



**DNA** Economics

# **Universal Basic Income Guarantee: Financing options analysis**

A report for the Institute for Economic  
Justice

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*Making economic sense of common problems*

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## SECTION A: ABBREVIATIONS

| Acronym | Expanded definition               |
|---------|-----------------------------------|
| CIT     | Corporate Income Tax              |
| CPI     | Consumer Price Index              |
| CTT     | Currency Transaction Tax          |
| ETI     | Elasticity of Taxable Income      |
| FPL     | Food Poverty Line                 |
| FX      | Foreign Exchange                  |
| GDP     | Gross Domestic Product            |
| IEJ     | Institute for Economic Justice    |
| LBPL    | Lower Bound Poverty Line          |
| MTEF    | Medium Term Expenditure Framework |
| RRT     | Resource Rent Tax                 |
| SARS    | South African Revenue Services    |
| SST     | Social Security Tax               |
| UBIG    | Universal Basic Income Guarantee  |
| UBPL    | Upper Bound Poverty Line          |
| VAT     | Value Added Tax                   |

## 1. Introduction

The Institute for Economic Justice (IEJ) published a Policy Brief in March 2021 which explores the potential for a Universal Basic Income Guarantee (UBIG) in South Africa. The Brief covers the rationale, possible implementation models, potential costs, and financing options.

The aim of this research is to review the financing options more closely and provide updated revenue estimates. We do this for the following selection of options:

1. Social Security Tax
2. Selective removal of Medical Scheme Fees Tax Credit
3. Selective removal of retirement fund contribution deduction
4. Increasing the Dividend Tax rate
5. Tax on resource rents
6. Higher VAT rate on luxury products
7. Increasing the Estate Duty rate
8. Increasing the Securities Transfer Tax rate
9. Currency Transaction Tax

Besides revenue-raising potential, the options were selected based on their progressiveness. The options reviewed had to have a non-negative impact on income distribution. They, therefore, had to be, at worst neutral, but preferably progressive.

This paper primarily aims at estimating the revenue-generating potential of each financing option. Such estimation entails applying a tax rate to a tax base according to the definition of the tax. Where the literature indicates a tax base response to the tax, the response was also used in the calculation. The estimated revenue is also projected over the Medium Term Expenditure Framework (MTEF).

A similar analysis is done for each of the options under consideration in Sections 2 to 4. Section 5 subsequently shows the results of a scenario analysis that looks at the fiscal implications of increasing spending to accommodate the UBIG and increasing revenue through the financing options considered.

## 2. Taxes on income and profits

### 2.1 Social Security Tax

A Social Security Tax (SST) is levied on an individual's income specifically to fund a social security scheme – in this case, the UBIG.<sup>1</sup> An SST would be easy to implement with the tax base (personal income) already identified in the current tax system. We will show that, even at low rates, an SST could generate substantial revenue. Moreover, the revenue generated would also, by definition, be ring-fenced, thereby protecting a pocket of funding for the UBIG. The ring-fencing also means that a direct comparison can be made between the contribution and the benefit. Therefore, it can be ensured that the UBIG value exceeds the tax paid per individual for lower-income levels.

Consequently, the applied tax rate(s) should also be based on the relationship between the SST and its benefit.<sup>2</sup> The IEJ has suggested the following rate structure:

- 1.5% of taxable income between R0 and R80 000 per annum;
- 2% of taxable income between R80 000 and R350 000 per annum;
- 2.5% of taxable income between R350 000 and R 1 million per annum; and
- 3% of taxable income more than R1 million per annum.

Within this structure, individuals earning up to R350 000 per annum would benefit more from the grant than they would lose from the additional tax.<sup>3</sup>

Research indicates a non-negligible elasticity of taxable income (ETI) of 0.4 in South Africa.<sup>4</sup> ETI is a measure of how much taxable income may change in response to an increase in the tax rate. Fortunately, the ETI is low, and the impact of an increase in the average income tax rate is consequently marginal. In our estimation, taking ETI into account decreases potential revenue by only 1.4%, i.e. if revenue equals R100 when assuming ETI of zero, increasing ETI to 0.4 decreases revenue by only R1.40. The small difference is likely due to inelastic demand for labour, especially at the higher end of the income spectrum.

The table below sets out a forecast of the potential revenue that could be collected through an SST assuming an ETI of 0.4. The tax base is calculated by increasing 2019 taxable income by the same rate as the Treasury's forecast of national compensation of employees.

Table 1: Social Security Tax

| Billions of Rands  | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R62.20  | R63.90  | R65.60  |

<sup>1</sup> (Williams, 1996)

<sup>2</sup> A direct international comparison of rates does not make sense as it would have to be considered in the context of the benefits as well.

<sup>3</sup> Assuming a grant of R7 020 per annum, which corresponds to the Food Poverty Line

<sup>4</sup> (Kemp J. H., 2020)

The main concern of an SST is related to one of its rationales. Earmarking has several benefits, as discussed, but it also has implications for the government's ability to allocate budgets. It decreases fiscal flexibility by proportionately decreasing the discretionary portion of the budget. This might impede the government's ability to deal with economic cycles.<sup>5</sup>

## 2.2 Selective removal of Medical Scheme Fees Tax Credit

The Medical Scheme Fees Tax Credit – more commonly known as the Medical Tax Credit (MTC) – is a credit deducted from an individual's overall tax liability should the individual contribute to a private medical aid. Currently, medical aid policyholders (i.e., the main member) receive the following tax credits:<sup>6</sup>

- R332 per month for the taxpayer, or
- R332 per month for the taxpayer's main dependent, and
- R224 per month per dependent after that

While this is beneficial to medical aid policyholders, from the government's perspective, this might be unnecessary for wealthier individuals who can comfortably absorb their medical aid's full cost.

South Africa has a health system characterised by inequality – the public sector spends two-thirds of what the private sector does while serving nearly four times the population.<sup>7</sup> While it is true that the tax credit relieves pressure on the public health sector by allowing individuals who, without it, would not be able to afford medical aid, this is not true at the higher income levels. Therefore, an important aspect of this option is that those from which the tax credit is removed should not have to abandon their private medical aid. If this does happen, removing the credit will inevitably add pressure to the public health sector – something it can ill-afford.

For this reason, the IEJ has suggested that all individuals who earn more than R500 000 per annum should not benefit from such a tax credit system, ensuring that the system still supports individuals at the lower end of the income distribution.

An important consideration is, however, the number of dependents. An individual earning R500 000 per annum without dependents is in a much better financial position than someone with a partner and children. Therefore, ideally, only the taxpayer and the taxpayer's main dependent's credit would cease.

Taxpayers who earn more than R500 000 p.a. receive an average of R730 per month as a medical aid tax credit.<sup>8</sup> That is equivalent to each taxpayer having 1.2 dependents. Therefore, if the credit is removed from only the taxpayer and the taxpayer's main dependent, this would only decrease the tax expense by 9%.<sup>9</sup> Two options are provided below – an elimination of the tax credit for the main member and all dependents and an elimination for only the main members and first dependent – with the second being the suggested one. Both apply to main members for taxable income above R500 000.

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<sup>5</sup> (World Health Organization, 2010)

<sup>6</sup> (Genesis Medical Scheme, 2020)

<sup>7</sup> (Ataguba, 2016)

<sup>8</sup> (South African Revenue Services, 2020)

<sup>9</sup>  $(1 - ((332 \times 2) / 730))$

Table 2: Selective removal of MTC (taxable income &gt; R500 000)

| Billions of Rands   | 2022/23 | 2023/24 | 2024/25 |
|---|---------|---------|---------|
| Decrease in tax spending (All dependents)                                     | R13.32  | R13.68  | R14.05  |
| Decrease in tax spending (Only main member and first dependent) <sup>10</sup> | R11.80  | R12.12  | R12.78  |

### 2.3 Selective removal of retirement fund contribution deductions

South Africans can deduct up to 27.5% from their income up to a maximum of R350 000 based on their annual contributions to retirement funds. If you exceed the 27.5% contribution limit, the excess may be rolled over to reduce tax liability in future years. In this way, the more an individual tops up their retirement contributions for the tax year, the greater the tax deduction over the individual's lifetime.<sup>11</sup>

The rationale for this deduction is to redistribute income across individuals' lifecycles, i.e. incentivise individuals to make sufficient provision for retirement.<sup>12</sup> However, some research has shown that tax breaks for retirement fund contributions regressively benefit higher-income individuals and, therefore, "*reduce the overall progressivity of the personal income tax system*".<sup>13</sup>

In alignment with the findings of this research, the IEJ suggests removing the benefit from individuals earning more than R1 million per year. The proposal is progressive in that it is based on the taxpayers' ability to pay. Lower-income individuals still enjoy the tax relief while higher-income individuals do not.

Table 3 shows the additional revenue if the deduction is no longer granted to those with taxable income above R1 million.

Table 3: Selective removal of retirement fund contribution deduction (taxable income &gt; R 1 000 000)

| Billions of Rand               | 2022/23 | 2023/24 | 2024/25 |
|--------------------------------|---------|---------|---------|
| Increase in income tax revenue | R22.0   | R22.6   | R23.2   |

Importantly, although pension fund contributions are deductible, the pension benefit is still taxed if it exceeds the annual tax thresholds. The effective tax rate is, however, still lower than the income tax rate due to the lower tax rate on the lump-sum amount withdrawn. Thus, if the deductible is removed and the benefit is taxed, the income is first taxed as part of income and then again as part of the pension benefit,<sup>14</sup> albeit at a lower rate. It would, therefore, be right to only tax the capital gained, not the capital invested – an administratively burdensome requirement. An alternative would be to reduce, rather than remove, the tax benefit. Using this approach, the benefit could be reduced progressively across a sliding scale of incomes – that is, the more you earn, the lower the benefit. This may have two advantages: mitigating the risk of double taxation, and not introducing sharp discontinuities in the tax structure; the latter referring to a large change in the taxation of income when one reaches a particular income threshold. While these alternative approaches would reduce the revenue intake, this would be still be significant.

<sup>10</sup> Preferred option

<sup>11</sup> (Hesse, 2021)

<sup>12</sup> (Brys, Perret, Thomas, & O'Reilly, 2016)

<sup>13</sup> (Maboshe & Woolard, 2018)

<sup>14</sup> Not just the capital gain, but including the capital

## 2.4 Increasing the Dividend Tax rate

A Dividend Tax is a tax levied on the dividends issued by companies. In South Africa, there are two major categories of dividend taxation:<sup>15</sup>

1. Dividends earned by South Africans from South African companies are exempt from income tax. Instead, the company withholds 20% of the dividend and pays it over to SARS.
2. Dividends received from foreign companies are taxed at a maximum effective rate of 20%.

Therefore, the tax base is the pool of all dividends issued by local companies to permanent and non-permanent residents and foreign companies to permanent residents.

In response to a tax rate hike, companies might be inclined to decrease dividend disbursements favouring building up retained earnings. This process shifts some of the dividend tax base to the capital gains tax base as the increased retained earnings increases company value leaving increased room for investment and consequently growth and employment. The degree to which such a shift will occur and its impact on the different tax bases is unclear and often ambiguous in the literature.<sup>16</sup> Nevertheless, after the tax rate was increased from 10% to 15% in 2012, researchers prospectively modelled the potential economic impact. They found marginal short-term gains which increased over time.<sup>17</sup>

The potential impact for growth and the progressive impact on the tax system provides a strong basis for IEJ to propose a five-percentage point increase in the tax rate from 20 to 25%. Moreover, because the tax base is already identified, such a change is relatively straightforward to implement.

Even though the dividend tax has increased twice since converting from the Secondary Tax on Companies to a tax on dividends, no research was forthcoming regarding the impacts of these changes on the tax base. We, therefore, assume no change. Potential revenue is calculated by growing baseline dividends tax revenue by forecasted GDP and increasing this by a fixed proportion representing the increase in the tax:<sup>18</sup>

Table 4: Revenue generation potential of increasing dividend tax rate from 20 to 25%

| Billions of Rand   | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R7.70   | R8.10   | R8.60   |

Although we do not include a tax base response in our calculation, a study investigating this is recommended. After a five percentage-point increase in the dividend tax rate in February 2017, the revenue from the tax fell by 10.4% the following year.<sup>19</sup> This may be due to more factors than just the increase in the rate, but it at least alludes to the fact that there is a behavioural response to a rate increase. A fact that implies that the revenue

<sup>15</sup> (National Treasury, 2020)

<sup>16</sup> Contrast, for example, findings from the following papers: (Wier, 2020); (Davis Tax Committee, 2016); (Erero & Gavin, 2015)

<sup>17</sup> (Erero & Gavin, 2015)

<sup>18</sup>  $\frac{25\% - 20\%}{20\%}$

<sup>19</sup> The research team acknowledges Aliya Chikte from IEJ who pointed this out to us.

estimations may be overstated – difficult to say by how much, but it is unlikely to be significantly more than 10%.

## 2.5 Taxes on resource rents

A Resource Rent Tax (RRT) is an additional tax levied on extractive companies' economic rent. Economic rent is defined as "*that portion of value-added which exceeds the costs of all the factors of production, including the required return on capital*". It is, therefore, produced by firms when they price outputs at levels exceeding that which is necessary to cover their inputs and a required profit margin. This is particularly prevalent in the mining industry, occurring *de facto* during a boom in commodity prices. Lof et al. (Lof, Lof, & Ericson, 2021) explains it well:

*"Mineral deposits have different levels of quality, related, for example, to their depth and whether they are high-grade ore bodies with valuable by-products, and their distance to the market, which all determine the value of a particular deposit. For these and other reasons, production costs vary. However, the price of a metal is set globally, theoretically at the opportunity cost of the highest-cost mine needed to satisfy the market demand. Thus, all mines—except that last mine—will earn a resource rent."*

To summarise, economic rents can be thought of as additional profit resulting from factors beyond the firm's influence. Therefore, if an RRT is implemented, it will, by definition, have no impact on investment decisions as it will theoretically only be levied on the portion profit above the investors' required rate of return.<sup>20</sup>

As per Land (2008), an RRT could be levied on any of the following:

- **The price of the resource.**<sup>21</sup>
- **Profitability of the resource-based company.** This approach requires that profits are defined *ex-ante*, and taxes are then levied on changes in such profits.
- **Link tax rates to the return on resource-based investment.** Key features of such an approach include:
  - The tax base being the resource project (i.e., fully ring-fenced),
  - A threshold rate of return on investment is specified at which the RRT would apply, and
  - A specified rate is applied to net profits.

In 2012, an African National Congress (ANC) Policy discussion document comprehensively reviewed options for South Africa to increase the developmental impact of the mining industry.<sup>22</sup> The review included a high-level look at potential rent-based taxes, including a conventional Resource Rent Tax,<sup>23</sup> a Costs for Rent-Based Tax,<sup>24</sup> and an Excess Profits Tax.<sup>25</sup> Various versions of the RRT are already applied in several countries. The table below summarises a few examples.

<sup>20</sup> By definition, a resource rent is the profit afforded to mineral resource companies after their cost of operations and stakeholder returns on investment are considered (Land, 2008)

<sup>21</sup> This approach is not popular given that commodities prices are volatile.

<sup>22</sup> (African National Congress, 2012).

<sup>23</sup> Tax on cash flow

<sup>24</sup> Takes a longer term view by including all costs within a project's life cycle

<sup>25</sup> Government collects a percentage of a project's net cash flow when the investment payback ratio (the "R-factor") exceeds one. R-Factor = cumulative receipts over cumulative costs (including upfront investment)

Table 5: Classification of rent taxes across the globe<sup>26</sup>

| Tax base | Basis for tax rate  |
|----------|---|
| Revenues | <b>(Price level)</b> <ul style="list-style-type: none"> <li>China – oil sales taxed at 20% if the oil price &gt; \$40/bbl rising to 40% &gt; \$60/bbl</li> <li>Zambia – copper sales taxed at 25% once copper &gt; \$2.5/lb rising to 75% &gt; \$3.5/lb</li> </ul>  |
|          | <b>(Period)</b> <ul style="list-style-type: none"> <li>New South Wales – oil sales taxed at 6% starting in year 6 of a project and rising by 1% to 10% in year 10</li> </ul>  |
| Profits  | <b>(Price level)</b> <ul style="list-style-type: none"> <li>Alaska – oil profits taxed at 25% until oil price exceeds \$30/bbl, thereafter rising by 0.4% for every \$1/bbl &gt; \$30/bbl</li> </ul>  |
|          | <b>(Output level)</b> <ul style="list-style-type: none"> <li>Uganda – company share of profit oil is 50% @ low output falling to 15% @ high output</li> </ul>   |
|          | <b>(Annual profit margin)</b> <ul style="list-style-type: none"> <li>Botswana – mine profits taxed at the higher of 25% or <math>70-1500/x</math>, where <math>x</math> (%) = taxable income/gross income</li> </ul>  |
|          | <b>(Annual return on capital)</b> <ul style="list-style-type: none"> <li>Olympic Dam copper-uranium mine – after-tax profits taxed at 0% to 15% depending on return on capital employed in that tax year</li> <li>Bougainville copper-gold mine – after-tax profits taxed at 70% once return on capital base exceeds 15%</li> </ul>   |
|          | <b>Project rate of return (Resource Rent Tax)</b> <ul style="list-style-type: none"> <li>Timor Leste RRT – pre-tax oil profits taxed at 22.5% once project IRR &gt; 16.5%</li> <li>India - company share of profit oil is <math>x%</math> @ <math>IM &lt; 1.5</math> falling to <math>y%</math> @ <math>IM &gt; 3.5</math>, where <math>IM</math> = ratio of cumulative Net Income to Total Investment</li> </ul> |

The ANC's motivation for state participation in the minerals sector, including the imposition of an RRT, is clear:<sup>27</sup>

*"ensure that our national resource endowments, including land, water, minerals and marine resources are exploited to effectively maximise the growth, development and employment potential embedded in such national assets, and not purely for profit maximisation."*

An RRT should, by definition, not impact investment decisions, and there is, therefore, no theoretical downside to its imposition. Yet, accurately identifying the rent portion of the profit is a significant hurdle. If this can be overcome, an RRT is a strong option.

Although the data required to estimate the revenue impact of applying an RRT is unavailable, the World Bank (2021) indicates that natural resources rent amounted to 3.9% of GDP in 2019 for South Africa (or R202 billion). This estimation is, therefore, used as the foundation for estimating possible RRT revenue.

Because natural resource values are so volatile and the tax-base impact of imposing a RRT is not explored in the literature, forecasting these amounts is extremely difficult. However, naïve forecasts suggest that the value of resource rents could fluctuate between R150 and R160 billion between 2022 and 2025.<sup>28</sup>

<sup>26</sup> (Land, 2008)

<sup>27</sup> (African National Congress, 2012)

<sup>28</sup> Using an ARMA (0, 2) model with a cubic trend

Assuming a tax rate of 25%<sup>29</sup> on the value of total resource rents, the potential revenue generated from a resource rent tax could be as follows:

Table 6: Resource Rent Tax

| Billions of Rand   | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R38.80  | R38.40  | R38.30  |

It should be noted that the ANC's report is specific about what the RRT revenue should be used for. It is proposed that the RRT revenue is used to fund a Sovereign Wealth Fund, which will *"invest in long-term projects and instruments that will ensure economic prosperity beyond the depletion of our mineral resources"*. Consequently, there may be some competing interests.

Using such funds for a purpose similar to the UBIG is, however, not without precedent. In Alaska, the Department of Revenue makes an annual payment to eligible Alaskans to share in a portion of the State minerals revenue in the form of a dividend.<sup>30</sup>

<sup>29</sup> Below the rule of thumb 50% set out in *Land (2008)*, but in line with countries like Ghana and Zambia

<sup>30</sup> <https://pfd.alaska.gov/Division-Info/About-Us>

### 3. Taxes on goods and services

#### 3.1 Luxury VAT

A luxury VAT is a sales tax placed on goods and services considered non-essential or accessible only to the wealthiest. The rationale for this option is its progressive revenue-raising potential. VAT is usually a regressive tax instrument, with an increase in the rate disproportionately affecting the poor.<sup>31</sup> A luxury tax would, by definition, circumvent this problem as the poorer households would remain completely unaffected.

There is a precedent for applying an additional tax on luxury items. India charges a 28% Goods and Services Tax (GST) on small cars, consumer durables such as air-conditioners and refrigerators, premium cars, and high-end motorcycles. Their standard GST rate is 18%. Chile adds 15 percentage points to their VAT rate for a range of luxury items. Thailand charges an excise duty *ad valorem* rate of up to 40% on vehicles, motorcycles and cosmetic products. South Korea focuses their surcharge on the imports of luxury items adding a special excise tax of 10 to 20 percentage points on luxury item imports.

The IEJ suggests a luxury VAT rate of 25%, which is reasonable given the rates elsewhere. We, therefore, follow suit. The consumption data from the Living Conditions Survey (2014/15) was used as the main data source. The following assumptions were made for the estimation of revenue:

- 70% or more of expenditure on the item is spent by decile ten or more than 90% by deciles eight to ten.
- Consumption spending assumed to increase at the rate of CPI:
  - 2022/23: 4.3%,
  - 2023/24, 4.4%
  - 2024/25: 4.4%
- The price elasticity of demand is -0.4.
- The price increase of luxury items is 8.7% (the entire tax is transferred to the price).

The potential revenue generated is given in Table 7.

Table 7: Revenue generation potential of imposing a 25% luxury VAT on selected items

| Billions           | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R8.41   | R8.78   | R9.17   |

Usually, applying differential VAT rates can be administratively burdensome. It adds considerably to the complexity of the VAT system, increasing the compliance burden for businesses and negatively impacting compliance levels.<sup>32</sup> However, South Africa already applies such a system and adding a third rate should only have a marginal impact on the administration.

The most significant challenge will be to correctly identify the goods, i.e. those for which the demand will not decrease to such a degree that it decreases total VAT income. The most obvious choice would be “Veblen

<sup>31</sup> (Njozela, 2018)

<sup>32</sup> (OECD, 2020)

goods”, i.e. goods for which demand elasticity is positive. There are, however, very few Veblen goods, so the criteria would have to widen somewhat. Technically, luxury goods are non-essential, and their demand is consequently elastic. Therefore, the aim would be to choose those non-essential goods for which elasticity is lowest.

## 4. Taxes on property

### 4.1 Replacing Estate Duty tax with Inheritance Tax

One of the suggestions made in the IEJ's policy brief is changing the current Estate Duty tax to an Inheritance Tax and increasing the rate. The only difference between these two taxes is who is responsible for payment. Both taxes are payable on the net value of an estate handed down to an individual/individuals upon the estate owner's death. In the case of an Estate Duty tax, the executor of the estate is liable. In the case of an Inheritance Tax, the estate's beneficiary pays.<sup>33</sup>

In both cases, the tax base is the total value of the estate (movable and immovable assets, shares and share pay-outs, life insurance policy benefits, and all cash left on hand).

As it stands, the following differentiated rates are applied to estates:<sup>34</sup>

- 20% of estates between the value of R3.5 million and R30 million, and
- 25% of estates above the value of R30 million.

It is not clear why there would be a preference for an Inheritance Tax over an Estate Duty tax. Research on imposing an inheritance tax points to three major problems which may affect the collection of tax revenues:<sup>35</sup>

- **Portfolio shifting:** Older individuals, before death, will attempt to shift away from accumulating portfolio wealth, which is taxable at a particular level, to portfolio wealth that is taxable at lower rates. In extreme cases, an individual would also shift wealth from one country to another before splitting their estate to ensure that their beneficiaries receive the highest possible estate value.
- **Intertemporal shifting:** Individuals will attempt mass accumulation and subsequently subdivide their wealth before executing their estate.
- **"Real" shifting:** Individuals will consume more while alive as opposed to saving their wealth and building a large estate, given that they are being taxed on the size of their estate.

Admittedly, the same issues face an estate tax. However, implementing an inheritance tax might create a larger administrative burden on revenue collection, given that the beneficiary, and not the executor of the estate, is liable to pay the tax. Hence, given the novelty of the Inheritance Tax, implementation and administrative burdens are high.

Thus, we propose rather increasing the progressivity of the Estate Duty tax. The top 1% of wealth-owners in South Africa own 54.7% of the wealth. The minimum wealth to fall into this group is roughly in line with the current lowest estate duty bracket (R3.8m). Within this group, the top 10% own wealth of more than R30.4m, and the top 1%, more than R146.9m.<sup>36</sup> This skewed distribution of wealth indicates an opportunity for a

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<sup>33</sup> (Garber, 2019)

<sup>34</sup> (Private Property, 2020)

<sup>35</sup> (Montserrat, 2019); (Garbinti & Goupille-Lebret, 2018)

<sup>36</sup> (Chatterjee, Czajka, & Gethin, 2020)

substantial increase in the progressivity of the tax. Therefore, we adapt the tax rates to align with the top three marginal income tax rates and the wealth categories as described:

- Estates valued between R3.5 million and R30 million are taxed at a rate of 36%,
- Estates valued between R30 million and R146.89<sup>37</sup> million are taxed at a rate of 41%, and
- Estates above R146.89 million are taxed at a rate of 45%.

Table 8: Revenue generation potential of altering estate duty brackets

| Billions of Rands | 2022/23 | 2023/24 | 2024/25 |
|-------------------|---------|---------|---------|
| Tax revenue       | R1.79   | R1.87   | 1.93    |

As can be seen, the impact on revenue is small. Estate duty tax contributes relatively little to total revenue, so even significant changes to the tax rates do not make a meaningful difference. Including a maximum inheritance could enhance the revenue potential. In this case, the inheritance above a certain threshold would be taxed at 100%. It is, however, difficult to estimate how much of a difference this would make. Nevertheless, with or without a cap, increasing the progressivity of this tax instrument would have an equity-enhancing benefit. It will bring tax on intergenerational wealth transfers more in line with taxes on other forms of income.

## 4.2 Securities Transfer Tax (STT)

An STT is a tax on the transfer value (sale/transfer/assignment/cession amount) of a transaction on a company's securities in South Africa or any other company listed on any securities exchange in South Africa.<sup>38</sup>

As it stands, the current STT is set at 0.25% on all security transfers. The proposal by IEJ is to increase the rate to 0.3%. Because the tax base is already identified and all entities trading securities in South Africa must register on a South African stock exchange, the policy shift will be easy to implement.

Besides its revenue-raising potential, the rationale for an SST is based on the argument that an SST reduces market volatility by curbing short-term, unproductive, and speculative trading. Of course, the decrease in speculative trading decreases the potential tax revenue, but this is to the benefit of the market.

Unfortunately, there is little research on the South African securities market's reaction to transaction costs. A recent study in China does, nevertheless, provide a good enough indication of what we might expect. The evidence suggests that, for a five basis point increase in the tax rate, trade volumes could decrease by as much as 6.4%.<sup>39</sup>

For our estimation of the potential tax revenue from increasing the tax rate (5 basis points), we assume a decrease in line with what has been observed in China:

<sup>37</sup> Corresponds to average wealth held by top 0.01% of population

<sup>38</sup> With exemptions for new shares, the reorganization of shares in public benefit organisations, and transfers of shares between headquarter companies and their subsidiaries.

<sup>39</sup> (Su & Zheng, 2011)

Table 9: Revenue generation potential of increasing securities transfer tax from 0.25 to 0.3% per transaction

| Billions of Rand   | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R1.37   | R1.41   | R1.45   |

There are opponents to the SST. They argue that an SST or an increase in the SST rate increases rather than decreases market volatility. This is because the increased transaction costs decrease market liquidity, which increases the bid-ask spread and, thereby, volatility.<sup>40</sup>

The most appropriate response to this ambiguity is to lower the tax rate but increase the tax base, i.e. include a broader set of financial transactions. Table 10 sets out the value of trades across a wider range of financial instruments traded on the JSE.<sup>41</sup> It also shows the revenue potential of implementing a broader Financial Transactions Tax (FFT) with a rate of 0.1% of the value traded in the final column (R40.1 Billion p.a.).

Table 10: Potential tax base for broad FFT (Billions)

| Market                           | Instrument                       | Week ended 28 May 2021 | Full-year estimate | FFT of 0.1%  |
|----------------------------------|----------------------------------|------------------------|--------------------|--------------|
| Equity market                    | Central Book and Reported Trades | R2 314.5               | R5 470.5           | R5.5         |
| Interest rate market             | Bonds                            | R14 002.2              | R33 096.2          | R33.1        |
| Interest rate derivatives market | Futures                          | R593.6                 | R1 403.1           | R1.4         |
|                                  | Options                          | R0.5                   | R1.3               | R0.001       |
| Commodity derivatives market     | Futures                          | R419.0                 | R990.4             | R1.0         |
|                                  | Options                          | R2.6                   | R6.2               | R0.01        |
| <b>Total</b>                     |                                  | <b>R17 332.5</b>       | <b>R40 967.7</b>   | <b>R41.0</b> |

We have not included this revenue in our broader analysis because the imposition of the FFT will impact the tax base, i.e. elasticity is negative. Although empirical studies estimate the elasticity, we do not know by how much the tax would increase total transaction costs and cannot, therefore, reliably estimate the actual revenue potential. An in-depth study would be required for such a calculation. Given the indicative tax revenue potential above, this appears to be an option worthy of further investigation.

### 4.3 Taxes on currency transactions

Another option within the financial transaction area is a Currency Transaction Tax (CTT). A CCT is a tax on any transactions in which the buying and/or selling of foreign currency for domestic currency are involved. The administrative incidence of the tax would fall mainly on large banks, where currency trading profits account for 5%–10% of the total profits. Evasion would be expensive and carry the risk of loss of reputation. The CTT can be collected at the point of settlement. While derivatives instruments may be used to try and evade the tax, this is not feasible on a large scale, as the derivative market cannot effectively operate in isolation. The

<sup>40</sup> (Su & Zheng, 2011)

<sup>41</sup> According to the Johannesburg Stock Exchange (JSE) 28 May 2021 weekly statistics

tax would apply to all domestic currency transactions with the primary goal of raising revenues and reducing intraday volatility. It could also feature a comparatively higher punitive rate that kicks in to act as a circuit breaker to reduce excess volatility whenever a currency is threatened by a sharp, substantial change in value.<sup>42</sup>

South Africa does not currently have a CTT. However, with the tax rate as small as 0.005%, the low cost of compliance would not justify the risks and costs associated with evasion,<sup>43</sup> Schmidt (2008) estimates that, at this rate, changes in spreads and transaction volumes would be trivial while revenue-raising potential would still be meaningful.<sup>44</sup>

The table below sets out an estimate of the potential revenue collected if South Africa implemented a CTT of 0.005% on all domestic over-the-counter foreign exchange (FX) rate instruments. We assume a daily turnover of USD72 Billion, of which 16% occur domestically. These assumptions are based on data from the Bank of International Settlements (BIS, 2019). We assume that the turnover grows by 2% per annum, an USD/ZAR exchange rate of R14.00, and a price elasticity of currency trade of  $\epsilon=-5$ <sup>45</sup>.

Table 11: Revenue generation potential of imposing a currency transaction tax of 0.005%

| Billions of Rand   | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------|---------|---------|
| Additional revenue | R3.68   | R3.75   | R3.83   |

<sup>42</sup> (Kapoor, 2004)

<sup>43</sup> The punitive tax rate is suggested at 50% to ensure such compliance. The punitive tax would apply only to the value of the currency outside the normal band. This normal fluctuation can be based on a 5% (or any pre-specified amount) deviation around the exchange rate prevailing at the close of trading on the previous day or, or a measure of variability or around 1 standard deviation in magnitude (Kapoor, 2004)

<sup>44</sup> (Schmidt, 2008)

<sup>45</sup> (Spratt, 2006)

## 5. Fiscal analysis

### 5.1 UBIG revenue and costs

The following table summarises the previous sections by presenting the potential revenue that could be generated by each option. This section will compare this with the spending requirement of a UBIG.

Table 12: Revenue generation summary of all financing options

| Billions of Rand  | 2022/23        | 2023/24        | 2024/25        |
|---|----------------|----------------|----------------|
| Social security tax   | R62.20         | R63.90         | R65.60         |
| Selective removal of Medical Aid tax credit                 | R11.80         | R12.12         | R12.78         |
| Selective removal of retirement fund contribution deduction | R22.04         | R22.64         | R23.25         |
| Dividend tax rate   | R7.70          | R8.10          | R8.60          |
| Resource Rent Tax   | R38.80         | R38.40         | R38.30         |
| Luxury VAT  | R8.41          | R8.78          | R9.17          |
| Estate duty tax   | R1.79          | R1.87          | R1.93          |
| Securities transfer tax                                     | R1.37          | R1.41          | R1.45          |
| Currency transaction tax                                    | R3.68          | R3.75          | R3.83          |
| <b>Total</b>  | <b>R157.79</b> | <b>R160.97</b> | <b>R164.91</b> |

The IEJ Policy Brief puts forward three options for a monthly UBIG, each aligned to a different poverty line:

Table 13: Matching the UBIG to various poverty lines in the country

| Poverty line                    | Monthly value of UBIG per capita |
|---------------------------------|----------------------------------|
| Food Poverty Line (FPL)         | R585                             |
| Lower-Bound Poverty Line (LBPL) | R840                             |
| Upper-Bound Poverty Line (UBPL) | R1 268                           |

The IEJ further provides seven potential coverage scenarios:

1. 100% of adults between the ages of 18 and 59
2. 80% of adults between the ages of 18 and 59
3. 60% of adults between the ages of 18 and 59
4. Informal workers
5. Unemployed
6. Not economically active
7. Not formally employed<sup>46</sup>

Although the UBIG makes more economic sense<sup>47</sup> when targeted at the population most in need (coverage options 4 – 6), the IEJ argues that the administrative burden caused by imposing qualification criteria would likely hamstring effective rollout. Applying such criteria may also be administratively impossible with categories

<sup>46</sup> Not employed in formal sector

<sup>47</sup> Given a fixed budget, a UBIG targeted at those in dire need would decrease the pool of individuals claiming the UBIG and potentially increase the per-capita size of the guarantee as well

such as “informal workers” or the “unemployed” appearing in the survey data but being difficult to separate from, e.g. unregistered employees, when the grant applicant arrives at the counter, so to speak. Therefore, we only consider options two, three, and seven for our affordability analysis. In addition, because it is unlikely that high-income individuals would register for the grant, option 1 is also not considered.

Growing the unit cost by forecasted inflation and the coverage by the 2019-2020 population growth rate, we estimate the following costs over the MTEF:

Table 14: Total cost of implementing a UBIG over the MTEF

| Billions              | FPL    |        |        | LBPL   |        |        | UBIUBPL |        |        |
|-----------------------|--------|--------|--------|--------|--------|--------|---------|--------|--------|
|                       | 22/23  | 23/24  | 24/25  | 22/23  | 23/24  | 24/25  | 22/23   | 23/24  | 24/25  |
| All (80%)             | R213.3 | R225.7 | R239.2 | R306.3 | R324.1 | R343.5 | R462.4  | R489.3 | R518.4 |
| All (60%)             | R160.0 | R169.3 | R179.4 | R229.7 | R243.1 | R257.6 | R346.8  | R367.0 | R388.8 |
| Not Formally Employed | R180.3 | R188.0 | R196.3 | R259.0 | R270.0 | R281.8 | R390.9  | R407.5 | R425.4 |

These are based on the following coverage and cost assumptions:

Table 15: UBIG coverage assumptions over the MTEF<sup>48</sup>

|                            | 22/23      | 23/24      | 24/25      |
|----------------------------|------------|------------|------------|
| UBIG (FPL)                 | R629.27    | R656.01    | R684.88    |
| UBIG (LBPL)                | R903.57    | R941.97    | R983.41    |
| UBIG (UBPL)                | R1 363.95  | R1 421.92  | R1 484.49  |
| Population size: All (80%) | 28 251 470 | 28 674 456 | 29 103 774 |
| Population size: All (60%) | 21 188 603 | 21 505 842 | 21 827 831 |
| Not Formally Employed      | 23 882 295 | 23 882 295 | 23 882 295 |
| Inflation                  | 4.3%       | 4.4%       | 4.2%       |
| Population growth          | 1.5%       | 1.5%       | 1.5%       |

Before we analyse how much of the grant can be financed by the options we have reviewed, it is also important to consider the additional VAT collection that results from recipients spending the grant. Based on expenditure patterns by likely grant recipients, the IEJ assumed 80% of the grant would be spent on VAT-able items, which we do as well. The following table presents the additional VAT that is clawed back per coverage scenario:

Table 16: Potential increase in VAT as a result of the expenditure of the UBIG on VAT-able items (Billions)

|                       | FPL   |       |       | LBPL  |       |       | UBPL  |       |       |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                       | 22/23 | 23/24 | 24/25 | 22/23 | 23/24 | 24/25 | 22/23 | 23/24 | 24/25 |
| All (80%)             | R25.6 | R27.1 | R28.7 | R36.8 | R38.9 | R41.2 | R55.5 | R58.7 | R62.2 |
| All (60%)             | R19.2 | R20.3 | R21.5 | R27.6 | R29.2 | R30.9 | R41.6 | R44.0 | R46.7 |
| Not Formally Employed | R21.6 | R22.6 | R23.6 | R31.1 | R32.4 | R33.8 | R46.9 | R48.9 | R51.1 |

Based on these assumptions and the revenue-generating scenarios highlighted in Table 12, the following shortfalls and surpluses are anticipated:

<sup>48</sup> (Statistics South Africa, 2021) and (National Treasury, 2021)

Table 17: (Shortfall)/Surplus analysis on implementing a UBIG during the MTEF

|                       | FPL     |         |         | LBPL     |          |          | UBPL     |          |          |
|-----------------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
|                       | 22/23   | 23/24   | 24/25   | 22/23    | 23/24    | 24/25    | 22/23    | 23/24    | 24/25    |
| All (80%)             | (R30.6) | (R38.4) | (R46.3) | (R112.5) | (R124.9) | (R138.0) | (R249.8) | (R270.3) | (R292.0) |
| All (60%)             | R16.3   | R11.3   | R6.3    | (R45.1)  | (R53.6)  | (R62.5)  | (R148.1) | (R162.6) | (R178.0) |
| Not Formally Employed | (R1.6)  | (R5.2)  | (R8.5)  | (R70.8)  | (R77.3)  | (R83.8)  | (R186.9) | (R198.3) | (R210.2) |

When applying all or nearly all the financing options, the “FPL-60% coverage” scenario can be financed entirely by implementing the financing options. The shortfall for the “FPL-Not Formally Employed coverage” scenario is also marginal. There are three broad channels available to cover the remaining shortfalls:

1. Budgetary reprioritisation,
2. Additional tax options,
3. Debt financing.

The IEJ Policy Brief puts forward other options related to budgetary reprioritisation and additional tax measures accordingly:

Table 18: Additional budgetary reprioritisation and tax measures to fund a revenue shortfall for financing the UBIG<sup>49</sup>

| Options for increased revenue or decreased spending         | Annual contribution |
|---|---------------------|
| Increase carbon tax to one-quarter of EU standard           | R2.0                |
| Employment Tax Incentive to be cancelled                    | R4.8                |
| Reduce wasteful expenditure                                 | R1.85               |
| Clawback irregular spending                                 | R36.4               |
| Reduction of profit shifting by Multi-National Corporations | R5.8                |
| <b>Total</b>  | <b>R50.85</b>       |

These options add R50.85 billion to the revenue side if successfully implemented, meaning that the 80% coverage and the Not Formally Employed scenarios become more feasible. It may even be possible to increase the grant to the LBPL, assuming a 60% coverage.

A tax on the net assets of South African citizens - a wealth tax - is a major further option being discussed. Researchers from the Southern Centre for Inequality Studies recently made a strong case for implementing a progressive wealth tax. According to their estimation, such a tax could raise between R70 and R160 Billion in additional revenue. They acknowledge that “forecasting the impact of the introduction of a wealth tax on growth is extremely complex as multiple, conflicting mechanisms are at play<sup>50</sup>.” However, given the potential revenue and the impact on income inequality, a wealth tax should be given serious consideration.

Clamping down on tax evasion due to illicit activity represents another untapped source of tax revenue. One option would be to implement a withholding tax on all government contracts. Such a tax might allow for tax

<sup>49</sup> DNA Economics did not confirm the figures presented in the table.

<sup>50</sup> (Chatterjee, Czajka, & Gethin, A Wealth Tax for South Africa, 2021)

collection from companies established specifically for a government tender who disband before corporate tax is payable. Companies that pay CIT would then be able to net out the amount already paid through the withholding tax to avoid double taxation.

## 5.2 Fiscal modelling

These revenue options imposed in tandem constitute a shock to the economy, and a slower iterative implementation timeframe could also be considered. The analysis that follows examines the fiscal debt implications of implementing the UBIG with the revenue-side responding over a longer time frame.

DNA Economics has developed a fiscal tool that models the debt implications of shocks to public revenue and spending. The tool uses the latest budget MTEF (February 2021)<sup>51</sup> as its baseline and then shows how changes to revenue and expenditure would impact the country's debt dynamics.

We consider the 60% coverage as our basis for the analysis. In addition to this option resulting in the lowest financing shortfall, IEJ points out that this is also the most likely outcome given initial uptake rates of previously introduced grants.

For ease of analysis, we have assumed four scenarios:

Table 19: Financing options implementation scenarios

| Pace of financing options implementation | Percentage of the revenue potential of proposed financing options raised and allocated |       |       |
|--|--|-------|-------|
|  | 22/23  | 23/24 | 24/25 |
| Faster-paced                             | 70%  | 85%   | 100%  |
| Fast-paced                               | 60%  | 75%   | 90%   |
| Medium-paced                             | 40%  | 55%   | 70%   |
| Slow-paced                               | 20%  | 35%   | 50%   |

Slower implementation of the financing options requires that the interim shortfall be financed by debt. Table 20 and Table 21 show the debt implications given the different pace scenarios presented in Table 19. We have included an uptick in GDP growth that results from the implementation of the UBIG. According to the Applied Development Research Solutions (ADRS), if the UBIG is provided to the entire adult population, GDP growth would increase by 18, 40, and 61 basis points (from the baseline), respectively, depending on whether the grant equals the FPL, LBPL, or UBPL. We have increased forecasted GDP growth accordingly. It should be noted here that we cannot tell from the study whether the macroeconomic impacts from the tax options are included in this estimation. We have not estimated this either, and it is suggested as an area for future study.

National Treasury is currently aiming to flatten South Africa's debt trajectory. Through a range of austerity measures, and consequently, a shrinking deficit, government plans to stabilise debt as a percentage of GDP

<sup>51</sup> (National Treasury, 2021)

by 2025/26 at 88.9%.<sup>52</sup> Table 20 shows the impact on the Primary Balance<sup>53</sup> when the implementation of the financing options is delayed. In turn, Table 21 shows the resultant impact on the debt trajectory. Slow implementation of financing options will impact Treasury's consolidation plans. The tables show that the FPL would be the most feasible over the medium term, even if financing options are delayed. In fact, by 2024/25, if the GDP growth assumptions hold, no other expenditure shocks occur, even if the financing options are implemented at the medium pace, debt as a percentage of GDP could be 0.5 percentage points lower than the baseline. If implemented at the "Faster" pace, it could be up to 3 percentage points lower.

Table 20: Average Primary Balance as % of GDP (2022/23 - 2024/25)

| % of GDP               | FPL   | LBPL  | UBPL  |
|------------------------|-------|-------|-------|
| Baseline <sup>54</sup> |       | -1.2% |       |
| Faster                 | -1.0% | -2.1% | -3.9% |
| Fast                   | -1.2% | -2.3% | -4.1% |
| Medium                 | -1.8% | -2.9% | -4.7% |
| Slow                   | -2.4% | -3.5% | -5.4% |

Table 21: Average Debt as % of GDP (2022/23 - 2024/25)

| % of GDP               | FPL   | LBPL  | UBPL  |
|------------------------|-------|-------|-------|
| Baseline <sup>55</sup> |       | 87.9% |       |
| Faster                 | 87.0% | 89.3% | 93.0% |
| Fast                   | 87.5% | 89.8% | 93.5% |
| Medium                 | 88.7% | 91.0% | 94.7% |
| Slow                   | 90.0% | 92.3% | 96.0% |

Given the redistributive aim of the UBIG, the financing options put forward have been predominantly progressive. However, considering that government debt is generally owed to banks and wealthy individuals, the interest payments are a highly regressive use of government resources. Prudence should, therefore, be exercised to ensure that the progressive impact of the UBIG is maintained.

<sup>52</sup> (National Treasury, 2021a)

<sup>53</sup> Budget balance excluding interest

<sup>54</sup> Without UBIG or new tax measures

<sup>55</sup> Ibid

## 6. Conclusion

The IEJ uses the following description of South Africa's socio-economic situation as the basis for proposing a UBIG:

*"In the third quarter of 2020, Stats SA found that only 543 000 of these jobs were regained, meaning a net loss of just under 1,7 million jobs in quarters 2 and 3 of 2020. While it is uncertain how many of these may be regained, this potentially wipes out nearly a decade of job growth. These job losses affected the most vulnerable (women, low income, rural, low/unskilled) more severely. Food insecurity, defined as running out of money to buy food, is at levels at least twice as high as in 2016, with surveys reporting that 37% of households are affected.<sup>2</sup> Hunger is rampant and depressive symptoms have doubled. Currently, approximately 70% of adults (18-64) live below the upper-bound poverty line (UBPL) of R1265 per person per month, with approximately 40% living below the World Bank's \$1.90 a day (R436pm) measure."*

The research presented in this paper showed a version of the UBIG that is affordable through various changes to the tax system. Whether these options are indeed feasible and fiscally sound is beyond the scope of our analysis. Thus, although we have endeavoured to provide a strong rationale for each and their associated risks, our focus was on estimating the first-round revenue impacts of implementing the various financing options.

The approach misses a much broader economic discussion, however. The imposition of a tax, by definition, implies the shifting of spending power from individuals and corporations to the state. There are resources that only the state can provide efficiently, and taxes are required to finance these. Therefore, in certain instances, the transferred spending power can be employed more productively by the state.

The redistributive function of government is equally important. In the case of the UBIG, the state would use its increased spending power to shift resources from the wealthy to the poor. Thus, implementing a UBIG and financing it through a range of progressive tax measures is self-evidently redistributive. The most significant risk to this would be if the tax measures' impact outweighs the positive impact of the redistribution to such an extent that, eventually, resources available for the grant are diminished. Although not necessarily the case, this possibility should be guarded against. Throughout this document, potential perverse impacts have been accounted for as much as possible and factored into estimates provided.

The Social Security tax, the removal of pension fund contribution deductions, a broader implementation of a Financial Transaction Tax, and the resource rent tax have, by a significant margin, the greatest potential for additional revenue. Therefore, further research should investigate the best implementation models and the economy's potential reaction to them. For the implementation of a UBIG, these, along with a net-wealth tax, would be the key.

## Appendix 1: Current excise duties, as per the 2020/1 National Budget

- Malt beer: R106,56/l (181,15/ can)
- Traditional beer: T7,82/l
- Traditional beer powder: R34,7/l:
- Unfortified wine: R4,39/l
- Fortified wine: R7,36/l
- Sparkling wine: R14,36/l
- Cider/ fruit beverages: R106,56/l or 181,15/can
- Spirits: R213,12/l or R68,73/bottle
- Cigarettes: R17,40/20 cigarettes
- HTP sticks: R14,09/20 sticks
- Cigarette tobacco: R19,55/50g
- Pipe tobacco: R5,79/25 grams

## Appendix 2: Summary of approaches to estimating revenues

### Social Security Tax

- **Step 1:** Use SARS tax statistics 2020 to calculate the total taxable revenue across three income categories
  - Between R0 and R80 000,
  - between R80 and R350k,
  - between R350k and R1 million, and
  - and above R1 million
- **Step 2:** Grow taxable income for each bracket by a flat wage inflation rate of 2.7% (according to the Treasury) to forecast taxable income per bracket from 2020/21-2024/25
- **Step 3:** Impose tax rates on each of the brackets to calculate revenue generation potential:
  - Between R00 and R80 000 – taxed at 1.5%
  - between R80 and R350k- taxed at 2%,
  - between R350k and R1 million- taxed at 2.5%,
  - and above R1 million- taxed at 3%
- **Step 4:** Estimation thus far is the best-case scenario. However, some individuals (upon seeing an increased tax rate) might work fewer hours, either because firms do not want to pay higher taxes on their behalf or because those individuals substitute away from work and towards leisure time. Accordingly, the following formula indicates how much taxable income would decrease given the increase in the marginal tax rate for individuals, per bracket:

$$X_{t+1} = e^{\log(X_t) + 0.4 * (\log(1 - T_{t+1}) - \log(1 - T_t))}$$

Where:

$X_{t+1}$  is the expected value of taxable income in the next year (2020/21 to start)

$X_t$  is the value of all taxable income in the current year (2019/20)

$T_{t+1}$  is the average tax rate once the social security tax is imposed (2020/21 to start)

$T_t$  is the average tax rate before the social security is imposed (2019/20)

- **Step 6:** Apply the same tax rates on the new level of taxable income (as was done in **Step 4**)

### The removal of medical aid credits

- **Step 1:** Use SARS tax statistics 2020 to calculate medical aid tax credit for individuals earning more than R500 000 p.a.
- **Step 2:** Grow taxable income for each bracket by a wage inflation rate of 2.7% (according to the Treasury) to forecast taxable income per bracket from 2020/21-2024/25.
- **Step 3:** Calculate the proportion of tax credit revenue to taxable income.
- **Step 4:** The product of the tax credit-taxable income ratio and forecasted taxable income yield the forecasted additional revenues for the removal of medical credits. This is calculated for both income categories.
- **Step 5:** Multiply the aggregate tax credit provided by  $\frac{R664}{R730}$ .
  - **R664 is the credit for the taxpayer and main member**
  - **R730 is the credit paid per taxpayer**

### The removal of retirement fund deductions

- **Step 1:** Use SARS tax statistics 2020 for retirement fund deductions per income group for individuals with income more than R1 000 000 p.a.  
**Step 2:** Adjust amounts from step 1 to account for accessed taxpayers (68.8% were accessed); i.e. divide amounts from the table above by 0.688.
- **Step 3:** Recategorise the taxable income groups to align with the marginal income tax rates, i.e. divide the R1 000 001 – R2 000 000 income group into two.
- **Step 4:** Calculate the refund amount per income bracket based on the deduction and the marginal tax rate, i.e. multiply deduction by the corresponding tax rate
- **Step 5:** Project amount over MTEF using a growth rate of 2.7% p.a.

### Dividend Tax

- **Step 1:** Because there is no consistent evidence on the impact of a hike in dividend tax on revenue collection, our approach is very straightforward and focuses on the following formula to estimate the impact of moving from a dividend tax rate of 20% to 25%:

$$AR_{t+1} = \frac{25\% - 20\%}{20\%} DR_t$$

Where:

$AR_{t+1}$  is the additional revenue earned by imposing an increase in the tax rate in the following year (starting in 2020/21)

$DR_t$  is the dividend revenue collected by the state in the current period (starting in 2019/20)

### Resource Rent Tax

- **Step 1:** Forecast the value of total resource rents in the country using a simple ARIMA model with trends (in our case, an ARMA(0, 2) with a cubic trend).
- **Step 2:** Multiply the forecasted value of resource rents by 25% for each financial year to obtain the maximum potential revenue obtained from resources.

### Luxury VAT

- **Step 1:** Use Living Conditions Survey 2014/15 data to calculate the annualised, weighted, and CPI-adjusted average rand spend per item by income decile.
  - Stata code:

- `bysort Coicop income_decile : egen consvalue = mean (Valueannualized_adj_weighted)`
  - `export delimited Coicop income_decile consvalue using "File_Location.csv" if SURVEYDATE == 2042015, replace`
- **Step 2:** The test for inclusion is whether 70% or more of expenditure on this item is spent by decile 10 or where more than 90% by deciles 8 through 10.
  - **Step 3:** The values of the luxury items were converted into VAT free values (given that VAT in 2015 was 14%).
  - **Step 4:** The VAT-free values were adjusted to reflect the new VAT rate of 15% and 25%
  - **Step 5:** The sum of the differences between the 15% and 25% VAT prices for each item reflects the amount of additional revenue that may be generated. The results of which correspond to the additional revenues reflected in the base case.
  - **Step 6:** A price multiplier of 8,6957% is calculated using  $(1,25-1,15)-1$
  - **Step 7:** The net impact value effect is calculated by multiplying the price multiplier with elasticities of -0.9 and -0.4.
  - **Step 8:** Multiply this net impact value with the 15% VAT revenues. The difference is taken between this value and the revenues calculated with 15% VAT. The sum of this difference, overall luxury items, reflects the total additional revenues raised after accounting for changes to consumer behaviour.
  - **Step 9:** Forecast additional revenues using inflation forecasts from The National Treasury and Knoema.

### Inheritance Tax/Estate Duty

Because it is unclear by how much portfolio wealth will be shifted due to changes in inheritance tax or estate duty, the estimation of additional revenue is fairly straightforward. Based on UNU-WIDER research:

Table 9: The distribution of personal wealth in South Africa in 2017

|                        | Number of adults | Wealth threshold | Average (2018 R) | Average (2018 PPP \$) | Wealth Share |
|------------------------|------------------|------------------|------------------|-----------------------|--------------|
| Full population        | 35,400,000       |                  | R 326,000        | \$ 52,200             | 100%         |
| Bottom 90% (p0p90)     | 31,860,000       |                  | R 94,100         | \$ 15,100             | 14.4%        |
| Bottom 50% (p0p50)     | 17,700,000       |                  | R -16,000        | \$ -2,600             | -2.5%        |
| Middle 40% (p50p90)    | 14,160,000       | R 27,700         | R 138,000        | \$ 22,000             | 16.9%        |
| Top 10% (p90p100)      | 3,540,000        | R 496,000        | R 2,790,000      | \$ 447,000            | 85.6%        |
| Top 1% (p99p100)       | 354,000          | R 3,820,000      | R 17,830,000     | \$ 2,860,000          | 54.7%        |
| Top 0.1% (p99.9p100)   | 35,400           | R 30,350,000     | R 96,970,000     | \$ 15,540,000         | 29.8%        |
| Top 0.01% (p99.99p100) | 3,540            | R 146,890,000    | R 486,200,000    | \$ 77,920,000         | 14.9%        |

Notes: The table shows the distribution of household wealth in South Africa in 2017. The unit of observation is the individual adult aged 20 or above. Wealth thresholds are in 2018 Rands.  
Source: authors' computations based on data.

- **Step 1:** Grow estate revenue by CPI inflation over the coming years to obtain a baseline estimate of how estate revenue is expected to increase between 2020/21-2024/25.
- **Step 2:** The figures from UNU-WIDER roughly correspond to a baseline scenario where 318 600 individuals would be able to pay a 20% estate tax upon their death (with estates between R3.5 million and R30 million), and 38 940 individuals would be liable for the 25% (i.e., individuals who have estates worth more than R30 million). This blends to a tax rate of 20.54%. However, by changing the bands as follows, the blended rate would now sit at 21.19%, and this is used to calculate the first scenario in the paper:
  - 318 600 individuals are liable to pay 36% (with estates between R3.5 million and R30 million)
  - 35 400 individuals are liable to pay an estate duty of 41% (with estates between R30 million and R146 890 000)
  - 3 540 individuals are liable to pay an estate duty of 45% (with estates worth more than R146 890 000)

Potential dividend revenue under these brackets would be as follows:

$$EDR_{t+1} = 21.19\% / 20.54\% EDR_t$$

Where:

$EDR_{t+1}$  is the estate duty revenue from the following period (in this case, starting at 2020/21)

$EDR_t$  is the latest current estate duty revenue received by SARS (2019/20)

- **Step 3:** Additional revenue each year is then estimated by taking the difference between  $EDR_{t+1}$  and the relevant year's baseline revenue estimate in **Step 1**.
- **Step 4:** By amending the tax rates in the following way, it is possible to increase the blended tax rate to 26.14%.
  - 318 600 individuals are liable to pay 25% (with estates between R3.5 million and R30 million)
  - 35 400 individuals are liable to pay an estate duty of 30% (with estates between R30 million and R146 890 000)
  - 3 540 individuals are liable to pay an estate duty of 40% (with estates worth more than R146 890 000)

Therefore, potential dividend revenue under these brackets would be as follows:

$$EDR_{t+1} = 26.14\% / 20.54\% EDR_t$$

- **Step 5:** Additional revenue each year is still estimated by taking the difference between  $EDR_{t+1}$  and the relevant year's baseline revenue estimate in **Step 1**

### Securities Transfer Tax

- **Step 1:** Divide the revenue collected from securities transfer tax by 0.25% to obtain the value of taxable securities traded across the economy.
- **Step 2:** Forecast baseline revenue using linear trend.
- **Step 3:** Multiply baseline by (3/2.5) to adjust for the proposed rate.
- **Step 4:** Assume that the value of securities traded decreases by as much as 6.36% due to the imposition of the tax.

### Currency Transfer Tax

- **Step 1:** Use BIS data on the daily traded value of the rand to obtain an estimate for the yearly traded value of the rand by multiplying the daily value by 365 days. Grow this by an assumed rate of 2% per annum from 2020 until 2025.
- **Step 2:** Multiply these yearly values in **Step 1** by the tax of 0.005%, which equals  $CTTR_{\epsilon=0}$ .
- **Step 3:** Because a marginal increase in the cost of currency transactions will impact the value of trades, use the price elasticity of currency transactions (assumed to be -5) as follows to estimate the worst-case revenue impact:

$$CTTR_{\epsilon=-5} = (1 - 0.0025) * CTTR_{\epsilon=0}$$

Where:

$CTTR_{best\ case}$  is the tax revenue being raised when there is no change in the value of trades

0.0025 is the factor by which tax revenue decreases as a result of an increase in prices by 0.005%

$CTTR_{worst\ case}$  is the value of tax revenue corrected for the response of decreasing trade in light of the small price increase attributed to the tax

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