the goods selected for each category. An exploratory analysis of the goods which may be considered for expansion of the current list of zero-rated items, with due consideration to pragmatic concerns, is necessary and presented here.

4 Methodology

4.1 Dataset and general application

The analysis presented in this report is based on the Living Conditions Survey (LCS) covering the years 2014 and 2015. The LCS is a nationally representative dataset that includes detailed data on consumption patterns on a variety of items. The dataset is used as it is the most recent survey of this nature that is available. Earlier analysis of VAT incidence uses the Income and Expenditure Surveys (IES) of 2000/2001 and 2010/2011. Both of these datasets enable analysis, as undertaken in this report. However, as consumption patterns change over time, these older datasets may misrepresent current consumer behaviour. The LCS is recent enough to help paint a reasonably accurate picture of the benefits and costs as well as the incidence of VAT.

[19] Daniela Casale (2010) Indirect Taxation and Gender Equity: Evidence from South Africa. University of KwaZulu-Natal. Working Paper Number 193

For the analysis, households are separated into per capita consumption deciles. These deciles are used as income data is often inaccurate as a result of under-reporting by survey respondents. Consumption data is considered more accurate. The deciles are taken from existing variables in the datasets as calculated by StatsSA. These deciles are used throughout the analysis. All values are weighted using household weights and expressed in March 2018 prices using the headline CPI.

For the determination of VAT payments lost from extending the list of zero-rated items, we multiply the weighted annual value of consumption on each item by (15/115). For items which are currently zero-rated, the VAT payment is 15% of the weighted annual consumption on the item.

Benefits to lower deciles of not paying VAT are compared to the costs of loss of revenue by the VAT payment forgone from consumption by the rich. That is, benefit-cost ratios are the VAT payment by the poor divided by the VAT payment by the rich. In calculating the benefits and costs of foregone VAT revenue, we assume that consumption patterns on each item do not change with changes in prices. That is, if an item is added to the zero-rating list, the quantity, and hence the value of consumption, of that item consumed will not change.

The report tests for progressivity of the item, as detailed in the forthcoming section, by taking the value (again, weighted and annualized) spent on each item as a percentage of total consumption in that decile. These percentages are within decile comparisons.

The report also includes a disaggregated gender-age analysis in this report. There are several ways in which to consider gender benefits. As consumption data are at the household level, it is not possible to ascertain the benefits and costs to women specifically. Instead, inference must be based on household characteristics. Possible approaches include identifying female-type household by gender of the household head, gender of the breadwinner in the household, gender of the employed individuals in the household and the distribution of men and women

within the household[20]. In practice, there is a close relationship between the three conceptualisations of VAT incidence based on gender as, for instance, household heads tend to be breadwinners. In this report, we look only at the gender of the household head in order to estimate gender effect. A similar strategy is employed for age analysis: the report considers only the age of the household head as an indicator of age-related distribution effects.

4.2 Tests

Five tests /considerations are proposed here when determining if zero-rating is, or can be, effective. These are:

1 **The restrictive test**: This assesses whether poor consumers (deciles 1-4, the lowest consuming 40% of the population) receive more than 40% of the benefits of zero-rating.

2 **The general test**: This assesses whether poor and low-income consumers (deciles 1-7, the lowest consuming 70% of the population) receive more than 70% of the benefits of zero-rating.

3 **Progressivity/regressivity**: Used in Jansen et al.[21] this compares the relative amount spent by deciles on a particular item as a share of their total expenditure. Where the lower deciles (poor and lower-income households) spend a higher share than upper deciles (higher-income households) then removing VAT from that item would be progressive, whereas adding VAT to that item (in the case of existing zero-rated items) would be regressive.

4 **Equity and socio-economic rights consideration**: Tests limited to a distributional expenditure analysis (as above) are not appropriate for all items. In certain instances, other reasons may prevail, for example a gender-equity argument in support of zero-rating sanitary pads, or a child-rights argument in support of zero-rated school uniforms.

5 **Mobility or social considerations**: Consideration should also be given to the fact that poor and low-income households may not currently spend on

[20] Daniela Casale (2010) Indirect Taxation and Gender Equity: Evidence from South Africa. University of KwaZulu-Natal. Working Paper Number 193

[21] Jansen and Calitz, 'Considering the Efficacy of Value-Added Tax Zero-Rating as pro-Poor Policy'.

particular items, but *would like to* or *should be encouraged to* (e.g. healthier foods).

The 'general test' is used as the baseline measure, although in many instances the conclusions between the 'restrictive' and 'general' tests are the same. This is selected for a number of reasons. First, South Africa has extremely high rates of poverty. In 2015, the poverty headcount rate for the Statistics South Africa upper bound poverty line (R992 in 2015 prices) was 55.5%[22] and considerably higher for the more appropriate Budlender et al. poverty line (of R1319 in 20155 prices).[23] Second, even where people do not live in poverty, the lowest seven deciles contain low-income individuals and households which should also be protected from the consequences of the VAT increase. The Parliamentary Standing Committee on Finance strongly argued "that the list of zero-rated items needs to be expanded taking into account the needs of the *poor and low-income* earners".[24] Third, as shown in Inchauste et al.[25] the lowest seven deciles pay a negligible share of personal income tax (PIT) and raising PIT is an alternative to increasing VAT – the lowest seven deciles are therefore poor or low-income, non-PIT paying households. Fourth, it is conceivable, although highly unlikely, that some items may be consumed very heavily by the poorest (measured under the 'restrictive' test) and the wealthiest and their absences from the consumption baskets of middle deciles may make them inappropriate for further zero-rating.

As an alternative approach to gender analysis, the share of total consumption of the poorest deciles consumed by female headed households in those deciles is assessed. This is a similar approach as applied to the age and gender analysis. For example, the report considers potential zero-rating benefits for young female-headed households if the share of consumption by this group is greater than their

[22] World Bank, 'Overcoming Poverty and Inequality in South Africa: An Assessment of Drivers, Constraints and Oppurtunities'.
[23] Budlender, Leibbrandt, and Woolard, 'South African Poverty Lines: A Review and Two New Money-Metric Thresholds'; Finn, 'A National Minimum Wage in the Context of the South Africa Labour Market'.
[24] Standing Committee on Finance, 'Report of the Standing Committee on Finance on the 2018 Fiscal Framework and Revenue Proposals' (Parliament of the Republic of South Africa, 6 March 2018), 35.
[25] Inchauste et al., 'The Distributional Impact of Fiscal Policy in South Africa', 17.

proportional representation of youth households (with households heads 18-35). These thresholds are shown in Section 6.

5 An evaluation of existing zero-rating

We begin our analysis by considering the efficacy of existing zero-rating.

Our calculations – in line with Jansen and Calitz (2017)[26] – show that for approximately two-thirds of VAT zero-rated items the poorest 70% derive more than 70% of the financial benefits of zero-rating; this is shown by the green highlighted rows in Table 1.[27] This indicates that VAT zero-rating is, in general, an effective pro-poor measure, with certain items that do not meet the general test requiring further consideration.

Table 1 Consumption of existing zero-rated items across decile groups

Consumption item	Deciles 1-4 (R mn 2018)	Percentage of total	Deciles 1-7 (R mn 2018)	Percentage of total
Rice	3 427	43%	5 851	73%
Brown bread	5 975	43%	10 593	76%
Mealie meal/Maize flour	8 250	54%	12 871	84%
Mealie rice	11	14%	32	41%
Samp	333	51%	546	84%
Beans dried	647	59%	930	84%
Lentils dried	9	22%	22	51%
Canned pilchards	1 130	39%	2 168	75%
Vegetables	7 867	31%	14 679	58%
Powdered milk	229	38%	443	74%
Sour milk/maas	1 004	45%	1 725	78%
Milk	2 042	20%	4 932	47%
Cooking fat (vegetable)	8	64%	12	91%
Edible oils (e.g. cooking oils)	2 411	45%	4 129	77%
Fruits	846	13%	2 099	32%
Eggs	1 591	28%	3 365	60%
Paraffin	786	56%	1 239	88%

Source: Statistics South Africa, Living Conditions Survey 2014/15. Own calculations

[26] Although the rand values and percentages are not the same (given that they use the IES 2011/12 dataset).

[27] Table 1 excludes "dried mealies" "edible legumes and pulses of leguminous plants" and "brown wheaten meal" also listed by National Treasury as included in the 19 food items as these do not appear separately in the dataset. It includes paraffin which is also zero-rated but excludes some other zero-rated items such as "goods subject to the fuel levy" and "non-fee related financial services". Some items are impossible to disaggregate in the data, e.g. international air travel. See: https://www.pwc.co.za/en/assets/pdf/pwc-vat-card-2009-10.pdf

There are several items that, on the general test, are not 'effectively targeted'. It should, however, be considered that:

- Eggs and vegetables are not too far off at 60% and 58% respectively (63% and 61% in Jansen and Calitz).
- Vegetables pose a more complex challenge, as argued in Jansen et al.[28] they are a heterogeneous category.
    - The inclusion of frozen but not canned vegetables, with the latter consumed more by lower deciles, skews the outcome.
    - The differentiation between 'basic' and 'other' vegetables shows that the zero-rating of the majority of vegetable products is effectively targeted.
    - Removing zero-rating from 'other' vegetable items, which are consumed disproportionately by higher-income households, would make it harder for poor and lower-income households to afford these products, thus making vegetables like cauliflower and broccoli the preserve of the rich. The administration associated with differentiation between vegetables may also be cumbersome and open to abuse.
- The cases of milk, eggs and fruit raise health considerations. Removing the zero-rating of these items would make relatively cheap sources of protein, iron and vitamins, also important in the diets of children, more expensive.
- Dried lentils and mealie rice appear poorly targeted. However, lentils are a relatively cheap source of healthy protein.

All currently zero-rated pass the "progressivity test" (see Table 7 in the Appendix), in that their zero-rating make the tax mix more progressive / less regressive – if these items were no longer zero-rated, the tax mix would become more regressive.

Given the above it is recommended that all items, barring mealie rice, remain zero-rated. Rice, brown bread, maize meal, samp, dried beans, canned pilchards, powered milk, sour milk, cooking fat (veg), edible oils, and paraffin all pass the

[28] Ada Jansen, Elizabeth Stoltz, and Derek Yu, 'Improving the Targeting of Zero-Rated Basic Foodstuffs under Value Added Tax (VAT) in South Africa - An Exploratory Analysis', Working Papers (Stellenbosch University, Department of Economics, 2012), https://ideas.repec.org/p/sza/wpaper/wpapers159.html.

general test. Vegetables are important to a healthy diet and canned vegetables should be added in line with explicit recommendations in Jansen et al.[29] The cases of milk, eggs and fruit also raise health considerations. Removing the zero-rating of these items would make relatively cheap sources of protein, iron and vitamins, that are essential for nutritional diets (especially for young children under 5), more expensive. Dried lentils and mealie rice appear poorly targeted. In the case of dried lentils, it is recommended it remain for health considerations as it is an affordable healthy protein that should be encouraged.

6 Expanding zero-rating?

6.1 General tests

The evidence above suggests that further zero-rating – if appropriately targeted – could partially ameliorate the impact of the VAT increase on poor and low-income households, indeed this is the finding made in this section.

We identify 23 *categories* of goods and services – adding up to 71 line items – as candidates for zero-rating. The 23 categories are:

1. Cake and bread flour
2. Sorghum meal/powder and mabella
3. Poultry (incl. heads and feet)
4. Mopane worms
5. Other canned fish
6. Whiteners (Cremora; Ellis Brown)
7. Amageu
8. Baby food
9. Powder soup
10. Instant yeast
11. Soya product (excluding soy milk)
12. Tea
13. Infants and children's clothing and footwear (include school uniforms)
14. Candles and matches
15. Coal and other household fuel
16. Hotplates
17. Soap
18. Medicine and medical services in public institutions
19. Calls (including airtime for cellular phones)
20. Textbooks and stationery

[29] Jansen, Stoltz, and Yu.

21. Disposable nappies
22. Sanitary towels and tampons
23. Agricultural own production

These are the items that pass a sufficient number of tests to be considered. The process to derive this list was as follows. Begin with the full list of items in the LCS dataset. First, exclude currently zero-rated items and "sin tax" items (alcohol and tobacco). Second, derive a list of items which pass one or more of the restrictive and general tests. Third, exclude from that list, items with negative health implications, for example, sugar. Fourth, exclude items that would be impractical to zero-rate: those often sold in the informal sector, such as "dung bought", or where the disaggregation would be impractical, for example, "vegetable juices not from food service places" or "chicken spice". Fifth, exclude items that would make a very limited impact but add to the complexity of the system, for example, "curry powder". Sixth, include items which may have been excluded, but which raise socio-economic considerations, such as medicines.

The 70 items are listed in Table 2. The columns show: the restrictive and general tests to all households; the general test to female-headed households; the progressivity test to all households in deciles 1 to 7; and the socio-economic rights test, marked with a "yes" when these considerations apply[30]. The table also shows the cost of zero-rating (discussed below). The green highlight indicates a test passed.

Table 2 Candidates for zero-rating

ITEM	RESTRICTIVE TEST	GENERAL TEST	FEMALE GENERAL TEST	PROGRESSIVITY	SOCIO-ECONOMIC
Cake flour	49%	80%	88%	PASS	
Bread flour	59%	88%	90%	PASS	
Sorghum meal/powder	46%	82%	86%	PASS	
Mabella	42%	74%	81%	PASS	
Poultry (incl. heads and feet)	34%	66%	75%	PASS	YES
Mopane worms	53%	78%	81%	PASS	
Other canned fish	35%	70%	84%	PASS	

[30] In Table 7 of the appendices, we report the the share of expenditure attributed to each item for deciles 1 to 4, 5 to 10, 1 to 7 and 8 to 10.

Whiteners (Cremora; Ellis Brown)	33%	71%	81%	PASS	
Amageu	34%	70%	82%	PASS	
Baby food Predominantly grain	48%	78%	87%	PASS	YES
Baby food Predominantly meat	22%	69%	48%	PASS	YES
Baby food Predominantly vegetables	23%	56%	79%	PASS	YES
Baby food Predominantly fruit	31%	73%	85%	PASS	YES
Baby food Predominantly milk	35%	73%	83%	PASS	YES
Powder soup	41%	72%	81%	PASS	
Instant yeast	51%	81%	88%	PASS	
Soya product (excluding soy milk)	44%	70%	77%	PASS	
Tea leaves	49%	82%	94%	PASS	
Tagged tea bags	38%	68%	75%	PASS	
Tag less tea bags	37%	70%	81%	PASS	
Rooibos tea leaves	30%	55%	74%	PASS	
Infants' clothing	40%	68%	82%	PASS	YES
Girls' clothing	36%	63%	78%	PASS	YES
Boys' clothing	35%	63%	74%	PASS	YES
School uniform	39%	66%	80%	PASS	YES
Girls' school footwear	46%	72%	84%	PASS	YES
Boys' school footwear	46%	75%	85%	PASS	YES
Girls' footwear	38%	65%	79%	PASS	YES
Boys' footwear	35%	65%	80%	PASS	YES
Infants' footwear	42%	74%	85%	PASS	
Candles	52%	83%	90%	PASS	
Coal (including anthracite)	57%	90%	95%	PASS	
Other household fuel	0%	79%	100%	PASS	
Hotplates	44%	77%	88%	PASS	
Soap; (bars and cakes; not toilet soap); washing powders; liquid detergents and bleaches; dishwasher tablets	29%	59%	71%	PASS	YES
Matches	50%	88%	92%	PASS	
Medicine purchased with prescription in public institutions	30%	64%	67%	PASS	YES
Medicine purchased without prescription in public institutions	21%	49%	51%	PASS	YES
Pharmacy dispensing fees in public institutions	21%	50%	42%	PASS	YES
Pharmacy service fees in public institutions	75%	87%	75%	PASS	YES
Other medical products (bandages; syringes; knee supports etc.) in public institutions	8%	36%	73%	PASS	YES
Medical services in public institutions	39%	81%	76%	PASS	YES

Flat rate in respect of services and medicine obtained at hospital/clinic in public institutions	44%	84%	88%	PASS	YES
Other medical services in public institutions	14%	28%	51%		YES
Doctors' consultation fees public	14%	42%	72%	PASS	YES
Dental service (service of dentists include oral-hygienists) in public institutions	15%	34%	80%	PASS	YES
Medical analysis laboratories and X-ray service in public institutions	25%	35%	58%	PASS	YES
Service of medical auxiliaries (freelance nurse; midwives; freelance optometrist; physiotherapist; speech therapist etc.) in public institution	2%	3%	5%		YES
Non hospital service (ambulance service other than hospital) in public institutions	29%	85%	99%	PASS	YES
Hospital service fees (e.g. wards; beds and theatre fees) in public institutions	25%	80%	90%	PASS	YES
Calls (including airtime for cellular phones)	22%	51%	61%	PASS	YES
Textbooks for public institutions - Loans	6%	22%	33%		YES
Stationery	18%	39%	54%	PASS	YES
Body soap (including Sunlight; liquid soap)	28%	59%	69%	PASS	YES
Disposable nappies	40%	71%	83%	PASS	YES
Sanitary towels and tampons	20%	46%	58%	PASS	YES
Maize (own production)	69%	93%	94%	PASS	YES
Wheat (own production)	100%	100%	100%	PASS	YES
Other grains (own production)	0%	78%	100%	PASS	YES
Milk (own production)	18%	26%	21%		YES
Eggs (own production)	85%	100%	100%	PASS	YES
Fruit (own production)	54%	85%	100%	PASS	YES
Vegetable (own productions)	65%	94%	98%	PASS	YES
Other produce; specify (own production)	78%	83%	100%	PASS	YES
Cattle (own production)	24%	68%	100%	PASS	YES
Sheep (own production)	30%	30%	100%	PASS	YES
Pigs (own production)	84%	100%	100%	PASS	YES
Goats (own production)	100%	100%		PASS	YES
Poultry (own production)	66%	95%	100%	PASS	

Source: Own calculations from Statistics South Africa Living Conditions Survey 2014/15

The following can be noted:

- Almost all items pass the progressivity test, that is, zero-rating them would make the tax mix more progressive and VAT less regressive.

- The following pass one or more of the restrictive and general tests: cake flour, bread flour, sorghum meal/powder, mabella, mopane worms, other canned fish, whiteners (Cremora; Ellis Brown), Amageu, powder soup, instant yeast, soya product (excluding soy milk), tea, matches, body soap (including Sunlight; liquid soap), disposable nappies, and various own agriculture.
- Poultry is included as an important source of animal protein for poor and low-income households.
- Baby food and infant and children's clothing are included on the basis of children's socio-economic rights considerations and benefit female-headed households more than the general population. This is also true for stationary and textbooks.
- Sanitary pads and tampons are also included on socio-economic rights grounds.
- Calls/airtime are also included as a strong case can be made that access to communication and the internet is essential to participation in society, education and the labour market.
- Medicines and medical services at public institutions and soap are included on health grounds.

Given the above we recommend that all the above are excellent candidates for zero-rating. Zero-rating these items disproportionately benefits poor and low-income households, and, in a number of instances, low-income female headed households in particular. They also take account of various socio-economic imperatives, for example making school uniforms, children's clothing, basic medicines, and female sanitary pads, less expensive. In addition, zero-rating these items would further reduce the regressivity of VAT and make the tax mix more progressive. All of the above items should, therefore, be zero-rated.

6.2 Further tests based on gender and age

We now undertake further tests based on age and gender. We explore VAT zero-rating with regards to female-headed households in which the household

head is between the ages of 18 and 35 (youth) or households in which the female head is older than 60 years of age (pensioners). The first captures a large number of single mothers.

Disaggregating the data into gender and age cohorts requires adjustments to the thresholds used for the restrictive and general test. For this, we compute the weighted share of households that are headed by women in the decile groups. Should the share of consumption on each item, relative to the share of consumption within the decile groups in the same age group, be larger than the share of female-headed households, the item passes the test. For instance, we compare household consumption by young women in the lowest deciles to total consumption by all youth headed households in the same low-income decile group. We consider these groups to constitute some of the most vulnerable people in South Africa.

These thresholds are as follows:

1. Households headed by women in the lowest four deciles are 20% and 31% of the lowest 7 deciles.
2. Households headed by young females make up 16% of all households in the bottom four deciles and 26% of households in the lowest seven deciles. We, therefore, identify when their consumption of a particular item is disproportionate to their percentage of the sample population, that is, greater than 16% of consumption in the poorest four deciles and 40% for the poorest seven. When this is true, the item passes the test.
3. Households headed by female pensioners represent 41% of all pensioner-headed households in the lowest four deciles and 27% of those in the bottom seven. We again compare their consumption to their proportion of the sample population: when item consumption is greater than 61% for deciles one to four and greater than 59% for deciles one to seven, the item passes the test.

These tests allow us to assess when zero-rating an item will disproportionately benefit young and old female-headed households. This is

not, in itself, sufficient justification to zero-rate, as the item may still be consumed heavily by higher-income households. However, for items which are good candidates for zero-rating, it allows us to evaluate whether those have a positive gender bias.

The results for the same items as in Table 2 above are reported in Table 3. Results for all items can be found in the online data. The table includes households headed by women in the lowest four and seven deciles, those headed by women in the same consumption category relative to other youth-headed households as well as households headed by female pensioners in the poorest four and seven deciles. The squares highlighted in green indicate where these groups benefit disproportionately to the comparator population groups.

Table 3: Gender-age analysis of zero-rating

FEMALE HEADED HOUSEHOLDS						
	ALL		YOUTH		PENSIONER	
ITEM	LOWEST 4	LOWEST 7	LOWEST 4	LOWEST 7	LOWEST 4	LOWEST 7
Cake flour	28%	42%	21%	35%	35%	52%
Bread flour	31%	45%	26%	38%	38%	54%
Sorghum meal/powder	26%	42%	23%	45%	26%	50%
Mabella	22%	32%	8%	15%	30%	40%
Poultry (incl. heads and feet)	18%	30%	13%	25%	25%	41%
Mopane worms	32%	41%	29%	44%	68%	68%
Other canned fish	20%	33%	15%	29%	30%	42%
Whiteners (Cremora; Ellis Brown)	18%	33%	15%	29%	25%	49%
Amageu	17%	29%	5%	13%	20%	45%
Baby food Predominantly grain	28%	38%	28%	38%	36%	40%
Baby food Predominantly meat	19%	23%	0%	0%	65%	65%
Baby food Predominantly vegetables	15%	25%	11%	16%	33%	48%
Baby food Predominantly fruit	19%	31%	14%	24%	23%	37%
Baby food Predominantly milk	18%	32%	13%	27%	33%	48%
Powder soup	22%	35%	19%	31%	30%	47%
Instant yeast	27%	45%	23%	32%	33%	60%
Soya product (excluding soy milk)	23%	31%	22%	27%	31%	44%
Tea leaves	24%	33%	8%	17%	30%	40%
Tagged tea bags	21%	30%	16%	25%	32%	40%
Tag less tea bags	21%	34%	19%	33%	27%	44%
Rooibos tea leaves	21%	34%	6%	22%	26%	51%
Infants' clothing	22%	34%	16%	25%	33%	49%
Girls' clothing	20%	32%	20%	33%	34%	50%
Boys' clothing	19%	31%	20%	36%	32%	47%
School uniform	23%	35%	24%	44%	35%	49%
Girls' school footwear	29%	40%	30%	43%	45%	58%
Boys' school footwear	26%	39%	27%	45%	37%	51%
Girls' footwear	22%	34%	19%	35%	34%	49%

Boys' footwear	20%	34%	20%	41%	32%	47%
Infants' footwear	23%	36%	16%	28%	33%	51%
Candles	29%	43%	25%	38%	31%	51%
Coal (including anthracite)	38%	50%	0%	0%	49%	72%
Other household fuel	0%	17%			0%	12%
Hotplates	23%	34%	15%	26%	35%	48%
Soap; (bars and cakes; not toilet soap); washing powders; liquid detergents and bleaches; dishwasher tablets	16%	29%	13%	24%	22%	42%
Matches	24%	35%	21%	33%	31%	44%
Medicine purchased with prescription in public institutions	14%	31%	23%	39%	13%	40%
Medicine purchased without prescription in public institutions	11%	20%	12%	25%	15%	31%
Pharmacy dispensing fees in public institutions	10%	16%	10%	17%	10%	12%
Pharmacy service fees in public institutions	29%	29%	0%	0%	19%	19%
Other medical products (bandages; syringes; knee supports etc.) in public institutions	4%	19%	9%	9%	3%	46%
Medical services in public institutions	16%	30%	6%	16%	33%	41%
Flat rate in respect of services and medicine obtained at hospital/clinic in public institutions	24%	43%	26%	43%	22%	42%
Other medical services in public institutions	9%	14%	6%	6%	7%	26%
Doctors' consultation fees public	7%	23%	2%	34%	10%	21%
Dental service (service of dentists include oral-hygienists) in public institutions	9%	20%	15%	33%	12%	40%
Medical analysis laboratories and X-ray service in public institutions	3%	12%	1%	4%	43%	43%
Service of medical auxiliaries (freelance nurse; midwives; freelance optometrist; physiotherapist; speech therapist etc.) in public institution	1%	1%	5%	6%	0%	1%
Non hospital service (ambulance service other than hospital) in public institutions	15%	43%	0%	0%	0%	96%
Hospital service fees (e.g. wards; beds and theatre fees) in public institutions	9%	30%	9%	26%	4%	19%
Calls (including airtime for cellular phones)	11%	21%	8%	16%	18%	33%
Textbooks for public institutions - Loans	3%	9%	1%	7%	16%	28%
Stationery	10%	20%	12%	25%	17%	32%
Body soap (including Sunlight; liquid soap)	14%	26%	12%	24%	21%	37%
Disposable nappies	20%	32%	14%	26%	29%	44%
Sanitary towels and tampons	12%	25%	12%	30%	19%	38%
Maize (own production)	38%	48%	41%	41%	35%	44%
Wheat (own production)	100%	100%	100%	100%		
Other grains (own production)	0%	78%				
Milk (own production)	18%	18%	0%	0%	9%	9%
Eggs (own production)	75%	90%			88%	100%
Fruit (own production)	32%	58%	11%	19%	63%	75%
Vegetable (own productions)	38%	55%	56%	58%	36%	55%
Other produce; specify (own production)	61%	62%	100%	100%	53%	53%
Cattle (own production)	9%	37%			0%	55%
Sheep (own production)	30%	30%	0%	0%	100%	100%
Pigs (own production)	72%	73%	100%	100%	70%	70%

Goats (own production)	0%	0%			0%	0%
Poultry (own production)	37%	49%	10%	19%	47%	58%

Source: Own calculations from Statistics South Africa Living Conditions Survey 2014/15

These results strengthen arguments in favour of zero-rating the items listed above, highlighting how zero-rating benefits are sensitive to different demographic groups. Between 50% (deciles 1 to 4) and 60% (deciles 1 to 7) of the items benefit poor women more than the rest of the population. The largest benefit is evident for female pensioner headed households in deciles 1 to 7 with 87% of the items disproportionally consumed by this group while only 16% is true for those in deciles 1 to 4. Young women disproportionately consume 37% of the items in the lowest four deciles and 52% in lowest seven.

Items that stand out (passing three of more of the tests) include: cake and bread flour, sorghum meal/powder; mopane worms; grain baby food; powdered soup and instant yeast; soy products; tagless tea bags; infants' clothing; girls and boys' clothing and footwear; school uniforms and boys' school footwear; candles; coal and other fuel; hotplates; some medicines and medical services; and certain own production items. This reinforces these items as good candidates for zero-rating.

6.3 The cost of zero-rating

As VAT plays an important role in generating revenue for the state, we also consider the effects of expanding the list of zero-rated items in Table 2 above on revenue. To do this, we consider currently non-zero-rated items which pass the distributional test and compute potential VAT payments for each item by multiplying the value of consumption by (15/115).[31]

The total cost of zero-rating outweigh the benefits for the restrictive test. In Table 4, items which have a benefit-costs ratio greater than 1 are coloured in green**.** For all the identified candidate items, zero-rating would result in a loss of revenue of R17bn rand in 2018 prices with R5.5bn benefiting the poorest four

[31] See the methodology section for caveats and details on this approach.

deciles and R11.5bn lost to the consumption by the richest six deciles, with an aggregate ratio of benefits-to-costs[32] of 0.41. Only about 22% of the items (for which ratios are derived) benefit the poor more than they cost the state from foregone revenue.

Even on this very restrictive measure, which does even include all poor households, some items have greater benefits than costs. These include: bread flour; mopane worms; candles and coal; matches; and (from own production), maize, fruit, eggs, vegetable, other produce (undefined), pork and poultry.

On the general test, which we consider more relevant as it includes all poor and low-income households, total benefits outweigh cost. The total benefits for the lowest seven deciles from zero-rating is, in this instance, R10.5bn and the total cost from saving enjoyed by the top three deciles is R6.5bn. On aggregate this comes to a benefit-cost ratio of 1.61. Approximately 80% of the candidate items for zero-rating (for which ratios are derived) show greater benefits than costs by often a large margin. The cost-benefit ratios support zero-rating the 23 categories of items listed above.

Table 4: Benefits and costs from foregone VAT revenue

ITEM	RESTRICTIVE TEST			GENERAL TEST		
	LOWEST 4	TOP 6	BENEFITS-COST RATIO: RESTRICTIVE TEST	LOWEST 7	TOP 3	BENEFITS-COSTS RATIO: GENERAL TEST
Cake flour	190	200	0.95	313	77	4.07
Bread flour	60	42	1.43	89	12	7.65
Sorghum meal/powder	11	13	0.86	20	4	4.64
Mabella	18	26	0.72	32	11	2.83
Poultry (incl. heads and feet)	1336	2646	0.5	2638	1345	1.96
Mopane worms	2	1	1.12	2	1	3.52
Other canned fish	10	18	0.54	19	8	2.3
Whiteners (Cremora; Ellis Brown)	45	92	0.49	97	40	2.41
Amageu	9	17	0.52	18	8	2.29
Baby food Predominantly grain	19	21	0.91	32	9	3.54
Baby food Predominantly meat	0	2	0.28	1	1	2.25

[32] The benefits-to-cost ratio is computed as the savings to the poorest deciles (benefits) compared to the costs of forgone revenue from consumption by the rich. A full list of zero-rating costs and benefits for the items we identity is tabulated in Table of the appendices.

Baby food Predominantly vegetables	4	13	0.3	9	7	1.26
Baby food Predominantly fruit	10	23	0.45	25	9	2.69
Baby food Predominantly milk	105	197	0.53	221	81	2.73
Powder soup	77	110	0.7	134	52	2.58
Instant yeast	10	9	1.04	16	4	4.38
Soya product (excluding soy milk)	9	11	0.79	14	6	2.34
Tea leaves	9	10	0.97	15	3	4.53
Tagged tea bags	12	19	0.62	21	10	2.17
Tag less tea bags	52	87	0.6	96	42	2.29
Rooibos tea leaves	2	6	0.42	4	4	1.2
Infants' clothing	193	286	0.68	328	151	2.16
Girls' clothing	313	567	0.55	550	330	1.67
Boys' clothing	342	639	0.54	616	365	1.69
School uniform	268	421	0.64	457	232	1.97
Girls' school footwear	65	75	0.87	102	39	2.61
Boys' school footwear	81	95	0.85	131	44	2.95
Girls' footwear	111	181	0.61	189	103	1.84
Boys' footwear	130	245	0.53	243	131	1.85
Infants' footwear	41	56	0.72	72	25	2.87
Candles	38	35	1.1	61	13	4.83
Coal (including anthracite)	6	5	1.32	10	1	9.09
Other household fuel	0	0	0	0	0	3.85
Hotplates	19	24	0.79	33	10	3.38
Soap; (bars and cakes; not toilet soap); washing powders; liquid detergents and bleaches; dishwasher tablets	336	834	0.4	688	482	1.43
Matches	11	11	1.02	19	3	7.62
Medicine purchased with prescription in public institutions	10	23	0.43	21	12	1.76
Medicine purchased without prescription in public institutions	18	67	0.26	42	43	0.96
Pharmacy dispensing fees in public institutions	1	4	0.27	2	2	0.99
Pharmacy service fees in public institutions	0	0	2.93	0	0	6.81
Other medical products (bandages; syringes; knee supports etc.) in public institutions	0	1	0.08	0	1	0.55
Medical services in public institutions	2	3	0.64	4	1	4.14
Flat rate in respect of services and medicine obtained at hospital/clinic in public institutions	40	50	0.8	75	14	5.26
Other medical services in public institutions	3	17	0.17	6	14	0.39
Doctors' consultation fees public	2	13	0.16	6	9	0.72
Dental service (service of dentists include oral-hygienists) in public institutions	1	4	0.18	2	3	0.51
Medical analysis laboratories and X-ray service in public institutions	0	1	0.34	0	1	0.55
Service of medical auxiliaries (freelance nurse; midwives; freelance optometrist; physiotherapist; speech therapist etc.) in public institution	1	43	0.02	1	43	0.03

Non hospital service (ambulance service other than hospital) in public institutions	0	1	0.41	1	0	5.78
Hospital service fees (e.g. wards; beds and theatre fees) in public institutions	1	4	0.34	5	1	4.08
Calls (including airtime for cellular phones)	932	3247	0.29	2111	2069	1.02
Textbooks for public institutions - Loans	10	161	0.06	37	133	0.28
Stationery	34	151	0.22	73	112	0.65
Body soap (including Sunlight; liquid soap)	98	257	0.38	211	144	1.47
Disposable nappies	275	409	0.67	489	196	2.5
Sanitary towels and tampons	20	80	0.25	46	54	0.86
Maize (own production)	10	5	2.24	14	1	12.56
Wheat (own production)	0	0		0	0	
Other grains (own production)	0	0	0	0	0	3.63
Milk (own production)	0	0	0.21	0	0	0.34
Eggs (own production)	1	0	5.75	1	0	
Fruit (own production)	1	1	1.19	2	0	5.49
Vegetable (own productions)	15	8	1.82	22	1	16.39
Other produce; specify (own production)	1	0	3.54	1	0	4.9
Cattle (own production)	0	0	0.32	0	0	2.14
Sheep (own production)	1	2	0.43	1	2	0.43
Pigs (own production)	0	0	5.06	0	0	
Goats (own production)	0	0		0	0	
Poultry (own production)	6	3	1.95	8	0	19.98
	TOTAL BENEFIT	**TOTAL COST**	**TOTAL BENEFIT-COST RATIO**	**TOTAL BENEFIT**	**TOTAL COST**	**TOTAL BENEFIT-COST RATIO**
	5 427	**11 592**	**0.47**	**10 496**	**6 519**	**1.61**

Source: Living Conditions Survey 2014/2015. Own calculations.
NOTES: The table reports VAT payment in millions of rands, thus, due to rounding off, items with VAT payments below one million appear as zero. The totals for the two tests do not add to the same amount due to rounding.

7 Luxury VAT rate

Taxing luxury consumption is an avenue to make the tax system more progressive and raise additional revenue. South Africa currently has a limited range of *ad valorem* excise duties on luxury goods paid by the manufacture or importer. These raise a limited, but not insignificant, amount of revenue – in 2017/2018 R3.8bn and projected to rise to R4.8bn in 2020/2021 (in nominal terms). However, they are projected to maintain their share in the overall tax mix. There is, therefore, room to further tax luxury consumption through the increase and expansion of *ad valorem* excise duties and the institution of a higher VAT rate on luxury goods.

Here we apply a VAT rate of 25% on luxury consumption. "Luxury goods" could include those items bought only by the rich, as well as upper segments of other goods markets, for example, fancy cars, expensive fridges, and so on. Given the existing tax administration systems this can be feasibly implemented. Given that a higher share of luxury items is imported, this should not unduly dampen domestic demand and could modestly assist in closing the balance of payments. Access to luxury goods is an expression of inequality. The selection of items should not place goods that poorer households save for, beyond their reach.

Table 3 provides a sample of items that could be good candidates for a luxury VAT rate as well as the revenue this could raise. The test for inclusion is whether 70% or more of expenditure on the item is spent by decile 10 (and more than 90% by deciles 8-10). The columns show additional revenue (over and above the existing 15% VAT rate) that would be earned from a 25% VAT rate on all goods in that category (the second last column).

Another test is applied to mimic a higher VAT rate on expensive versions of a particular good (the last column). Unfortunately, the data set is limiting and a luxury VAT rate cannot be properly applied to this data based on price differentiation, for example, levying a higher tax for cars selling for more than R500 000. For a selection of items, we have applied the 25% VAT rate only to the consumption of decile 10, on the loose assumption that decile 10 would purchase more expensive versions of this item.

Table 6: Indicative items for luxury VAT rate and fiscal benefit

ITEM	PERCENTAGE CONSUMED BY DECILE 10	EXTRA TAX AT 25% VAT RATE APPLIED TO ALL GOODS IN CATEGORY (R MN)	EXTRA TAX AT 25% VAT RATE APPLIED DECILE 10 CONSUMPTION ONLY (R MN)
Security systems (including alarms; panic buttons)	80%	54	

Swimming pool maintenance (excluding wages of persons who maintain pools; but including chemicals)	83%	97	
Security services (including reaction services and neighbourhood watch)	86%	55	
Garden and patio furniture	79%	15	
Vacuum cleaners; polishers and carpet cleaning machines	72%	18	
Power driven garden tool (e.g. lawnmowers; etc.)	82%	30	
Garden water sprinkler (e.g. sprays; irrigation systems; etc.)	90%	34	
Other garden equipment	82%	7	
Aircraft educational trips	100%	8	
Aircraft other than educational	97%	157	
Aircraft for when away from home	91%	408	
Boat/ship for when away from home	78%	5	
Fax machines and telephone answering machines for household purposes	80%	1	
Boats (including outboard motors) aircrafts; go-carts	100%	59	
New caravans and trailers including motorised caravans	100%	4	
Quad bikes	84%	1	
Repairs and maintenance services to recreation; entertainment and sports equipment	92%	5	
Holiday tour package	75%	298	
Hotel	81%	397	
Bed and breakfast	81%	81	
Guesthouses	73%	85	
Lodges	70%	70	
Schools boarding fees in private institutions – Loans	77%	20	
Expenses occurred as owner of a holiday home i.e. after deduction of income received from letting	83%	32	
Motor cars	85%	5 201	4405
Station wagons	81%	325	264
Mini buses	100%	27	27
New bakkies	84%	638	532
New four wheel drive vehicles	89%	897	798
Used four-wheel drive vehicles	95%	363	298
Cameras; video cameras; projectors and flashes	73%	60	43
eReader	74%	4	2
Other consumables (e.g. toners; ink cartridges)	81%	9	7
Firearms and ammunition	85%	8	7
Special sports clothes and shoes	70%	49	35

Swimming pool equipment and repairs of equipment	75%	74	55
Loose carpets and rugs	52%		19
Refrigerators; deep freezers and refrigerator/deep-freeze combinations	19%		77
Refrigerators	24%		1
Washing machines; dishwashers and tumble dryers	26%		42
Stoves and ovens; including microwave ovens	20%		42
Heaters; air conditioners/fans	60%		16
Heaters (gas and paraffin)	31%		2
Kettles and percolators; coffee makers	26%		13
Cellular phones (pre-paid hand set)	24%		137
Cellular phones accessories e.g. chargers; pouches; earphones; prepaid sim-cards)	30%		6
Mobile device; Modems (e.g.3G; Wi-Fi)	44%		151
Radios (including motor car radios) tape recorders; compact disk players; sound system; MP3 players; iPods and and similar equipment (including for cars)	26%		13
Television sets; decoders (e.g. M-net; PVR; Explorer; etc.); video recorders; Blu-ray and DVD player	27%		105
Aerials and satellite dishes	28%		12
Personal desktop computers (excluding laptops)	55%		39
Laptops/notebooks	40%		135
Tablets/mini tablets (e.g. iPad; galaxy tabs; etc.)	52%		98
Laptops; MP3 players; tablets for educational purposes in public institutions - Loans	33%		9
Laptops; MP3 players; tablets for educational purposes in private institutions - Loans	61%		7
Printers/scanners/copiers	52%		7
Modems	50%		9
Computer parts (e.g. motherboard; CPU; memory/RAM; graphics card; hard drives)	40%		4
Flash disks; SD cards and portable external hard drives	66%		6
Other musical instruments; sound equipment and accessories	29%		1
Musical instruments: Pianos; organs and other musical instruments	38%		11
Purchase of hunting dogs	63%		5
Video games CDs/DVDs/Blu-ray/downloaded apps (include downloaded games: X-box; Play-Station; Wii games)	62%		22
Fire works	10%		1

Firearms and ammunition (for security services)	29%		2
Tennis rackets and balls; fishing rods; soccer ball; bats; etc.	65%		13
Camping equipment (tents; sleeping bags etc.)	66%		16
Watches and personal jewellery	57%		126

Our indicative list shows up to around R9.6bn in additional revenue from a 25% luxury VAT rate on certain goods. This is more than half of the R17bn lost to zero-rating discussed earlier.

8 Conclusion

The VAT increase has undoubtedly made the South Africa tax mix more regressive and lowered the disposable incomes of poor and low-income households. It has also undermined the imperatives to reduce poverty and inequality. It has been compounded by steep increase in price of fuel, in part due to increases in the fuel levy, which have driven up the cost of transport. Significant financial strain is therefore placed on a population in which 55% live in poverty. It is untrue that this was the only tax instrument available to National Treasury and comes against the backdrop of significant declines in personal and corporate income tax rates and low taxation on wealth and income therefrom. This is an untenable situation.

One means through which to ameliorate the impact of the VAT increase is through zero-rating. This report has shown that zero-rating is currently, by and large, a well targeted instrument, disproportionately benefiting poor and low-income households. This report has also shown that there are a number of products that are good candidates for further zero-rating. Not only would this ease the burden on poor and low-income households but it would also be a significant boon to female-headed households. The report also shows that a higher VAT rate of 25% on luxury items could raise up to half of the revenue foregone from further zero-rating. Finding means through which to relieve the financial burden on poor and low-income households is a national imperative.

9 Appendix

Table 7 shows the data used for the "progressivity test" – the percentage of their overall expenditure that the decile groups spends on each item. This table informs the "PASS" on the "progressivity test" in Table 2 – the item passes when the lower deciles spend a greater share of their expenditure on that item than higher deciles. In instances where this is the case zero-rating would make VAT and the tax mix less regressive / more regressive. Almost all items pass this test as shown in Table 2.

Table 7: Share of total expenditure per Item by decile groups – proposed zero-rated items

	SHARE OF INCOME SPENT ON ITEM BY DECILE GROUP			
	LOWEST 4	TOP 6	LOWEST 7	TOP 3
Cake flour	0.62%	0.09%	0.41%	0.04%
Bread flour	0.19%	0.02%	0.12%	0.01%
Sorghum meal/powder	0.04%	0.01%	0.03%	0.00%
Mabella	0.06%	0.01%	0.04%	0.01%
Poultry (incl. heads and feet)	4.34%	1.14%	3.47%	0.72%
Mopane worms	0.01%	0.00%	0.00%	0.00%
Other canned fish	0.03%	0.01%	0.03%	0.00%
Whiteners (Cremora; Ellis Brown)	0.15%	0.04%	0.13%	0.02%
Amageu	0.03%	0.01%	0.02%	0.00%
Baby food Predominantly grain	0.06%	0.01%	0.04%	0.00%
Baby food Predominantly meat	0.00%	0.00%	0.00%	0.00%
Baby food Predominantly vegetables	0.01%	0.01%	0.01%	0.00%
Baby food Predominantly fruit	0.03%	0.01%	0.03%	0.00%
Baby food Predominantly milk	0.34%	0.09%	0.29%	0.04%
Powder soup	0.25%	0.05%	0.18%	0.03%
Instant yeast	0.03%	0.00%	0.02%	0.00%
Soya product (excluding soy milk)	0.03%	0.00%	0.02%	0.00%
Tea leaves	0.03%	0.00%	0.02%	0.00%
Tagged tea bags	0.04%	0.01%	0.03%	0.01%
Tag less tea bags	0.17%	0.04%	0.13%	0.02%
Rooibos tea leaves	0.01%	0.00%	0.01%	0.00%
Infants' clothing	0.63%	0.12%	0.43%	0.08%
Girls' clothing	1.02%	0.24%	0.72%	0.18%
Boys' clothing	1.11%	0.28%	0.81%	0.20%
School uniform	0.87%	0.18%	0.60%	0.12%
Girls' school footwear	0.21%	0.03%	0.13%	0.02%
Boys' school footwear	0.26%	0.04%	0.17%	0.02%
Girls' footwear	0.36%	0.08%	0.25%	0.06%
Boys' footwear	0.42%	0.11%	0.32%	0.07%
Infants' footwear	0.13%	0.02%	0.09%	0.01%
Candles	0.12%	0.02%	0.08%	0.01%
Coal (including anthracite)	0.02%	0.00%	0.01%	0.00%
Other household fuel	0.00%	0.00%	0.00%	0.00%
Hotplates	0.06%	0.01%	0.04%	0.01%

Soap; (bars and cakes; not toilet soap); washing powders; liquid detergents and bleaches; dishwasher tablets	1.09%	0.36%	0.90%	0.26%
Matches	0.04%	0.00%	0.03%	0.00%
Medicine purchased with prescription in public institutions	0.03%	0.01%	0.03%	0.01%
Medicine purchased without prescription in public institutions	0.06%	0.03%	0.05%	0.02%
Pharmacy dispensing fees in public institutions	0.00%	0.00%	0.00%	0.00%
Pharmacy service fees in public institutions	0.00%	0.00%	0.00%	0.00%
Other medical products (bandages; syringes; knee supports etc.) in public institutions	0.00%	0.00%	0.00%	0.00%
Medical services in public institutions	0.01%	0.00%	0.01%	0.00%
Flat rate in respect of services and medicine obtained at hospital/clinic in public institutions	0.13%	0.02%	0.10%	0.01%
Other medical services in public institutions	0.01%	0.01%	0.01%	0.01%
Doctors' consultation fees public	0.01%	0.01%	0.01%	0.00%
Dental service (service of dentists include oral-hygienists) in public institutions	0.00%	0.00%	0.00%	0.00%
Medical analysis laboratories and X-ray service in public institutions	0.00%	0.00%	0.00%	0.00%
Service of medical auxiliaries (freelance nurse; midwives; freelance optometrist; physiotherapist; speech therapist etc.) in public institution	0.00%	0.02%	0.00%	0.02%
Non hospital service (ambulance service other than hospital) in public institutions	0.00%	0.00%	0.00%	0.00%
Hospital service fees (e.g. wards; beds and theatre fees) in public institutions	0.00%	0.00%	0.01%	0.00%
Calls (including airtime for cellular phones)	3.03%	1.40%	2.77%	1.11%
Textbooks for public institutions - Loans	0.03%	0.07%	0.05%	0.07%
Stationery	0.11%	0.07%	0.10%	0.06%
Body soap (including Sunlight; liquid soap)	0.32%	0.11%	0.28%	0.08%
Disposable nappies	0.89%	0.18%	0.64%	0.11%
Sanitary towels and tampons	0.07%	0.03%	0.06%	0.03%
Maize (own production)	0.03%	0.00%	0.02%	0.00%
Wheat (own production)	0.00%	0.00%	0.00%	0.00%
Other grains (own production)	0.00%	0.00%	0.00%	0.00%
Milk (own production)	0.00%	0.00%	0.00%	0.00%
Eggs (own production)	0.00%	0.00%	0.00%	0.00%
Fruit (own production)	0.00%	0.00%	0.00%	0.00%
Vegetable (own productions)	0.04%	0.00%	0.03%	0.00%
Other produce; specify (own production)	0.00%	0.00%	0.00%	0.00%
Cattle (own production)	0.00%	0.00%	0.00%	0.00%
Sheep (own production)	0.00%	0.00%	0.00%	0.00%
Pigs (own production)	0.00%	0.00%	0.00%	0.00%
Goats (own production)	0.00%	0.00%	0.00%	0.00%
Poultry (own production)	0.02%	0.00%	0.01%	0.00%

Source: Statistics South Africa, Living Conditions Survey 2014/15. Own calculations