

A stylized banner at the top of the page features a yellow sky, green hills, a city skyline with a sun, and wind turbines.

# SA-TIED

Southern Africa – Towards Inclusive Economic Development

WORKING PAPER 213

## The South African personal income tax base, 2011–2018

Income and taxable income, adjusted for retirement fund  
and medical expense reporting changes

Andrew R. Donaldson



national treasury  
Department:  
National Treasury  
REPUBLIC OF SOUTH AFRICA



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SA-TIED is a unique collaboration between local and international research institutes and the government of South Africa. Its primary goal is to improve the interface between research and policy by producing cutting-edge research for inclusive growth and economic transformation in the southern African region. It is hoped that the SA-TIED programme will lead to greater institutional and individual capacities, improve database management and data analysis, and provide research outputs that assist in the formulation of evidence-based economic policy.

The collaboration is between the United Nations University World Institute for Development Economics Research (UNU-WIDER), the National Treasury of South Africa, the International Food Policy Research Institute (IFPRI), the Department of Monitoring, Planning, and Evaluation, the Department of Trade and Industry, South African Revenue Services, Trade and Industrial Policy Strategies, and other universities and institutes. It is funded by the National Treasury of South Africa, the Department of Trade and Industry of South Africa, the Delegation of the European Union to South Africa, IFPRI, and UNU-WIDER through the Institute's contributions from Finland, Sweden, and the United Kingdom to its research programme.

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## **The South African personal income tax base, 2011–2018**

Income and taxable income, adjusted for retirement fund and  
medical expense reporting changes

Andrew R. Donaldson\*

March 2023

**Abstract:** Tax administration statistics now provide considerably more complete and reliable measures of South African personal income and its distribution than the available household or other survey sources. However, there are difficulties in using tax data across time, as both policy and reporting changes influence the administrative statistics of income. This paper uses two sets of adjustments to generate a consistent personal income series for the 2011–2018 period: upward adjustments to published statistics on assessed taxpayers to provide estimates consistent with the overall tax base, and adjustments for retirement contribution and medical expense reporting changes in 2013, 2015, and 2017 that affect the calculation of taxable income and income before deductions. About half of all individuals reporting income to the South African Revenue Service are contributors to retirement funds, and just over a quarter qualify for medical scheme or medical expense tax benefits. The resulting adjusted income distribution estimates show that the tax base increased robustly relative to GDP over this period, that income shifted towards older and higher real income taxpayers, and that income inequality increased.

**Key words:** statistics of income, income distribution, personal income tax

**JEL classification:** D31

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## 1 Introduction and overview

The size and distribution of the South African personal income tax (PIT) base between 2011 and 2018 are examined in this paper, drawing on the *Individual Income Panel* dataset for this period derived from administrative records of the South African Revenue Service (SARS) (Ebrahim and Axelson 2019; National Treasury and UNU-WIDER 2019). Income and taxable income aggregates and their distribution by age and income group for the 2011 to 2016 years are adjusted for changes in reporting of retirement fund contributions and medical deductions in order to provide a consistent time series.

Our findings include the following:

- The number of individuals reporting income to SARS and the number of individuals with incomes above the tax threshold increased by 1.4 per cent and 2.4 per cent a year between 2011 and 2018. Real GDP growth averaged 1.7 per cent over this period. There were 14.3 million individuals who reported income in 2018, of whom 6.9 million were above the tax threshold.
- Gross personal income reported to SARS in 2017/18 amounted to 56.7 per cent of the official GDP estimate for the corresponding fiscal year, up from 50.0 per cent in 2011. Income (before deductions) and taxable income increased somewhat more slowly, mainly because of the inclusion in gross income of lumpsum retirement drawdowns which increased by a rapid 15.7 per cent a year, and which are taxed separately and excluded from taxable income.
- The tax data indicate overall participation of around 50 per cent of taxpayers in retirement funding arrangements, and substantially higher rates of participation above the tax threshold. Claimants of medical scheme and medical expense deductions represent around 27 per cent of taxpayers, also rising markedly at incomes above the tax threshold.
- After adjustments to include employer-paid pension and provident fund contributions, income (before deductions) increased by 8.1 per cent a year between 2011 and 2018, rising from 50.5 per cent of GDP to 53.0 per cent.
- After taking account of changes in reporting of the tax treatment of medical expenses and deductibility of employee/member-paid provident fund contributions, the taxable income base increased from 45.0 to 47.5 per cent of GDP between 2011 and 2018, while increasing marginally as a percentage of reported income before deductions.
- Personal income tax revenue collected increased from 7.3 to 9.0 per cent of GDP over the 2010/11 to 2017/18 period, indicating substantial tax buoyancy relative to both GDP growth and the increase in taxable income. The rise in the tax base relative to GDP accounts for part of this increase. An increase in the tax burden associated with less-than-full inflation adjustments to tax brackets (fiscal drag) and increases in PIT tax rates also contributed to revenue buoyancy.
- Both the number of taxpayers reporting income to SARS and aggregate income reported have shifted towards higher age and higher real income cohorts. Over 45 per cent of the population in the 30–34, 35–39, 40–44, and 45–49 age groups reported income to SARS

in 2011; in 2018 45 per cent of the population were in the tax system only in the 45–49 age group.

- An estimated 10.5 per cent of the population over the age of 20 and 26.3 per cent of income-reporting individuals of all ages had annual taxable incomes over R200,000 in 2017/18, accounting for approximately three-quarters of taxable income.
- Average real income before deductions and taxable income of individuals (after adjustment for changes in tax treatment of medical expenses and retirement fund contributions) increased by 7.2 and 7.6 per cent, respectively (approximately 1 per cent a year) between 2011 and 2018, and by greater percentages for higher age cohorts. The median (50<sup>th</sup> percentile) income before deductions declined marginally in real terms.
- Inequality in income has increased between 2011 and 2018, as measured by the ratios of income at the 75<sup>th</sup>, 90<sup>th</sup>, and 99<sup>th</sup> percentiles to both median and mean income and taxable income, and in estimates of the Gini coefficient of taxable income for all individuals and for those above the R30,000 a year and R80,000 a year income levels.

## 2 Aggregate personal income and taxable income

Three aggregate measures of personal income are reported in the PIT *Individual Income Panel* (National Treasury and UNU-WIDER 2019): ‘gross income’, ‘income’, and ‘taxable income’. Gross income includes turnover (before expenses) of self-employed individuals and income that is exempt from tax, such as inheritance receipts, exempt interest income, and income earned and taxed abroad. The ‘income’ aggregate excludes exempt income and business expenses. Taxable income is income less deductions, which include retirement fund contributions, qualifying travel expenses, medical expense tax benefits (until 2014), and donations to public benefit organizations. Taxable income corresponds approximately to the economic concept of ‘disposable income’ (before tax)—after accounting for deferral through contractual savings plans.

Aggregate income reported in each year exceeds 99 per cent of aggregate gross income. It seems likely that exempt income is under-reported, as it is generally not subject to third-party verification and is of limited interest to SARS. The gross income data are not examined further in this paper.

Lumpsum withdrawals from retirement funds are included in the dataset’s ‘gross income’ and ‘income’ aggregates. Lumpsum withdrawals from retirement funds amounted to R176.5 billion in 2018, or 6.1 per cent of income and 3.4 per cent of GDP. However, lumpsum withdrawals are taxed separately from normal income, and are treated as a deduction from income for the purposes of calculating taxable income. Our analysis relies mainly on a derived ‘income before deductions’ measure, equal to ‘income’ less lumpsum retirement fund withdrawals, thereby removing this source of divergence between ‘income’ and ‘taxable income’.<sup>1</sup>

Table 1 shows these income aggregates for the 2011–18 period and the corresponding numbers of taxpayers reporting to SARS, in total and above the tax threshold each year. It is apparent that there was a steep increase in retirement fund lumpsum withdrawals during the period leading up to the 2016/17 retirement fund tax reform. Table 1 shows that taxable income has increased

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<sup>1</sup> ‘Income before deductions’ as reported in the annual *Tax Statistics* published by the National Treasury and SARS (various years) similarly excludes retirement fund lumpsum income.

somewhat more slowly than gross income (as reported for tax compliance purposes), and taxpayer numbers above the tax threshold have grown more rapidly than the overall increase in numbers of individuals reporting to SARS.

Table 1: SARS reported income, taxable income, and taxpayer numbers, 2011–18

Tax-year (ending Feb)	2011	2012	2013	2014	2015	2016	2017	2018	Increase per annum 2011–2018
<b>R billion</b>									
<b>All individuals reporting to SARS</b>									
<b>Gross income</b>	<b>1,560.5</b>	<b>1,717.8</b>	<b>1,887.9</b>	<b>2,079.7</b>	<b>2,299.1</b>	<b>2,447.4</b>	<b>2,766.9</b>	<b>2,913.7</b>	9.3%
<i>% of GDP</i>	<i>50.0%</i>	<i>50.7%</i>	<i>52.0%</i>	<i>52.7%</i>	<i>54.7%</i>	<i>54.4%</i>	<i>57.3%</i>	<i>56.7%</i>	
Income (gross less exempt income)	1,556.2	1,713.0	1,882.4	2,074.0	2,292.5	2,438.8	2,756.2	2,899.3	9.3%
Lumpsum retirement income	63.6	80.3	88.4	115.9	152.5	160.7	163.1	176.5	15.7%
<b>Income (before deductions)</b>	<b>1,492.6</b>	<b>1,632.7</b>	<b>1,794.0</b>	<b>1,958.0</b>	<b>2,140.0</b>	<b>2,278.1</b>	<b>2,593.1</b>	<b>2,722.8</b>	9.0%
<b>Taxable income</b>	<b>1,358.7</b>	<b>1,484.7</b>	<b>1,689.6</b>	<b>1,840.0</b>	<b>2,038.9</b>	<b>2,175.8</b>	<b>2,322.9</b>	<b>2,440.3</b>	8.7%
<i>Taxable income as % of gross income</i>	<i>87.1%</i>	<i>86.4%</i>	<i>89.5%</i>	<i>88.5%</i>	<i>88.7%</i>	<i>88.9%</i>	<i>84.0%</i>	<i>83.8%</i>	
<b>Number of individuals (000s)</b>	<b>12,930</b>	<b>13,368</b>	<b>13,583</b>	<b>13,801</b>	<b>14,140</b>	<b>14,108</b>	<b>14,319</b>	<b>14,297</b>	1.4%
Mean taxable income (R pa)	105,080	111,061	124,390	133,325	144,191	154,221	162,221	170,687	7.2%
<b>Individuals above tax threshold only</b>									
<b>Gross income</b>	<b>1,433.2</b>	<b>1,587.6</b>	<b>1,704.7</b>	<b>1,892.1</b>	<b>2,045.9</b>	<b>2,203.6</b>	<b>2,523.0</b>	<b>2,669.1</b>	9.3%
<b>Taxable income</b>	<b>1,260.7</b>	<b>1,388.2</b>	<b>1,542.7</b>	<b>1,700.4</b>	<b>1,837.6</b>	<b>1,986.0</b>	<b>2,138.4</b>	<b>2,256.1</b>	8.7%
<i>Taxable income as % of gross income</i>	<i>88.0%</i>	<i>87.4%</i>	<i>90.5%</i>	<i>89.9%</i>	<i>89.8%</i>	<i>90.1%</i>	<i>84.8%</i>	<i>84.5%</i>	
<b>Individuals above tax threshold</b>	<b>5,864</b>	<b>6,032</b>	<b>6,237</b>	<b>6,315</b>	<b>6,502</b>	<b>6,614</b>	<b>6,793</b>	<b>6,917</b>	2.4%
Mean taxable income (R pa)	214,983	230,151	247,366	269,241	282,628	300,264	314,792	326,183	6.1%

Source: based on National Treasury and UNU-WIDER (2019).

There have been changes over time in income reporting requirements and in the definitions or coverage of these income categories, and so the outcomes for each year are not strictly comparable. This includes progress over time in broadening the tax base both through improved administration and by more fully including fringe benefits in the tax base. There have been reforms to the reporting and tax treatment of contributions to retirement (pension, provident, and retirement annuity) funds, changes in the tax treatment of medical scheme contributions and medical expenses, and adjustments to the tax treatment of travel allowances and vehicle expenses.

In the analysis that follows, adjustments are made for the 2011–16 years to generate estimates of income and taxable income consistent with the 2017 and 2018 data, in respect of the following reporting changes.

With effect from the 2013 and 2015 tax-years respectively, deductions from income for medical scheme contributions and medical expenses were replaced by medical scheme and medical expense credits. For the same level of income, prior to 2013 taxable income was reduced by medical aid contributions and qualifying expenses and in 2013 and 2014 by qualifying expenses. The current practice is to leave taxable income unaffected by medical expenses and to apply medical contribution and expense credits after calculation of normal tax. (The net effect of the change, initially, was a reduction in tax liability for lower-income medical scheme contributors or medical expense claimants, an increase for higher income taxpayers and a broadly neutral overall impact.)

With effect from the 2017 year, provident and pension fund contributions by employers were included as fringe benefits in income, resulting in a substantial increase in reported income for

employees benefiting from occupational fund membership. The deductibility of retirement fund contributions was extended to include employer contributions and employee-paid (or member-paid) contributions to provident funds, effectively standardizing the tax treatment of pension, provident fund, and retirement annuity (RA) contributions. For most contributors, the change was neutral with respect to the taxable income outcome.

‘Adjusted’ income and ‘adjusted’ taxable income refer in this paper to estimates for the 2011–16 years calculated on the basis of the 2017 and 2018 reporting arrangements—i.e. income (before deductions) *includes* employer-paid provident and pension fund contributions, and taxable income is calculated *before* medical scheme and medical expense deductions, and *after* deduction of imputed employee/member-paid contributions to provident funds (in addition to pension fund and RA contribution deductions).

Table 2: Reported income and taxable income as % of GDP and compensation of employees, 2011–18, before and after adjustments for changes in retirement contribution and medical expense deductions

Tax-year (ending Feb)	2011	2012	2013	2014	2015	2016	2017	2018	Increase per annum 2011–2018
<b>R billion</b>									
<b>Income (before deductions)</b>	<b>1,493</b>	<b>1,633</b>	<b>1,794</b>	<b>1,958</b>	<b>2,140</b>	<b>2,278</b>	<b>2,593</b>	<b>2,723</b>	9.0%
% of GDP	47.8%	48.1%	49.4%	49.6%	50.9%	50.6%	53.7%	53.0%	
% of compensation of employees	104.0%	103.5%	104.1%	103.6%	104.6%	102.9%	109.3%	107.8%	
<b>Taxable income</b>	<b>1,359</b>	<b>1,485</b>	<b>1,690</b>	<b>1,840</b>	<b>2,039</b>	<b>2,176</b>	<b>2,323</b>	<b>2,440</b>	8.7%
% of income	91.0%	90.9%	94.2%	94.0%	95.3%	95.5%	89.6%	89.6%	
% of GDP	43.5%	43.8%	46.5%	46.6%	48.5%	48.4%	48.1%	47.5%	
<b>Income before deductions (adjusted)</b>	<b>1,576</b>	<b>1,723</b>	<b>1,893</b>	<b>2,065</b>	<b>2,254</b>	<b>2,402</b>	<b>2,593</b>	<b>2,723</b>	8.1%
% of GDP	50.5%	50.8%	52.1%	52.3%	53.7%	53.4%	53.7%	53.0%	
% of compensation of employees	109.8%	109.2%	109.9%	109.3%	110.2%	108.5%	109.3%	107.8%	
<b>Taxable income (adjusted)</b>	<b>1,407</b>	<b>1,538</b>	<b>1,688</b>	<b>1,839</b>	<b>2,015</b>	<b>2,150</b>	<b>2,323</b>	<b>2,440</b>	8.2%
% of income bef deductions (adjusted)	89.3%	89.2%	89.2%	89.1%	89.4%	89.5%	89.6%	89.6%	
% of GDP	45.0%	45.3%	46.5%	46.6%	48.0%	47.8%	48.1%	47.5%	
<i>Memo (fiscal year estimates):</i>									
<i>GDP at market prices</i>	<i>3,123</i>	<i>3,391</i>	<i>3,634</i>	<i>3,945</i>	<i>4,201</i>	<i>4,499</i>	<i>4,831</i>	<i>5,135</i>	7.4%
<i>Compensation of employees</i>	<i>1,435</i>	<i>1,578</i>	<i>1,723</i>	<i>1,890</i>	<i>2,047</i>	<i>2,213</i>	<i>2,373</i>	<i>2,526</i>	8.4%

Source: based on National Treasury and UNU-WIDER (2019). GDP and compensation of employees: Statistics SA (2022).

The effect of these changes is apparent in the marked shifts in the ratios of taxable income to income, and in income and taxable income to GDP, in the aggregate estimates derived from the *Individual Income Panel*, summarized in Table 2:

- The changes in treatment of medical costs in 2013 and 2015 account for part of the increase in taxable income as a percentage of income, GDP, and compensation of employees between 2012 and 2015. Deductions amounting to about 1.6 per cent of GDP for medical scheme contributions were no longer allowed in 2013 and a further 0.5 per



cent of GDP in deductions of medical expenses fell away in 2015, both replaced by tax credits.<sup>2</sup>

- We estimate that full inclusion of pension and provident fund contributions by employers in reported income (as in 2017 and 2018) would have raised the aggregate level of income before deductions by 5.3 per cent—5.6 per cent over the 2011–16 period, or about 2.7 per cent of GDP. This change therefore accounts for a substantial part of the increase in reported income (unadjusted) as a percentage of GDP over the 2011–18 period.<sup>3</sup>

Table 2 shows the income and taxable income raw data aggregates for 2011–18, together with *adjusted* aggregates for the 2011–16 years in which pension and provident fund contributions by employers are imputed for the pre-2017 years, medical expense deductions are added back to taxable income for the 2011–14 years, and deductions are imputed for employee/member contributions to provident funds in the 2011–16 years. The calculation of these adjustments makes use of changes between years in age-income group ratios of taxable income to income, which provide age-income specific measures of the impact of medical expense and pension tax treatment and reporting changes.

Figure 1 illustrates the magnitude of pension and medical expense deductions in the unadjusted and adjusted aggregate income estimates.

The adjusted estimates represent a broadly consistent income and taxable income series, after taking into account pension and medical tax reforms. The adjusted estimates reported in Table 2 suggest that the personal income tax base has remained robust relative to the official national income account trends, although not as buoyant as implied by the unadjusted trends.

- Income (before deductions) has increased from 47.8 per cent of GDP in 2011 to 53.0 per cent in 2018—an increase of 5.2 percentage points, of which half is accounted for by changes in the classification and reporting of retirement fund contributions between 2011 and 2017. In the adjusted estimates, income increases from 50.5 per cent of GDP to 53.0 per cent. (Medical scheme contributions by employers were already included in income fringe benefits by 2011.)
- Taxable income has increased from 43.5 to 47.5 per cent of GDP, an increase of 4.0 percentage points, of which over half is accounted for by the 2013 and 2015 changes

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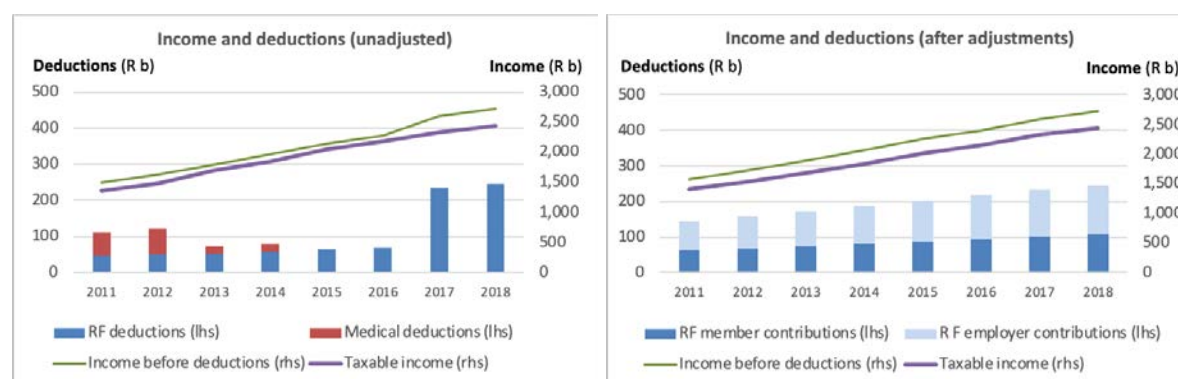
<sup>2</sup> Table A2.7.4 of the 2016 *Tax Statistics* publication by National Treasury and SARS reported R65.6 billion in medical deductions for 3.2 million taxpayers in 2012, after assessment of 92.2% of tax-filers. We adjust these numbers upwards by income-group-specific adjustment factors to derive estimates for the full tax base (including non-filers). For the 2012 year the revised medical deductions total is about R72 billion, or 2.1% of GDP, for 3.6 million taxpayers. In the following year, medical scheme contributions were no longer deductible, but medical expense deductions of R16.1 billion were reported (87.4% assessed), adjusted upwards to R18.8 billion (0.5% of GDP). Medical expense deductions were replaced by credits in 2015.

<sup>3</sup> Pension and RA contribution deductions in 2017 were reported in the 2021 *Tax Statistics* as R202.1 billion (assessed taxpayers only), indicative of about R236 billion in total, or 9.1% of income before deductions and 4.9% of GDP. Table A2.6.5 reports pension and provident fund ‘fringe benefit’ contributions amounting to R113.6 billion, indicative of about R131 billion in total, or 5.0% of income before deductions and 2.7% of GDP. The implied current contributions by individuals (i.e. excluding employer contributions) of R105 billion is 2.2% of GDP in 2017. Our estimates indicate that employer-paid contributions amounted to 2.7% of GDP over the 2011–2016 years, or between 5 and 5.3% of adjusted income before deductions. The implied total contributions to pension, provident, and retirement annuity funds declined from 9.4% to 9.1% of adjusted income before deductions over the 2011–2018 period and varied between 4.7% and 4.9% of the fiscal year GDP estimates.

in treatment of medical scheme contributions and medical expenses, partially offset by the reduction in taxable income resulting from the deductibility with effect from 2017 of provident fund contributions by employees/members.

The trends and income ratios summarized above are of similar magnitude if the analysis is limited to incomes above the tax threshold.

Figure 1: Income and deductions, unadjusted and after adjustments, 2011–18



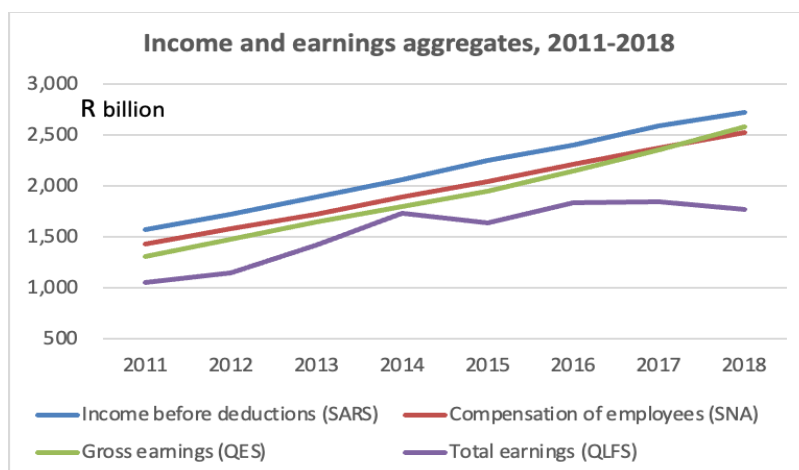
Source: based on National Treasury and UNU-WIDER (2019).

In sum, after adjusting for changes in the reporting of retirement fund contributions, income before deductions increased by about 2.5 percentage points of the fiscal year GDP estimate between 2011 and 2018. After adjustment for the change in tax treatment of medical contributions and expenses, and for deductibility of provident fund contributions, taxable income increased similarly by 2.5 percentage points of GDP over this period. The ratio of taxable income to income before deductions varied between 89.1 and 89.6 per cent. These results are shown as ‘adjusted’ estimates of income and taxable income in Table 2.

Figure 2 provides a comparison of the trend in income before deductions (after adjustments) with alternative aggregate income or earnings sources: compensation of employees in the national accounts, gross earnings reported in the quarterly employment statistics (QES), and total earnings derived from the quarterly labour force survey (QLFS).<sup>4</sup> Income reported to SARS increases broadly in line with compensation of employees and gross earnings reported in the QES survey of enterprises. Employees’ compensation is the largest component but not the only component of personal income, which also includes pension and interest income and earnings from self-employment. The trends in these ratios might reflect shifts in both earnings and passive income and might also reflect estimation errors in the national accounts, the SARS income statistics, and survey data. It is also apparent from Figure 2 that total earnings reported through the QLFS is both unreliable and typically well below the broader QES, national accounts, and SARS statistics of income.

<sup>4</sup> Compensation of employees as reported in Statistics SA (2022). Gross earnings reported in Statistics SA (2021b). QLFS total earnings derived by Aidan Horn from Kerr et al. (2019) in February 2023.

Figure 2: Aggregate income and earnings—alternative sources, 2011–18



Source: based on National Treasury and UNU-WIDER (2019), and author's adjusted estimates of income before deductions. Compensation of employees: Statistics SA (2022). QES: Statistics SA (2021b). QLFS: Kerr et al. (2019).

### 3 The personal income tax base and PIT revenue collected, 2011–2018

In Table 3, we compare the overall increase over the 2011–18 period in personal income tax revenue collected with the increases in GDP and in adjusted income and taxable income reported in Table 2. We also show the trends in revenue, income before deductions, and taxable income in real (inflation-adjusted) terms.

Table 3: PIT revenue collected, GDP, and taxable income (adjusted), nominal and real, 2011–18

Fiscal year-end (R billion)	2011	2012	2013	2014	2015	2016	2017	2018	Increase pa 2011–2018
<b>PIT revenue</b>	<b>226.9</b>	<b>250.4</b>	<b>275.8</b>	<b>309.9</b>	<b>353.0</b>	<b>388.1</b>	<b>424.5</b>	<b>461.0</b>	10.7%
% of GDP	7.3%	7.4%	7.6%	7.9%	8.4%	8.6%	8.8%	9.0%	
% of income bef deductns (adj)	14.4%	14.5%	14.6%	15.0%	15.7%	16.2%	16.4%	16.9%	
% of taxable y (adj)	16.1%	16.3%	16.3%	16.9%	17.5%	18.1%	18.3%	18.9%	
<b>Real income and revenue (2015 prices)</b>									
<b>PIT revenue</b>	<b>292.8</b>	<b>306.1</b>	<b>319.4</b>	<b>339.3</b>	<b>365.7</b>	<b>382.5</b>	<b>393.6</b>	<b>408.0</b>	4.9%
GDP (at market prices)	4,006	4,124	4,219	4,321	4,389	4,421	4,457	4,516	1.7%
Income before deductns (adj)	2,033	2,107	2,192	2,261	2,336	2,367	2,404	2,410	2.5%
Taxable income (adj)	1,815	1,880	1,954	2,013	2,088	2,119	2,154	2,160	2.5%

Note: PIT revenue, income, and taxable income deflated by consumer price index (CPI).

Source: based on National Treasury (2022) and Statistics SA (2022).

PIT revenue collected has increased from 7.3 per cent of nominal GDP in 2011 to 9.0 per cent in 2018 and has also increased as a percentage of adjusted income before deductions and taxable income. Measured in real terms, revenue collected has increased by 4.9 per cent a year over the period, GDP has increased by 1.7 per cent, and individual income by 2.5 per cent a year.

It is apparent that the rise in inflation-adjusted personal income accounts for around half of the increase in real PIT revenue, which increased by over 39 per cent cumulatively, over the 2011–18 period.

PIT revenue has also increased over this period as a result of policy decisions. Three elements stand out—the decline in real (inflation-adjusted) terms in the lower tax threshold between 2011 and 2018, the 2015/16 increase in marginal tax rates, and the addition of a further maximum tax bracket in 2017/18.

In 2011 the tax threshold for taxpayers under the age of 65 was R57,000; in 2018 the threshold was R75,750. Expressed in 2017/18 prices, the 2011 threshold was R83,085. There was therefore a real decline in the tax threshold between 2011 and 2018 of just under 9 per cent. This has both raised the number of earners who pay tax and raised the tax burden for all taxpayers in inflation-adjusted terms.

The shift from medical expense deductions to tax credits would have partially offset the implied rise in the tax burden for medical scheme contributors and medical expense claimants, though this change also increased the relative tax burden on higher income taxpayers. It is notable, however, that the real decline in the tax threshold mainly occurred between 2015 and 2018—that is, after implementation of the reform in the tax treatment of medical expenses.

The increase in PIT revenue associated with the real decline in the lower tax threshold between 2011 and 2018 can be approximated as follows: 18 per cent tax x R7,335 (difference between R83,085 and R75,750) x 6.9 million taxpayers = R9.1 billion in 2017/18 prices, or about 2 per cent of PIT revenue and 0.2 per cent of GDP. Lower-than-inflation adjustments to the higher tax bracket thresholds, particularly in the 2016, 2017, and 2018 tax-years, would have contributed rather more than this—perhaps a further R25–R30 billion.

In 2015, the upper bracket tax rates were all increased—the 25 per cent bracket to 26 per cent, 30 to 31 per cent, 35 to 36 per cent, 38 to 39 per cent, and 40 to 41 per cent. The Treasury's *2015 Budget Review* estimate of the revenue impact of these changes was R9.4 billion.

At the top end of the tax schedule, an additional 45 per cent tax bracket was introduced in the 2017/18 year, applicable to taxable incomes above R1.5 million. The Treasury estimated that this would yield an additional R4.4 billion.

It seems plausible, in sum, that tax rate increases and below-inflation adjustments to tax bracket thresholds between 2011 and 2018 generated over R50 billion in additional revenue, or about 1 per cent of GDP.

In addition to these considerations, the analysis set out below indicates that the distribution of income has shifted towards higher income taxpayers, contributing further to tax buoyancy.

## 4 Taxpayer numbers and distribution by age

Despite the poor economic performance over this period, the number of individuals with IRP5/IT3(a) or ITR12 tax return certificates each year has increased, as shown in Table 4. The total number of unique individuals with income reported to SARS has increased by 10.6 per cent over the 2011–18 period, and the number reporting taxable income (adjusted) above the tax threshold increased by 17.3 per cent, or 2.3 per cent a year. Individuals reporting income above the tax threshold have increased from 45.6 to 48.4 per cent of the total.

Table 4 indicates that the numbers of taxpayers over the age of 65 have increased more rapidly than for younger cohorts. The number of taxpayers over 65 reporting income above the tax threshold increased by 46.9 per cent over this period, though they remain a comparatively small percentage of the total.<sup>5</sup> The percentage of the population over the age of 20 reporting adjusted incomes above the tax threshold increased from 19.0 per cent in 2011 to 19.3 per cent in 2018.

Table 4: Individual headcounts of income returns to SARS, total and above tax threshold, 2011–18

Tax-year (‘000s)	2011	2012	2013	2014	2015	2016	2017	2018	% increase 2011–2018
<b>Total number of Individuals with PIT tax returns</b>									
< Age 35	5,412	5,693	5,721	5,801	5,931	5,878	5,891	5,775	6.7%
Age 35–64	6,485	6,637	6,786	6,898	7,078	7,089	7,243	7,321	12.9%
> Age 65	1,032	1,038	1,076	1,102	1,131	1,141	1,185	1,202	16.4%
<b>Total (A)</b>	<b>12,930</b>	<b>13,368</b>	<b>13,583</b>	<b>13,801</b>	<b>14,140</b>	<b>14,108</b>	<b>14,319</b>	<b>14,297</b>	<b>10.6%</b>
<b>Individuals reporting income (adjusted) above the tax threshold</b>									
< Age 35	1,808	1,881	1,932	1,941	1,963	2,048	2,041	2,070	14.5%
Age 35–64	3,834	3,928	4,000	4,056	4,139	4,243	4,356	4,473	16.7%
> Age 65	254	260	269	287	312	323	396	374	46.9%
<b>Total</b>	<b>5,897</b>	<b>6,070</b>	<b>6,202</b>	<b>6,285</b>	<b>6,414</b>	<b>6,528</b>	<b>6,793</b>	<b>6,917</b>	<b>17.3%</b>
% of total (A)	45.6%	45.4%	45.7%	45.5%	45.4%	46.3%	47.4%	48.4%	
<b>Percentage of population above the tax threshold</b>									
Age 20–34	12.8%	13.0%	13.0%	12.8%	12.7%	13.1%	12.9%	13.0%	
Age 35–64	27.0%	27.1%	27.1%	26.9%	26.8%	26.8%	26.8%	26.7%	
> Age 65	9.5%	9.5%	9.6%	9.9%	10.4%	10.5%	12.4%	11.3%	
<b>Total age 20+</b>	<b>19.0%</b>	<b>19.1%</b>	<b>19.1%</b>	<b>19.0%</b>	<b>19.0%</b>	<b>18.9%</b>	<b>19.3%</b>	<b>19.3%</b>	

Source: based on National Treasury and UNU-WIDER (2019), and author’s adjusted estimates of taxable income. Population estimates taken from Statistics SA (2021a) mid-year population estimates for calendar years preceding tax-years.

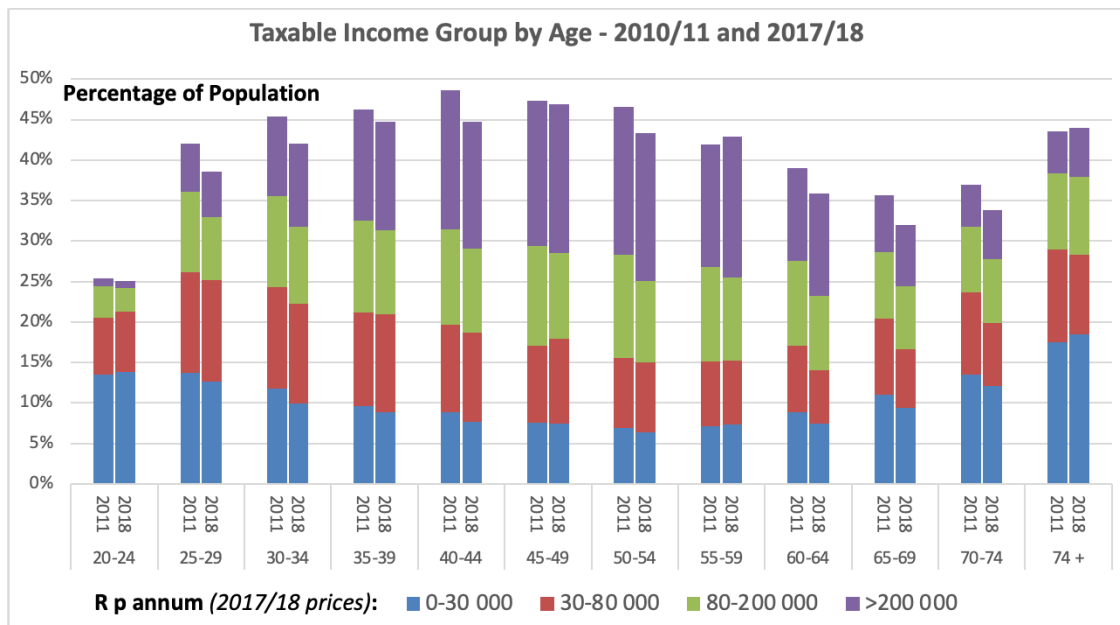
In Figure 3, the distribution of individuals reporting income in 2011 and 2018 by age and (adjusted) taxable income groups is illustrated, shown as percentage distributions within the corresponding population age cohorts. There are several notable features:

- The 40–44 age group has the highest percentage of the population reporting income to SARS in 2011, while in 2018 the peak is in the 45–49 age cohort.

<sup>5</sup> In estimating the numbers of taxpayers above the threshold, account is taken here of the higher tax threshold for individuals over 65 that results from the secondary and tertiary rebates.

- Higher proportions of the population report incomes less than R30,000 or R80,000 a year (in 2017/18 rands) in both younger and older age groups; incomes above R200,000 a year are highest in the 40–59 age cohorts.
- After peaking at between 45 and 50 per cent of the population in the 40s age cohorts, the population percentage reporting incomes to SARS falls to below 35 per cent in 2018 in the age group 65–69 and then rises to over 40 per cent in the 74+ cohort.

Figure 3: Taxable income by age group, 2011 and 2018



Source: based on National Treasury and UNU-WIDER (2019), and author's adjusted estimates of taxable income for 2011. Population estimates taken from Statistics SA (2021a).

Changes over this period in the distribution of the personal income tax base by age group are shown in Table 5, which sets out average adjusted taxable income by age group, expressed in real 2017/18 prices.<sup>6</sup>

It is readily apparent that mean incomes have increased more strongly in real terms for older-age taxpayers. Mean taxable incomes of those below age 30 and between 35 and 39 have declined over this period. Together with slower growth in the numbers of registered individuals in lower age groups reported above, this indicates a marked shift upwards by age in the size distribution of aggregate incomes.

For all reporting individuals, mean taxable income (adjusted to 2017 reporting requirements), increased from R158,600 a year to R170,700 a year in 2017/18 prices, or a cumulative 7.6 per cent.

<sup>6</sup> 2011–2017 tax-year incomes are adjusted upwards to 2017/18 prices using the average headline consumer price index (CPI) increase for the April–March fiscal years. The CPI increase for the full 2010/11–2017/18 period was 45.8%.

Table 5: Mean taxable income (adjusted) by age group, 2011–18 (R 000s, 2017/18 constant prices)

Age group	2011	2012	2013	2014	2015	2016	2017	2018	% change 2011–2018
20–24	49.3	47.1	47.9	47.3	45.6	47.0	44.9	44.8	-9.1%
25–29	99.9	98.6	100.3	98.8	96.7	98.2	95.4	96.1	-3.8%
30–34	141.1	142.2	143.1	143.1	143.7	146.5	143.5	144.5	2.4%
35–39	183.8	183.5	184.8	183.9	182.2	184.6	182.0	182.9	-0.5%
40–44	211.8	216.2	216.8	219.2	221.9	226.3	223.7	220.9	4.3%
45–49	231.4	234.1	239.1	243.1	245.7	247.7	250.0	248.1	7.2%
50–54	244.3	250.1	254.4	256.9	261.1	266.8	266.1	272.8	11.6%
55–59	235.5	238.1	248.1	254.6	262.7	263.7	267.0	265.1	12.6%
60–64	207.2	208.7	214.9	223.6	233.7	235.9	239.5	246.2	18.8%
65–69	148.9	150.3	159.5	167.6	173.3	172.8	178.0	173.2	16.3%
70–74	109.5	110.6	112.8	119.8	130.5	129.9	142.1	135.7	23.9%
74 +	93.8	92.8	93.3	99.0	106.0	104.8	114.7	104.5	11.4%
<b>Total</b>	<b>158.6</b>	<b>158.9</b>	<b>162.6</b>	<b>164.8</b>	<b>166.8</b>	<b>169.7</b>	<b>169.9</b>	<b>170.7</b>	<b>7.6%</b>

Note: individuals below age 20 excluded from age groups, included in total.

Source: based on National Treasury and UNU-WIDER (2019), and author's adjusted estimates of taxable income.

## 5 Retirement fund participation and medical expense deductions, 2011–2018

In preparing adjusted estimates of taxable income and income, we make use of projections of retirement fund contributions by individuals or fund members and of employer-paid retirement contribution fringe benefits. Our estimates rely on the *deductibility* of pension and RA member contributions before 2017, and of pension, provident fund, and RA contributions since 2017, and reporting to SARS of employer-paid retirement contribution fringe benefits since 2017. We also make use of data on deductions of medical scheme contributions and medical expenses up to 2014.

There are income-related limits to the deductibility of retirement fund contributions, and with effect from 2017 an overall cap of the lower of R350,000 or 27.5 per cent of taxable income has applied. Our analysis relies on estimates of deductible contributions. We take the view that the resulting under-estimation of total contributions is unlikely to be significant.

Table 6 summarizes our estimates of retirement fund participation and aggregate contributions. In generating these estimates, participation rates and average contribution rates have been calculated or assumed for 25 taxable income groups in each year, in many cases by adjustment for inflation or through linear interpolation across intervening years. Adjustments to participation rates have also been made in order to ensure consistency between overall retirement fund participation and the provident fund, pension fund, and RA sub-components. We note that the administrative data on which we rely probably under-estimate medical scheme and retirement fund participation to some extent, as contributions directly made by individuals (rather than by employers) are recorded only if a tax return is submitted. Further development of the personal income tax panel datasets, making use of IT3 submissions by medical schemes and retirement funds, would enable more reliable estimates to be derived.

Table 6: Estimated retirement fund participation and contributions, 2011–18

Tax-year	2011	2012	2013	2014	2015	2016	2017	2018	% increase 2011–2018
<b>Number of contributors to retirement funds ('000s)</b>									
Provident funds	3,180	3,250	3,320	3,400	3,465	3,492	3,566	3,588	12.9%
Pension funds	2,876	2,912	2,951	2,977	2,990	2,989	3,064	3,067	6.6%
Retirement annuity funds	1,628	1,669	1,704	1,735	1,759	1,771	1,819	1,834	12.6%
<b>All retirement funds</b>	<b>6,502</b>	<b>6,623</b>	<b>6,744</b>	<b>6,864</b>	<b>6,957</b>	<b>6,989</b>	<b>7,112</b>	<b>7,144</b>	<b>9.9%</b>
<i>% of all taxpayers</i>	<i>50.3%</i>	<i>49.5%</i>	<i>49.7%</i>	<i>49.7%</i>	<i>49.2%</i>	<i>49.5%</i>	<i>49.7%</i>	<i>50.0%</i>	
<b>Contributions to retirement funds (Rb)</b>									
									<b>% increase pa 2011–2018</b>
<b>Individual/member contributions</b>									
Provident funds	17.4	19.0	20.6	22.4	24.1	25.9	27.9	28.9	7.5%
Pension funds	30.7	33.0	35.5	38.3	41.3	44.3	48.0	51.1	7.5%
Retirement annuity funds	14.6	16.2	17.8	19.7	21.8	23.5	25.6	27.4	9.4%
<b>Total</b>	<b>62.7</b>	<b>68.2</b>	<b>73.9</b>	<b>80.3</b>	<b>87.2</b>	<b>93.7</b>	<b>101.6</b>	<b>107.3</b>	<b>8.0%</b>
<b>Employer-paid contributions (fringe benefits)</b>									
	<b>83.2</b>	<b>90.7</b>	<b>98.7</b>	<b>107.1</b>	<b>114.4</b>	<b>123.5</b>	<b>131.6</b>	<b>137.3</b>	<b>7.4%</b>
<b>Total RF contributions</b>	<b>145.9</b>	<b>158.9</b>	<b>172.6</b>	<b>187.4</b>	<b>201.5</b>	<b>217.2</b>	<b>233.2</b>	<b>244.6</b>	<b>7.7%</b>
<b>% of income before deductions (adjusted)</b>									
	<i>9.3%</i>	<i>9.2%</i>	<i>9.1%</i>	<i>9.1%</i>	<i>8.9%</i>	<i>9.0%</i>	<i>9.0%</i>	<i>9.0%</i>	

Source: based on National Treasury and SARS, *Tax Statistics* (various years), and National Treasury and UNU-WIDER (2019).

In Table 7, we summarize retirement fund participation and the numbers of medical expense claimants by taxable income group in 2011 (shown in 2017/18 prices) and show the disaggregated participation in retirement funds by income group in 2018.

Table 7: Retirement fund participation and medical deduction claimants by income group, 2011 and 2018

Taxable income (2017/18 R'000s):	≤0	1-30	30-80	80-200	200-500	500-1000	>1 000	Total
<b>2010/11</b>								
Retirement fund contributors ('000s)	13	401	1,361	2,104	1,968	493	163	6,502
<i>% of all taxpayers</i>	<i>5.8%</i>	<i>11.9%</i>	<i>42.9%</i>	<i>69.1%</i>	<i>84.0%</i>	<i>84.7%</i>	<i>81.1%</i>	<i>50.3%</i>
Medical deduction claimants ('000s)	2	56	328	944	1,612	438	158	3,538
<i>% of all taxpayers</i>	<i>1.1%</i>	<i>1.7%</i>	<i>10.3%</i>	<i>31.0%</i>	<i>68.8%</i>	<i>75.2%</i>	<i>78.9%</i>	<i>27.4%</i>
<b>2017/18</b>								
Contributors ('000s) to:								
Provident funds	10	288	1,248	1,100	684	194	64	3,588
Pension funds	1	112	277	748	1,485	358	85	3,067
Retirement annuity funds	5	59	92	325	922	313	116	1,834
All retirement funds	14	453	1,601	1,935	2,338	621	183	7,144
<i>% of all taxpayers</i>	<i>4.9%</i>	<i>13.0%</i>	<i>43.3%</i>	<i>62.9%</i>	<i>83.4%</i>	<i>84.8%</i>	<i>81.0%</i>	<i>50.0%</i>

Source: based on National Treasury and SARS, *Tax Statistics* (various years), and National Treasury and UNU-WIDER (2019).

It is notable that retirement fund participation is well over 60 per cent of taxpayers above the 2018 taxable income level of R80,000 and is over 40 per cent in the R30,000–80,000 income group. This analysis suggests that about three quarters of RA contributors are also contributing pension or provident fund members. Medical scheme participation and medical expense claims are a much



lower percentage of taxpayers below the tax threshold (of around R80,000 in 2017/18 prices). (Comparable data on medical claims in 2017/18 are not shown, as these deductions had been replaced by tax credits.)

## 6 The distribution of income, 2011 and 2018

In Tables 8, 9, and 10, we examine the shift in the distribution of taxable income by focusing on the 2011 and 2018 years only, with incomes reported in constant 2017/18 prices. Tables 9 and 10 include individuals with negative or zero taxable incomes in the total counts but exclude them from the distribution columns.

Table 8 shows that taxpayer numbers have declined as a share of the total in income cohorts below R30,000 a year and between R80,000 and R200,000 a year. Aggregate income and taxable income have fallen substantially between 2011 and 2018 in the middle R80,000–200,000 income group while rising in both lower and higher income groups. Individuals with taxable incomes above R500,000 are 6.1 per cent of the total and account for 36.4 per cent of income in 2010/11, and comprise 6.7 per cent of the total in 2017/18 with 38.2 per cent of aggregate income before deductions.

Table 8: Distribution of individuals and aggregate income by income group, 2011 and 2018

<b>Taxable income (2017/18 R'000s):</b>	<b>&lt;=0</b>	<b>1-30</b>	<b>30-80</b>	<b>80-200</b>	<b>200-500</b>	<b>500-1000</b>	<b>&gt;1 000</b>	<b>Total</b>
<b>2010/11</b>								
Number of individuals ('000s)	217	3,369	3,170	3,046	2,344	583	201	12,930
<i>% of total</i>	1.7%	26.1%	24.5%	23.6%	18.1%	4.5%	1.6%	
Adj Income bef deductions (R b)	(4.9)	42.6	172.7	433.6	817.3	440.7	395.0	2,296.9
<i>% of total</i>	-0.2%	1.9%	7.5%	18.9%	35.6%	19.2%	17.2%	
Adj taxable income (R b)	(7.5)	41.5	164.0	394.9	716.9	382.3	357.9	2,050.2
<i>% of total</i>	-0.4%	2.0%	8.0%	19.3%	35.0%	18.6%	17.5%	
<b>2017/18</b>								
Number of individuals ('000s)	291	3,476	3,695	3,075	2,801	732	226	14,297
<i>% of total</i>	2.0%	24.3%	25.8%	21.5%	19.6%	5.1%	1.6%	
Income bef deductions (R b)	(3.3)	44.6	270.6	371.9	996.4	564.9	477.6	2,722.8
<i>% of total</i>	-0.1%	1.6%	9.9%	13.7%	36.6%	20.7%	17.5%	
Taxable income (R b)	(4.1)	43.7	257.5	339.2	871.8	494.4	437.8	2,440.3
<i>% of total</i>	-0.2%	1.8%	10.6%	13.9%	35.7%	20.3%	17.9%	

Source: based on National Treasury and UNU-WIDER (2019).

Table 9 summarizes the age distribution within income groups in 2011 and 2018, illustrating an upward trend in the share going to older age cohorts in the higher income groups.

Table 10 provides an alternative view of the shift in the distribution of taxable income by age group between 2011 and 2018. Though the proportion of the population over the age of 20 with taxable incomes greater than zero declined from 41.7 to 39.8 per cent over this period, the percentage with over R200,000 (2017/18 prices) in taxable income has increased from 10.1 to 10.5 per cent. Adjusted mean real taxable income of individuals returning positive incomes has increased from R161,400 to R174,200 a year (a 7.9 per cent increase), but by larger percentages for older age cohorts. The share of aggregate real taxable income reported by individuals in the age 20–34 bracket has declined from 25.5 to 23.8 per cent, while the share attributable to individuals in the 50–64 and over 65 age cohorts has increased.

Table 9: Distribution of individuals by age and taxable income group, 2011 and 2018

<b>Taxable income:</b> <b>(2017/18 rands – '000s)</b>	<b>1-30</b>	<b>30-80</b>	<b>80-200</b>	<b>200-500</b>	<b>500-1 000</b>	<b>&gt;1 000</b>	<b>Total</b>
<b>Distribution by age within income group: 2010/11</b>							
Age <35	58.4%	47.4%	37.5%	25.1%	20.8%	10.7%	41.9%
Age 35–49	21.1%	30.1%	34.6%	45.3%	45.9%	49.9%	32.6%
Age 50–64	10.0%	13.8%	20.4%	24.7%	28.6%	33.6%	17.5%
Age >65	10.5%	8.7%	7.6%	5.0%	4.7%	5.7%	8.0%
Share of total	26.1%	24.5%	23.6%	18.1%	4.5%	1.6%	100.0%
<b>Distribution by age within income group: 2017/18</b>							
Age <35	56.5%	47.3%	35.2%	26.7%	17.9%	7.6%	40.4%
Age 35–49	21.6%	32.1%	35.9%	42.3%	45.6%	49.4%	33.4%
Age 50–64	10.1%	13.2%	19.9%	25.2%	31.3%	36.0%	17.8%
Age >65	11.9%	7.4%	9.0%	5.8%	5.3%	7.0%	8.4%
Share of total	24.3%	25.8%	21.5%	19.6%	5.1%	1.6%	100 %

Source: based on National Treasury and UNU-WIDER (2019).

Table 10: Distribution of real taxable income by age, 2011 and 2018

	<b>Percentage of population with taxable income (2017/18 prices) greater than:</b>				<b>Adjusted real taxable income (2017/18 prices)</b>		
	<b>R0</b>	<b>R30,000</b>	<b>R80,000</b>	<b>R200,000</b>	<b>Mean (R'000s)</b>	<b>Aggregate income (R billion)</b>	<b>% of Total</b>
<b>2010/11</b>							
Age 20–35	36.6%	23.5%	13.1%	5.1%	100.8	<b>522.8</b>	25.5%
Age 35–49	47.3%	38.5%	27.8%	16.0%	206.7	<b>872.6</b>	42.6%
Age 50–64	43.1%	35.6%	27.2%	15.5%	232.7	<b>527.0</b>	25.7%
Age >65	38.7%	24.8%	14.5%	5.8%	117.0	<b>120.8</b>	5.9%
<b>Total</b>	<b>41.7%</b>	<b>30.1%</b>	<b>19.9%</b>	<b>10.1%</b>	<b>161.4</b>	<b>2,050.2</b>	<b>99.7%</b>
<b>2017/18</b>							
Age 20–35	35.3%	23.2%	12.4%	5.6%	103.4	<b>580.0</b>	23.8%
Age 35–49	45.3%	37.2%	25.9%	15.5%	213.6	<b>1,019.7</b>	41.8%
Age 50–64	41.2%	34.2%	26.3%	16.4%	263.9	<b>672.2</b>	27.5%
Age >65	36.5%	23.3%	15.1%	6.6%	135.9	<b>163.3</b>	6.7%
<b>Total</b>	<b>39.8%</b>	<b>29.3%</b>	<b>19.0%</b>	<b>10.5%</b>	<b>171.0</b>	<b>2,440.3</b>	<b>99.8%</b>

Source: based on National Treasury and UNU-WIDER (2019).

Broad measures of the shift between 2011 and 2018 in the overall inequality of income reported to SARS are provided in Table 11. On these estimates, median (adjusted) income before deductions declined between 2011 and 2018, and median taxable income increased marginally in real terms, whereas mean income and taxable income increased by 7.2 and 7.6 per cent, respectively (or about 1 per cent a year). The SARS income data suggest that relative to both the median and mean, income before deductions and taxable incomes at the 75<sup>th</sup> and 90<sup>th</sup> percentiles were higher in 2018 than in 2011. At the 99<sup>th</sup> percentile, income was higher relative to the median in 2018 but lower relative to the mean. In the bottom half of the distribution, the data suggest that income at the 25<sup>th</sup> percentile has increased slightly relative to the median. This suggests a 'hollowing out' trend, in which incomes have improved at both lower and higher levels relative to the middle of the distribution.

Table 11: Estimated shifts in distribution of (adjusted) income and taxable income, 2011 and 2018

(2017/18 prices)	R p annum	% change	Income percentile				
			25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>	99 <sup>th</sup>
<b>Income before deductions</b>		<b>Median</b>	<b>Income before deductions as ratio to median:</b>				
2010/11	<b>81,200</b>		0.36	1.00	2.70	5.42	16.14
2017/18	<b>80,911</b>	-0.4%	0.38	1.00	2.95	5.99	17.18
		<b>Mean</b>	<b>Income before deductions as ratio to mean:</b>				
2010/11	<b>177,647</b>		0.16	0.46	1.23	2.48	7.38
2017/18	<b>190,444</b>	7.2%	0.16	0.42	1.25	2.55	7.30
<b>Taxable income</b>		<b>Median</b>	<b>Taxable income as ratio to median:</b>				
2010/11	<b>75,909</b>		0.37	1.00	2.60	5.06	15.36
2017/18	<b>76,709</b>	1.1%	0.39	1.00	2.82	5.51	16.22
		<b>Mean</b>	<b>Taxable income as ratio to mean:</b>				
2010/11	<b>158,564</b>		0.18	0.48	1.24	2.42	7.35
2017/18	<b>170,687</b>	7.6%	0.18	0.45	1.27	2.47	7.29
			<b>Gini coefficient</b>				
<b>Individual taxable income (2017/18 prices):</b>			<b>≥0</b>	<b>&gt; 30,000</b>	<b>&gt; 80,000</b>		
			<b>Income before deductions</b>				
2010/11			0.66	0.57	0.48		
2017/18			0.68	0.59	0.51		
			<b>Taxable income</b>				
2010/11			0.66	0.56	0.47		
2017/18			0.67	0.58	0.50		

Source: based on National Treasury and UNU-WIDER (2019).

The second part of Table 11 summarizes the shift in inequality between 2011 and 2018 as measured by the Gini coefficient of both income before deductions and taxable income (adjusted), first for all non-negative incomes reported to SARS and then for taxable incomes above R30,000 a year and above R80,000 a year in 2018, and above roughly equivalent incomes in real terms in 2011. These three measures also indicate that the widening of income inequality over this period was greater at higher income levels than for the whole income distribution.

## 7 Conclusion

This paper sets out trends in the personal income tax base between 2011 and 2018, after adjustment for changes in 2013 and 2015 in the tax treatment of medical scheme contributions and medical expenses, deductibility from 2017 of contributions to provident funds, and the inclusion in 2017 of employer-paid retirement fund contributions in income. These adjustments reduce, but do not eliminate, the apparent rise in income and taxable income relative to GDP over the period under review.

Strong growth in the personal income tax base, relative to national income, accounts in part for the buoyancy of PIT revenue collection during this period. Revenue was also boosted by below-inflation adjustments to tax thresholds and increases in marginal tax rates, particularly over the 2015/16–17/18 period.

Our analysis provides a broad overview of retirement fund participation over the 2011–18 period and of its distribution across the income distribution. The data suggest that over 7 million

individuals contributed to retirement funds in 2018, equivalent to 50 per cent of the total number reporting income to SARS. Medical scheme and medical expense tax benefits are claimed by over a quarter of all taxpayers. Further work on this data, drawing on more detailed data extraction from the personal income tax panels (National Treasury and UNU-WIDER 2019), would permit a more complete analysis of the distribution of earned income and the contribution of contributory retirement funding and health insurance to income security.

We show that there has been a shift in the distribution of income towards higher income taxpayers and higher age groups. These shifts are associated with a widening in the inequality of distribution of both income before deductions and taxable income. The Gini coefficient of the distribution of adjusted income before deductions, for individuals reporting zero or positive taxable income to SARS, increased from 0.66 in 2011 to 0.68 in 2018.

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