

Shifting from deductions to credits: Unpacking the distributional effects of medical expenditure considerations in South Africa

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Project Workstream: PUBLIC REVENUE FOR INCLUSIVE DEVELOPMENT

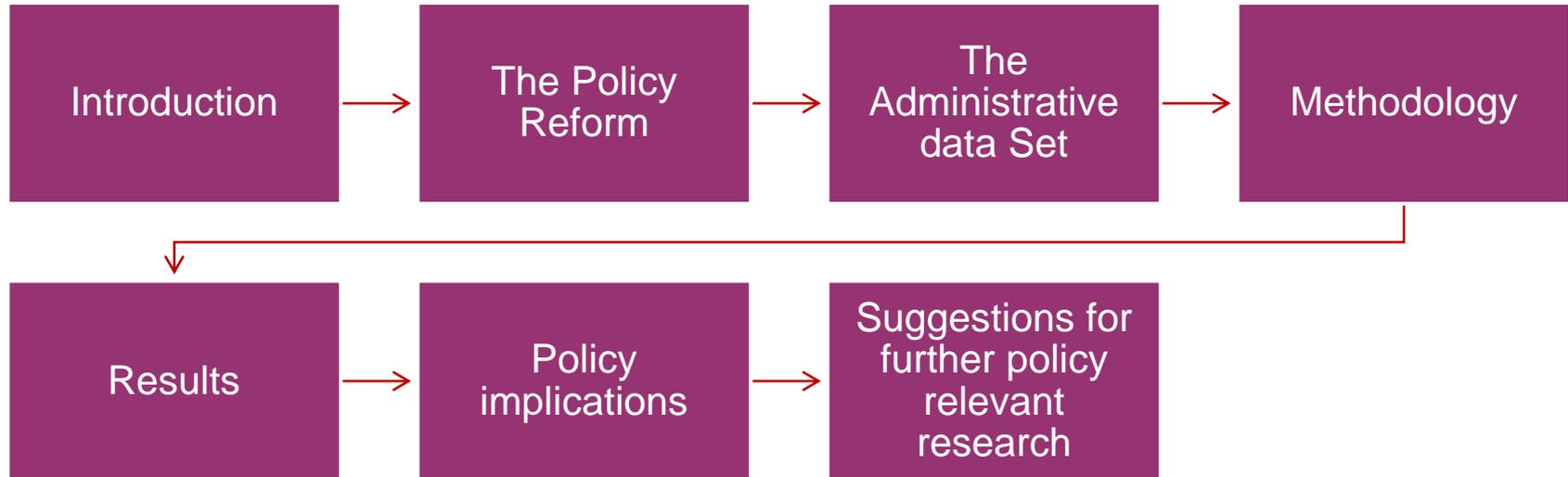
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Presentation Outline



Introduction

In determining tax liability, the following purpose specific relief measures are taken

- Exempt income
- Deductible expenses
- Tax rebates, e.t.c
- Medical expenditure

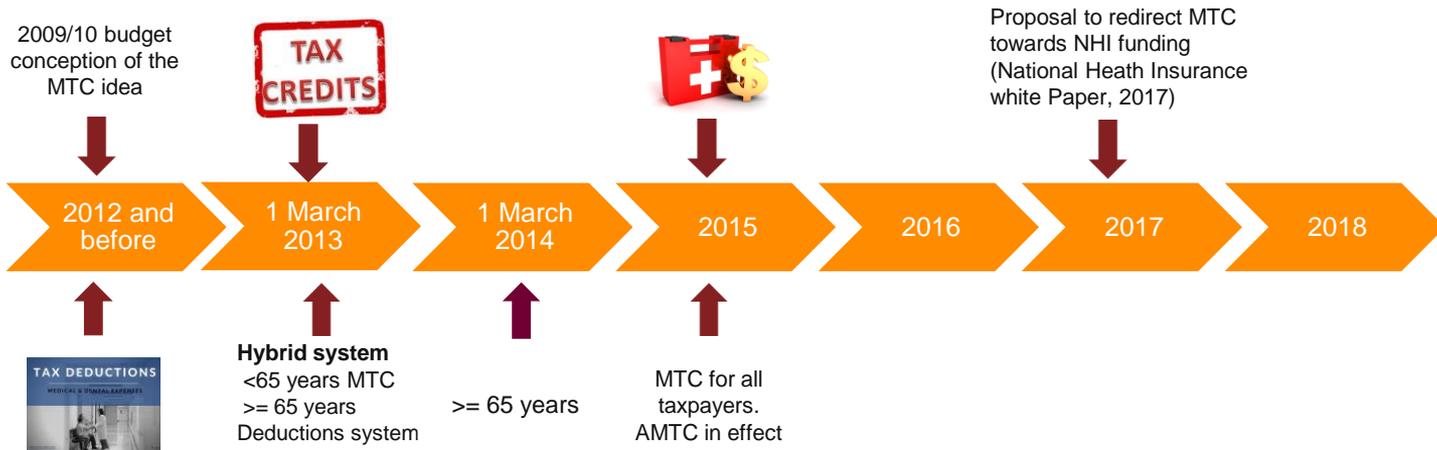
Why Medical Expenditure?

- Relief from the rising healthcare costs
- Some form of medical insurance coverage
- Relief in case of catastrophic health expenditures
- Fairness of the tax system

Context

- The Public – Private Sector Divide
 - Public sector – serves approximately 85% of the population, depends on general tax revenues approx. 11% of government budget
 - Private sector –serves <15% of the population, excellent world class facilities, mainly for those who can afford medical insurance or pay on out-of-pocket basis, mostly urban dwellers, dates back to 1970's, 24 medical aid schemes with 140 benefit options
 - Fairness in health services provision is the underlying principle

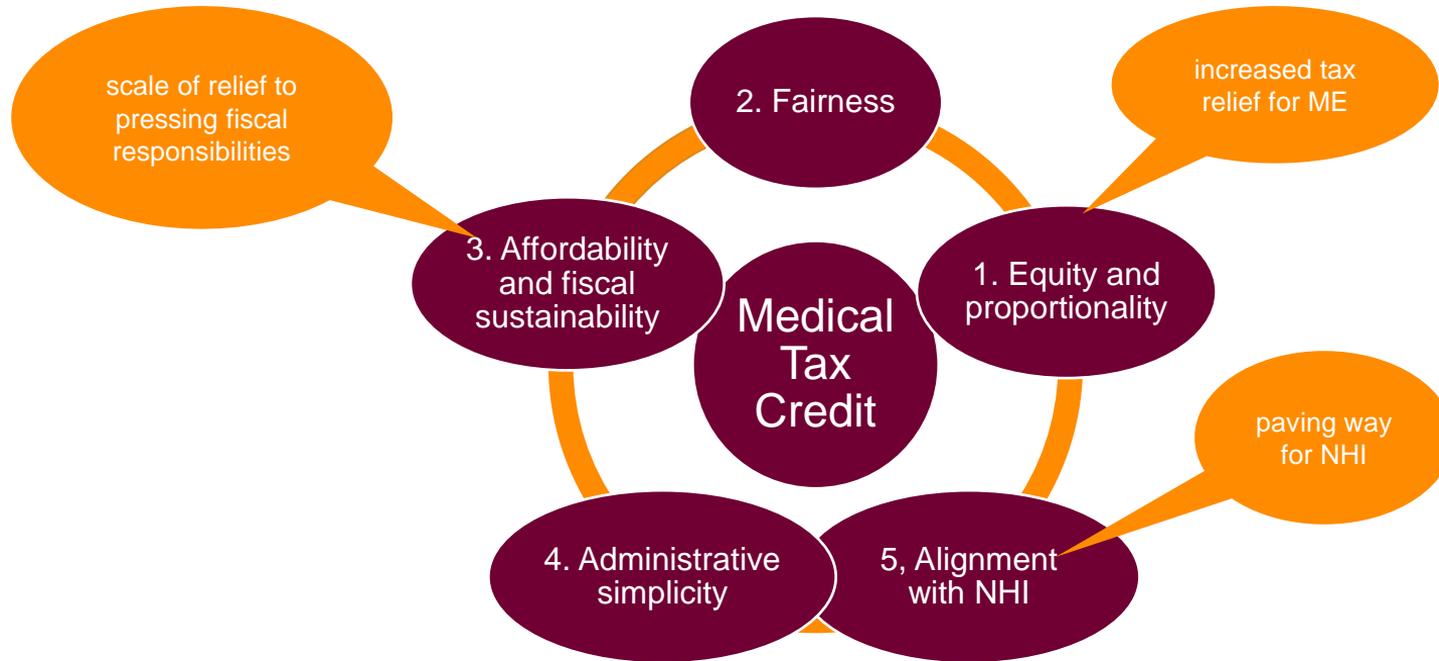
SA Medical expenditure relief timeline



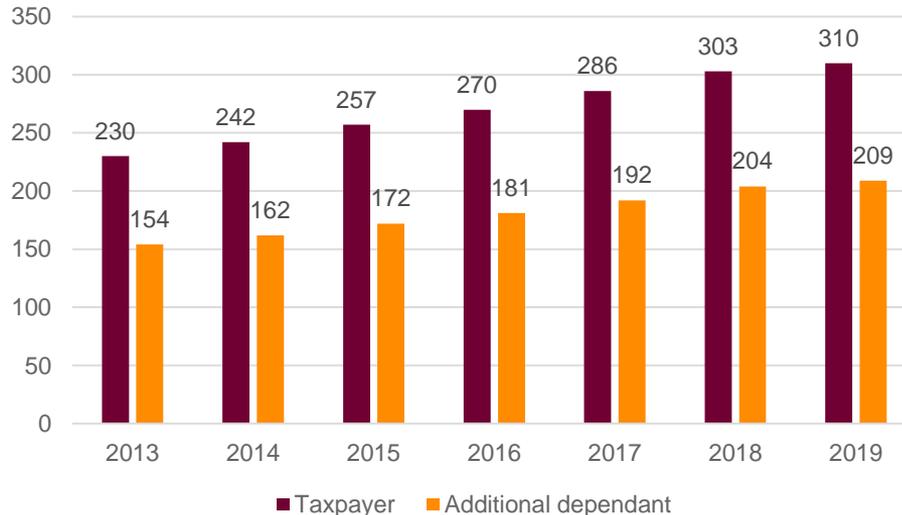
Proposed Reform – 2011 Discussions

Deductions	Credits
<ul style="list-style-type: none">• Criticism: reduces the progressivity of the tax• Inequitable – greater benefits to higher income taxpayers – through the progressive marginal rate structure (Zee, 2005)• Reduction in taxable income	<ul style="list-style-type: none">• Fair – Low income taxpayers benefit• Value is unrelated to taxpayer's income bracket• Reduction in tax liability – non refundable• A step towards the NHI

Major objectives of MTC (National Treasury 2011)



Monthly capped tax rebate 'credit' 2013 to 2019



In addition to capped tax rebate credit, taxpayers receive additional medical tax credit (AMTC) -- qualifying medical expenses not covered by medical scheme (OOP expenses)

* Induces both low income and high-income earners to be part of medical aid schemes

Additional Medical Tax Credit (AMTC)

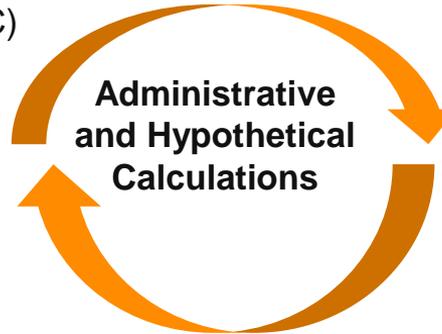
Age and Disability Status	Formula
<65 (Without Disability)	25% of: Total contributions paid to the medical scheme Less (4*MTC) Plus (Qualifying Medical Expenses (QME paid less 7.5% of taxable income))
<65 (With Disability)	33.3% of: Total contributions paid to the medical scheme Less (3*MTC) Plus (QME paid)
65 or over (With or Without Disability)	33.3% of: Total contributions paid to the medical scheme Less (3*MTC) Plus (QME paid)

Research objectives



Assess the pattern of medical tax credits (MTC) by income group

Determine the impact of MTC on income distribution



Policy relevant questions to be answered



Is the redistribution of tax burden under the deductions system indeed regressive as claimed?

How did the shift to the credit system affect the redistribution of the tax burden?

- To our knowledge no detailed study using administrative data has been done in South Africa to confirm or dispute claims of MTC being more progressive and being fair to low-income owners.

Significance of Study

An immediate response to ongoing policy discussions

Proposal to redirect tax credits towards NHI funding as stipulated in the 2017 National Health Insurance White Paper (Department of Health, 2017).

The July 2019 National Health Insurance Bill, Chapter 10, which focuses on financial matters lists the “...reallocation of funding for medical scheme tax credits paid to various medical schemes towards the funding of National Health Insurance” (RSA, 2019: 25).

Current USA discussions on broadening healthcare credits – subsidize medical care in the context of the new normal –Covid environment

Literature review

- Four emerging themes
 - I. Health inequality in general and policy responses
 - widely researched, MTC makes the tax structure more progressive and leads to the desired equality of after tax incomes (studies using illustrative examples) Zee (2005); Smart & Stabile (2003).
 - II. Desirability of NHI and the financing challenges
 - III. Methodology of teasing out tax progressivity
 - IV. How deductions or credits affect income distribution

Administrative panel data set

IDs_panel
IRP5 certificate and
ITR12 returns
anonymized
identification variables



Income panel
taxpayer's total
income and total tax
paid



Income		Source Code
Amount		
*	1100000	316011
*	1500000	316010
*	4800000	317011
*	0150000	317014
*	800000	317113
*	720000	318012
*	070000	318215
*	240000	318110

Source_code_panel all the
source of income for each
taxpayer

Employment_panel
taxpayer's certificates,
lump sum incomes and
other variables used to
determine PAYE



Reference: Ebrahim and Axelson (2019)

METHODOLOGY

- THREE APPROACHES FOLLOWED
- 1. Gini Based Decomposition Analysis (Descogini command)
- 2. Tracing redistributive Effects of tax credits (Following Humbelin and Farys (2017))
- 3. The use of hypothetical data

Methodology.....1(a)

❖ **Descriptive Analysis based on income categories as defined by SARS in the annual Tax Statistics Reports**

- Variables of interest
 - ITR12_MTC from 2013 to 2018
 - ITR12_MTC_expenses from 2015 to 2018 (Additional Medical Tax Credit – AMTC)
 - Tax liability
 - Taxable income

Methodology.....1(b)

Capped MTC depends on

- Duration of medical scheme membership: not available in the database
- Number of dependants: we use a back calculation method to establish the number of dependents for each tax payer
- In each income category there are variations: we calculated a MTC weighted average for ITR12_MTC

AMTC (ITR12_MTC_expenses)

- Qualifying but not claimed, not on tax certificate (4034)
- Physical impairment (4022)
- Disability (4023)
- ITR12_MTC_expenses is an aggregate of these categories
- Not possible to do a disaggregated analysis of the impact of AMTC stemming from physical impairment and disability

Methodology continued(2a)

❖ Gini based decomposition analysis

- Use of descogini (López-Feldman (2006: 107)) to tease out the marginal effects of the two source incomes MTC and AMTC

$$G = \sum_{k=1}^K S_k G_k R_k$$

- S_k is the share of source k in total income
- G_k is the source Gini corresponding to the distribution of income from source k
- R_k is the Gini correlation of income from source k with the distribution of total income

Methodology continued.....(2b)

❖ Tracing redistributive effects of tax credits

- Following Humbelin and Farys (2017)
- Perform a Gini-based decomposition analysis to trace redistributive effects of tax credits.
 - *Step 1: What is the distribution that would result if no deductions/credits were issued?*
 - *Step 2: Distribution after deductions/credits*
 - *Step 3: Calculation of differences in Gini coefficients.*
 - *Step 4: Reynolds and Smolensky (1977) net redistribution*
 - *Step 5: Kakwani (1977) progressivity index*
 - *Step 6: Vertical equity*
 - *Step 7: Re-ranking*
- *The Stata Ado command “Progress” executes these 7 steps*

Methodology continued.....(2c)

Reynolds-Smolensky (RS)

- Difference of Gini coefficients of pre-tax incomes (G_x) and post-tax incomes (G_{x-t})

$$RS = G_x - G_{x-t}$$

Kakwani progressivity index (K) and the horizontal re-ranking (RR)

- Further decomposition of RS into two components
- Kakwani index of progressivity (K) and horizontal re-ranking effect (RR)

$$RS_i = G_x - G_{x-t_i} = K_i * \frac{t_i}{1-t_i} - RR_i$$

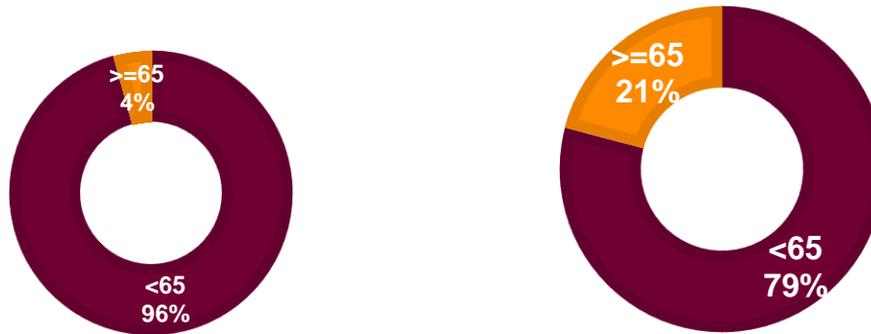
Methodology continued(3)

- ❖ Average tax saving (ATS) per taxable income group is calculated using the mid-level effective tax rate (ETR)
 - From 2013 to 2014: $ATS = MTC$
 - From 2015 to 2018: $ATS = MTC + AMTC$
- ❖ Had the deductions system prevailed, what would be the distributional effect?
 - How is the average tax rate paid by each taxable income category affected?
 - Marginal tax rate * average (deduction)
 - We use MTC as a proxy for deductions beyond 2012)
 - Use code 3810 – assumption that employer's contribution is 50 per cent of the total medical aid contribution

Descriptive statistics

Percentage of ITR12_MTC and AMTC claims by age

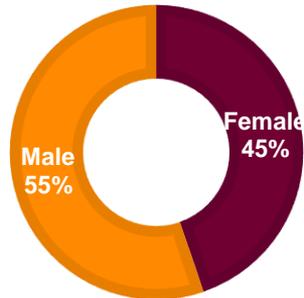
ITR12_MTC 2013 TO 2018 BY AGE AMTC 2015 TO 2018 BY AGE



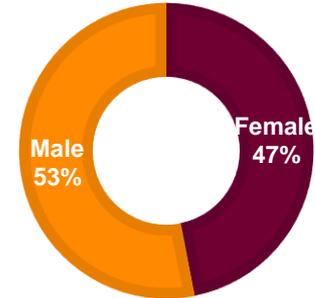
- 96% of the taxpayers who claim MTC through ITR12 are below 65 years
- We have more taxpayers (17% more) older than 65 years (21%) who claim AMTC

Percentage of ITR12_MTC and AMTC claims by gender

**ITR12_MTC 2014 TO 2018
CLAIMS BY GENDER**

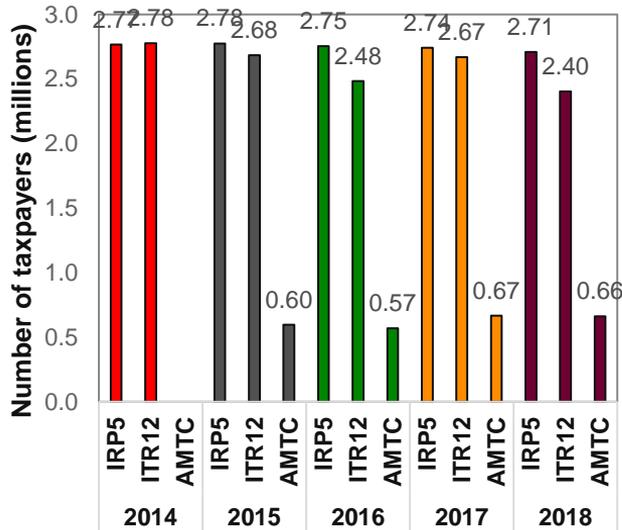


**AMTC 2015 TO 2018
CLAIMS BY GENDER**

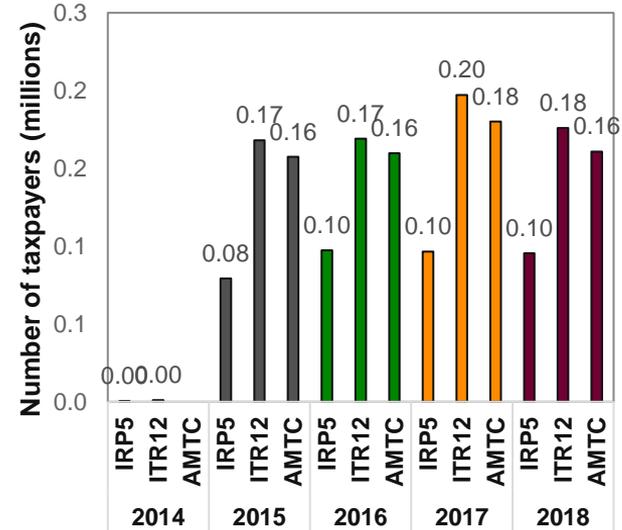


Number of taxpayers who claim MTC and AMTC by age

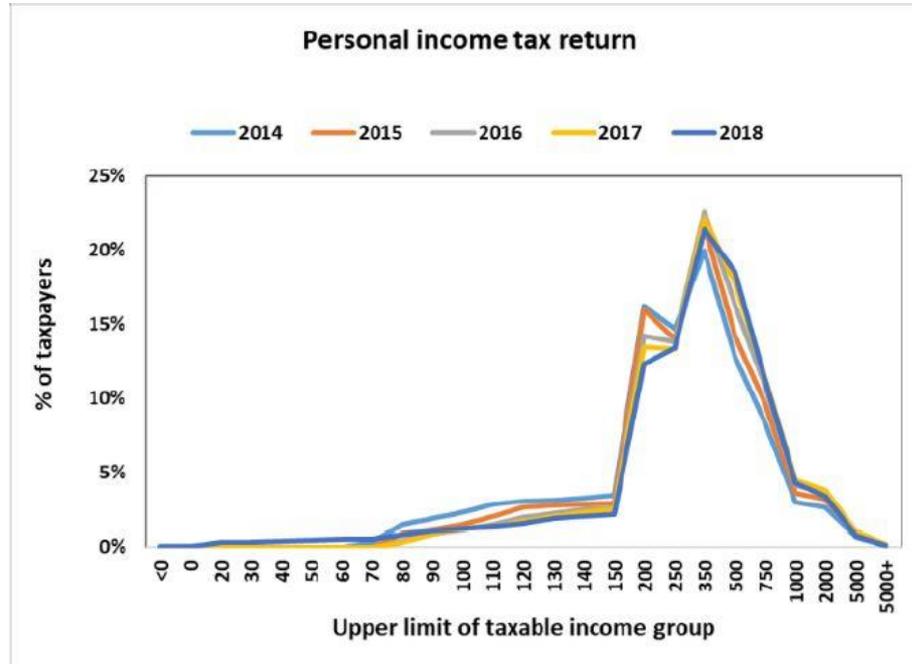
Number of taxpayers <65 years who claim MTC and AMTC



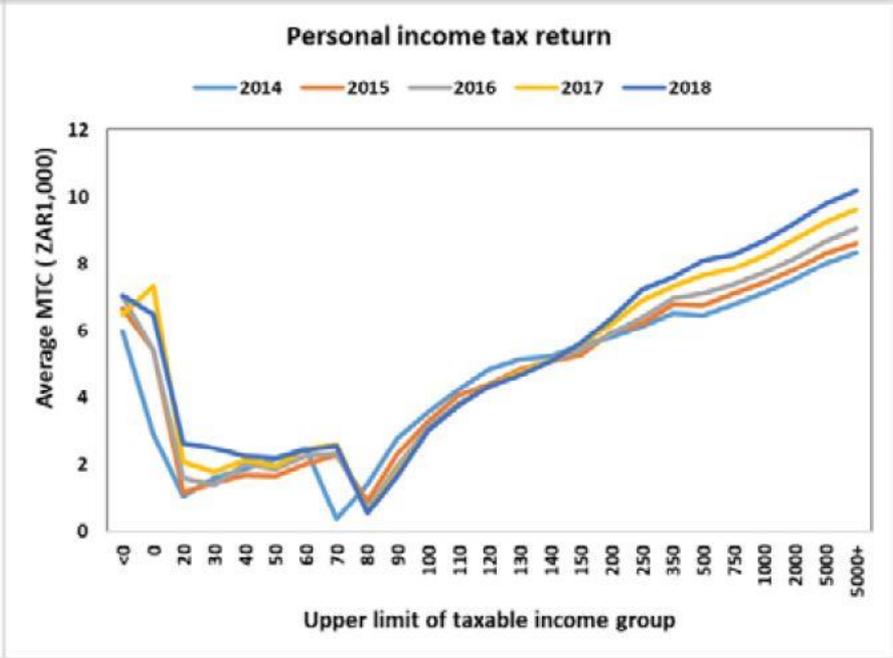
Number of taxpayers >=65 years who claim MTC and AMTC



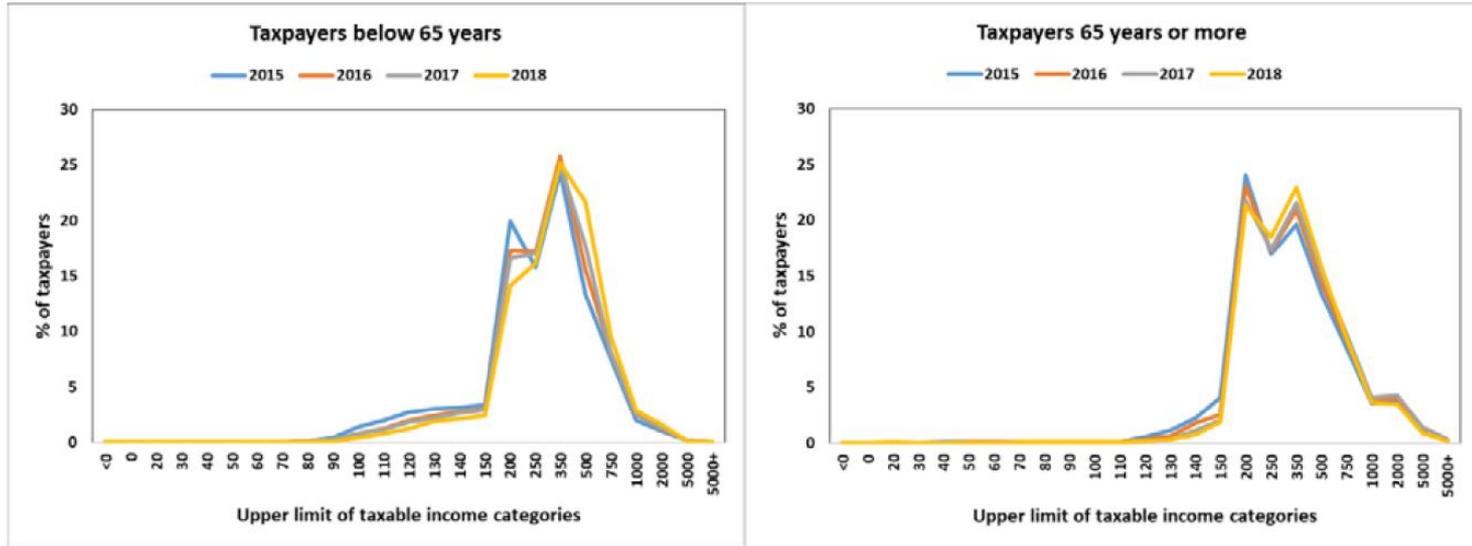
Percentage of taxpayers with capped medical tax credit greater than zero per taxable income group



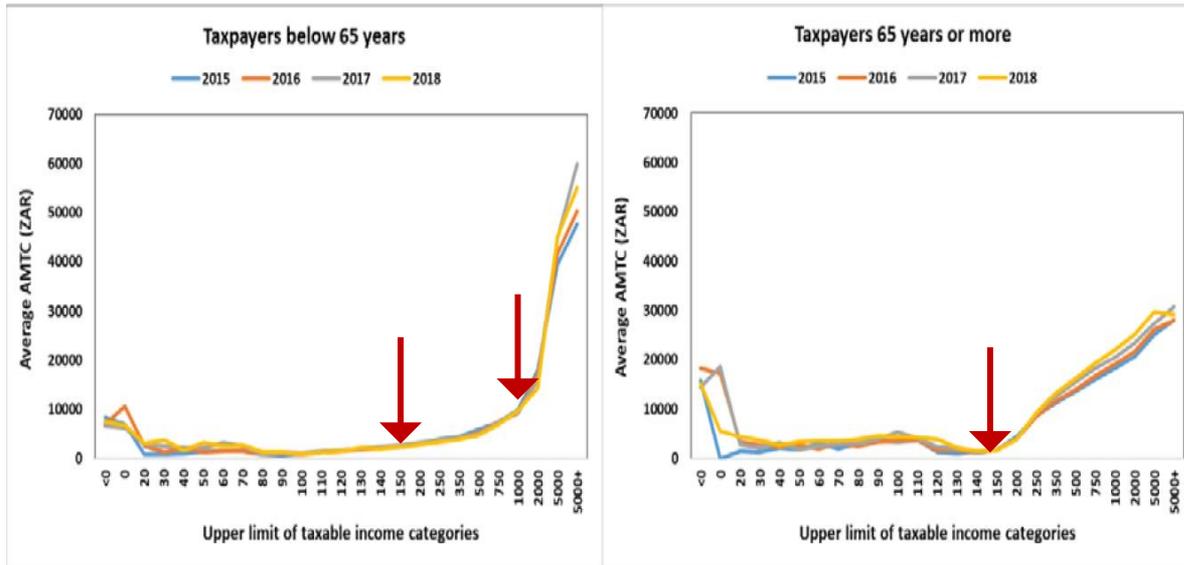
Average capped medical tax credit by taxable income group



Percentage of taxpayers with AMTC >0 per taxable income group



Average AMTC per return by income group





RESULTS

GINI decomposition by income source

YEAR	Source	S_k	G_k	R_k	Share	% change
2015	MTC	0.015	0.5966	0.5753	0.0117	-0.0032
	AMTC	0.0033	0.9416	0.5174	0.0036	0.0004
2016	MTC	0.0149	0.5838	0.558	0.0115	-0.0034
	AMTC	0.0033	0.9385	0.4959	0.0036	0.0003
2017	MTC	0.015	0.5965	0.5727	0.0119	-0.0031
	AMTC	0.0036	0.9344	0.487	0.0038	0.0002
2018	MTC	0.016	0.5668	0.5403	0.0124	-0.0036
	AMTC	0.0038	0.9232	0.4448	0.0039	0.0001

Tracing redistributive effects of tax rates and tax credits

	Measures	2015	2016	2017	2018
1	Reynolds–Smolensky net redistributive effect	0.0330	0.0347	0.0332	0.0372
2	Kakwani progressivity index	0.2001	0.1978	0.1904	0.1989
3	Suits progressivity index	0.2394	0.2325	0.2248	0.2357

Tax-saving credit system versus deduction system using hypothetical data

We use hypothetical data (rooted to current MTC information)

Infer distributional effects that would have prevailed had the deductions system prevailed

Medical aid contributions are estimated using medical aid contributions paid on behalf of an employee (source code 3810 in the database)

We assumed that the employer's contribution is 50 per cent (upper limit) of the total medical aid contribution.

Average tax relief as a percentage of taxable income

- As a percentage of taxable income, tax relief from MTC generally decreases as taxable income increases in both systems
- Policy shift allowed lower taxable income groups to capturing significant tax relief relative to taxable income.
 - E.g. taxpayers with taxable income less than ZAR20,000 under the credit system have tax relief more than tax liability. Hence their tax liability is reduced to zero.

Conclusions

The evidence shows that the medical tax credit system is more equalizing than the deduction system – as expected.

In theory, the capped medical tax credit increases the progressive nature of the tax system; lower-incomes should capture the largest tax benefits as a share of taxable income

In practice, low-income earners are not as likely to subscribe to medical aid schemes. The few that do subscribe insure an average of two dependents which reduces the relative size and progressivity of the tax credit (MTC)

High-income earners tend to benefit more from medical tax expenditure claims (AMTC)

Policy Implications

High-income earners benefit more from MTC
(CMTC + AMTC)

To address this

- Reforming the AMTC
- Ensuring that capped MTC continues to be inflation-adjusted in the future may address the inequality gap associated with the system.
- the proposed Risk Equalization fund
 - ✓ would expand the scope to allow for extending the tax credit benefit to those who fall below the tax threshold
 - ✓ those who qualify for credits that exceed their tax liability could therefore be entitled to refunds

Further Research

- Analysis of the structure of AMTC as well as the verification of eligibility/qualifying medical expenses.
- Work in Progress – Use of Hypothetical Data to further understand AMTC
- Desirable - Given Further Access to the Administrative Tax Data – Further Interrogation of the structure of AMTC and the verification processes.

Working Paper Available and Comments are Welcome

- [WIDER Working Paper 2020/30-Shifting from deductions to credits: unpacking the distributional effects of medical expenditure considerations in South Africa \(unu.edu\)](#)



WIDER Working Paper 2020/30

Shifting from deductions to credits

Unpacking the distributional effects of medical expenditure considerations in South Africa

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Thank You

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