INSTITUTE FOR ECONOMIC JUSTICE
RESEARCH POLICY ADVOCACY

SOCIAL PROTECTION WORKING PAPER - OCTOBER 2026

THE MULTIPLIER EFFECT OF SOCIAL PROTECTION IN SOUTH AFRICA

By Siyanda Baduza, Kelle Howson, and Hamadziripi Tamukamoyo

Table of contents

Abstract....3
Acknowledgements and disclaimer....3
Lists of figures and tables....4
1. Introduction....5
2. Background....6
2.1. Approaches to estimating social protection multipliers....6
2.2. The fiscal multiplier literature in South Africa....10
2.3. South Africa's social protection framework....11
2.4. Multipliers and fiscal policy....13
3. Methodology....14
3.1. Structural vector autoregression (SVAR) identification....14
3.2. Data....17
3.2.1. Data sources....17
3.2.2. Series classifications and the 2006 social spending structural break....17
3.2.3. Component disaggregation....18
3.2.4. Stationarity....20
3.2.5. Lag selection and autocorrelation....20
4. Results....21
4.1. Social benefits general multiplier....21
4.1.1. Investment and consumption channels....22
4.1.2. Revenue....24
4.2. Social grant multipliers....25
4.2.1. Social grants: consumption and investment....27
4.2.2. Social grants: tax revenue response....29
4.3. Individual grants....30
4.3.1. Estimating the impact of the SRD grant: a pre-2020 comparison....32
4.4. Social security funds....34
4.5. General government expenditure multiplier....35
5. Discussion: interpreting the results and their implications for social protection policy in South Africa....37
6. Conclusion....40
References....42
Appendix....49
Appendix A: Detailed discussion of the methodology....49
Appendix B: Unit Root Testing....57
Appendix C: Lag Selection....58

Abstract

While cash transfers are increasingly being utilised as a social protection lever to address poverty in many countries, opponents often claim that they are fiscally unsustainable in resource-constrained contexts. This paper intervenes in this debate by examining the macroeconomic effects of exogenous shocks to spending on social protection in South Africa over the past two decades, using the structural vector autoregression method. Using public aggregate and budget data, we model the immediate and cumulative fiscal multiplier of existing cash transfers in South Africa, looking at overall social protection spending, and individual social benefits, and comparing this to the multiplier effect of overall government spending. We find a cumulative social protection multiplier of 4.25, driven largely by household consumption, but with no evidence of a private investment crowding-out effect. We also find a cumulative multiplier of 5.53 for direct social assistance, and that direct social assistance has a tax revenue multiplier of 2.99. In other words, each rand spent on additional social assistance in South Africa creates R5.53 of economic activity, and R2.99 in tax revenue. Relative to a general government expenditure cumulative multiplier of 0.18, these findings suggest that social protection spending is a powerful macroeconomic stimulus. This refutes the argument that spending on social protection is fiscally unsustainable.

Acknowledgements and disclaimer

This is based on a working paper draft of a chapter accepted for an upcoming publication, which will undergo further peer review. We are grateful to Dr Orsola Costantini for her initial review and feedback, as well as to Daniel Munevar and Dr Adam Aboobaker for their comments.

Replication and Code Availability:

The Stata do-file for the analysis, along with detailed information about the public data sources, can be accessed on GitHub at: https://github.com/SRDExclusions/Multipliers. We invite researchers to test the robustness of our findings.

Corresponding Author: Siyanda Baduza (Email: siyanda.baduza@iej.org.za)

Lists of figures and tables

Figure 1: Real social benefits spending by the level of government since 1990..... 19
Figure 2: Real SRD grant spending since 2025..... 20
Figure 3: Cumulative IRF showing the response of output to a shock in social benefits.....22
Figure 4: Cumulative IRF showing the response of investment to a shock in social benefits..... 24
Figure 5: Cumulative IRF showing the response of consumption to a shock in social benefits.. 24
Figure 6: Cumulative IRF showing the response of revenue to a shock in social benefits.....26
Figure 7: Cumulative IRF showing the response of output to a shock in social grants..... 28
Figure 8: Cumulative IRF showing the response of consumption to a shock in social grants.....30
Figure 9: Cumulative IRF showing the response of investment to a shock in social grants.....31
Figure 10: Cumulative IRF showing the response of revenue to a shock in social grants..... 32
Figure 11: Cumulative IRF showing the response of output to a shock in the OPG.....33
Figure 12: Cumulative IRF showing the response of output to a shock in the DG..... 33
Figure 13: Cumulative IRF showing the response of output to a shock in the CSG.....34
Figure 14: Cumulative IRF showing the response of output to a shock in social grants (pre-2020).....35
Figure 15: Cumulative IRF showing the response of output to a shock in social security fund benefits..... 37
Figure 16: Cumulative IRFs showing the response of output to a shock in government expenditure.....39

Table 1: Social benefits multipliers.....23
Table 2: Rand-for-rand multipliers for components of GDP multipliers from a social benefits shock..... 24
Table 3: Rand-for-rand multipliers for tax revenue from a social benefits shock..... 26
Table 4: Rand-for-rand multipliers for output from a social grants shock.....27
Table 5: Rand-for-rand multipliers for components of GDP from a social grants shock..... 28
Table 6: Rand-for-rand multipliers for tax revenue from a social grants shock.....31
Table 7: Rand-for-rand multipliers for output from individual grant shocks.....33
Table 8: Rand-for-rand multipliers for output from a social grant shock (pre-2020 sample)..... 35
Table 9: Rand-for-rand multipliers for output from a social security fund shock..... 36
Table 10: Rand-for-rand multipliers for output from various government expenditure measures.....37

1. Introduction

Cash transfers are increasingly central to poverty alleviation strategies in low- and middle-income countries. Opponents of cash transfers have advanced a range of arguments including that, where they are non-contributory, large-scale cash transfers are fiscally unsustainable particularly in resource-constrained contexts; that they lead to dependency; and that they disincentivise recipients from participating in the labour market. Much of this is underpinned by assumptions about the drivers of poverty, rather than empirical evidence. A substantial literature has now emerged to challenge such assumptions. Evidence from around the world, largely based on micro-scale case studies, indicates that cash transfers can stimulate consumption, increase households' resilience to shocks, and make a positive contribution to labour market participation (for example Baird et al., 2018; Bhorat and Köhler, 2025; Egger et al., 2022; Gerard et al., 2021).

This has led to speculation that cash transfers and social protection spending more broadly may have a multiplier effect in some contexts — generating value in the economy over and above what is spent directly on the programme. This article tests this hypothesis in South Africa, a high-inequality, high-poverty country. We ask (1) what are the immediate, peak, and cumulative multipliers of overall social protection spending in South Africa? (2) What are the multipliers of components of social protection spending, including social assistance? (3) How do these compare to the multiplier of overall government expenditure? And (4), what are the implications of this for social and fiscal policy aimed at reducing poverty and promoting growth?

Using the gold-standard econometric modelling approach of structural vector autoregression (SVAR), following Blanchard and Perotti (2002), we identify the macroeconomic impact of exogenous shocks to spending on social protection in South Africa over the past two decades. We go further than past work on social protection multipliers (Cardoso, 2026) by constructing a novel, long-term dataset that incorporates social grant spending prior to the centralisation of grant administration at national level. We also go beyond aggregate measures by disaggregating the various components that make up social protection spending, tracing their transmission across components of output, and also by quantifying the multiplier effect that increases in social protection have on tax revenues. We investigate peak and cumulative multipliers for consolidated government spending, overall social protection spending, and spending on specific 'social grants' or cash transfers — in terms of output, investment, consumption, and revenue.

We find that social protection spending has a substantial multiplier effect in South Africa, which is much higher than overall government spending. We find that increases in social protection spending generate a cumulative multiplier of 4.25 after 10 quarters, and that spending on social grants specifically has a cumulative multiplier of 5.53 after 10 quarters. Notably, we also find that an expansion in social protection spending generates a cumulative *tax* multiplier of 2.56, indicating that expansions in social protection have returned more revenue to the fiscus than their initial costs, as a result of boosted economic activity and consumption. These findings put

South Africa at the higher end of global estimates of social protection multipliers (Cardoso et al., 2025). This makes sense given the country's high levels of poverty and inequality. Transfers to the lowest income deciles in this context significantly increase consumption and aggregate demand due to their likelihood to spend a greater proportion of their income, or their marginal propensity to consume (MPC).

These findings should be of interest to policymakers who are concerned with the dual imperatives of poverty reduction and fiscal sustainability. They indicate that, contrary to widespread belief, they need not be a trade-off. Direct poverty alleviation via cash transfers generates a macroeconomic return on investment and is likely to improve the country's fiscal position over time. The next section provides a background to this work and reviews the emerging, limited literature on social protection multipliers. Subsequent sections explain the methodology, discuss the findings, and note the implications of these for those working at the intersection of fiscal and social policy in South Africa. We then conclude with some reflections and potential future trajectories of this work.

2. Background

2.1. Approaches to estimating social protection multipliers

Economists generally employ four broad approaches to estimate fiscal multipliers: model simulations, narrative event studies, vector autoregressions (VARs), and econometric studies of fiscal shocks (Spilimbergo et al., 2009). Each involves trade-offs between realistic assumptions, the treatment of causality, and data requirements. Among these, the SVAR approach, originally popularised in the study of monetary shocks, has emerged as the standard in fiscal multiplier analysis (Blanchard and Perotti, 2002; Şen and Kaya, 2020).

Studies employing the SVAR method largely follow Blanchard and Perotti's (BP) identification strategy (2002), which addresses a fundamental challenge of separating exogenous/discretionary fiscal policy shocks from endogenous movements (based on the work of former IMF Chief Economist Olivier Blanchard and Professor of Economics Roberto Perotti). Their key innovation was leveraging institutional knowledge of fiscal policymaking to isolate genuine discretionary policy changes from automatic stabiliser effects. Applying this to postwar United States data, Blanchard and Perotti (2002) found Keynesian effects: positive output responses from spending shocks and negative output responses from tax shocks. Disaggregating further, they observed that private consumption rises following a spending increase — contradicting neoclassical theory, which predicts a consumption drop due to anticipated future taxes, known as the Ricardian equivalence (Beetsma and Giuliodori, 2011; Blanchard and Perotti, 2002). Private investment, however, fell sharply, aligning more closely with the neoclassical prediction of a crowding-out effect (Blanchard and Perotti, 2002).

While direct methodological comparisons within single studies are rare, there is some evidence that suggests that SVARs hold significant empirical advantages over other approaches, especially model simulations, such as computable general equilibrium (CGE) and dynamic

stochastic general equilibrium (DSGE) models. These simulation models are often criticised for relying on numerous, sometimes untested, assumptions. As Şen and Kaya (2020) note, DSGE models frequently “suffer from several unrealistic assumptions which do not match with the realities of the world”. Furthermore, Fatás and Mihov (2001) contrast fiscal multipliers derived from empirical VARs with those produced by general equilibrium (GE) models. They show that while empirical data often yield expansionary multipliers (usually greater than one for government spending, driven mainly by private consumption increases), GE models mechanically force private consumption to fall. They conclude that standard GE models fail to produce Keynesian effects because they assume the Ricardian equivalence holds, fundamentally restricting their real-world applicability (Fatás and Mihov, 2001).

Another popular alternative is the narrative approach, pioneered by Romer and Romer (2016), which assesses historical policy documents to hand-code discretionary fiscal changes. This method has yielded results comparable to SVARs; for instance, Carrière-Swallow et al. (2021) find a spending cut multiplier of -0.9 during fiscal consolidations in Latin America and the Caribbean, matching VAR estimates. This approach has also been successfully applied by Alesina et al. (2017), using a narrative dataset across 17 OECD countries, as well as by Gechert et al. (2021). However, the method has received criticism for being more vulnerable to researcher bias because it requires the manual classification of policy changes (Spilimbergo et al., 2009). Additionally, its reliance on extensive historical documentation can often result in smaller samples and shorter time series, which severely limits its precision and applicability, especially in developing countries where policy documentation is often sparse (Carrière-Swallow et al., 2021).

Literature adopting the BP method consistently demonstrates that aggregate government spending yields positive fiscal multipliers. These expansionary effects are driven mainly by increases in private consumption, while the impact on private investment is typically negligible. Empirical applications across various regions underscore this consensus: Reeves et al. (2013) calculates an average spending multiplier of 1.61 for a panel of European countries, Hamer-Adams and Wong (2018) estimate a comparable multiplier of 0.82 for New Zealand, and Restrepo (2020) finds a range between 0.53 and 1.89 across a panel of Latin American economies.

Despite this general consensus, panel studies often reveal some heterogeneity in the magnitude of these effects. The literature widely acknowledges that fiscal multipliers are ‘state-dependent’ and vary significantly over time (Dufrénot et al., 2016; Montes-Galdón, 2013, 2013). Cyclical factors play a major role; multipliers tend to be stronger during economic downturns, or when economies have output gaps and excess capacity (Gechert and Rannenberg, 2018; International Monetary Fund, Western Hemisphere Dept., 2015). Beyond the business cycle, structural characteristics also play a role. For example, Beetsma and Giuliodori (2011) highlight that more open economies tend to experience smaller multipliers due to import leakages, while existing debt levels and the available capital stock also constrain or amplify the ultimate impact on output (Izquierdo et al., 2019).

A central critique of early Blanchard-Perotti applications centres on their treatment of fiscal aggregates, specifically with how they define revenue as taxes net of transfers (Cardoso et al., 2025). By subtracting transfers from total revenue, these early frameworks effectively reduced government expenditure to just non-transfer spending, excluding components such as social benefits and subsidies. Critics argue that this approach masks substantial heterogeneity across spending instruments, ignoring theoretical differences in how various agents could absorb spending shocks, for example through varying MPCs. In response, a growing literature now disaggregates spending and revenue into specific components. For example, Hollmayr and Kuckuck (2018) disaggregate German fiscal data across spending types and government levels, finding that shocks to social benefits and government consumption yield multipliers significantly larger than government investment (4.4 and 5.7, respectively, compared to 1.4 for investment). Similarly, Reeves et al. (2013) demonstrate extreme sectoral variation in European panel data, where defence spending produces large negative multipliers (-8.9) while health, education, and social protection generate large positive responses (5.2, 3.2, and 4.1, respectively).

The disaggregated literature broadly indicates that spending is more easily absorbed by low-income households and generates larger multipliers than broad tax cuts or social contribution reductions. As Wemans and Pereira (2013) observe, increases in social benefits often outperform cuts to social contributions because benefits target poorer individuals with a higher MPC, whereas social contribution cuts affect households more integrated into formal labor markets. There is also evidence that even within social spending there is heterogeneity — with spending on unemployment benefits, for example, generating higher multipliers than social pensions (Gechert et al., 2021; Tuladhar and Bruckner, 2010a). This is often attributed to pension holders being more liquidity constrained. On the tax side, direct taxes (for example, VAT) generally produce larger negative multipliers than indirect taxes (for example, personal income taxes), as indirect taxation often impacts a wealthier base with more inelastic consumption patterns (Bova and Klyviene, 2020). More broadly, it is generally found that spending increases generally outperform tax cuts as a stimulus tool (Alesina et al., 2017; Bova and Klyviene, 2020; Gechert and Rannenberg, 2018; Şen and Kaya, 2020).

However, there is still debate on whether public consumption or investment is the more effective spending instrument. The relative strength of these components seems to be highly context-dependent. Public wage expenditure, for instance, can yield strong consumption multipliers if it boosts immediate household demand (Deleidi et al., 2020; Konstantinou and Partheniou, 2021; Silva et al., 2013), but it may also suppress output if public wage growth drives up broader economy-wide labour costs and squeezes private profit margins (Pereira and Roca-Sagalés, 2011). Similarly, public investment multipliers vary depending on implementation: investment structured through transfers to corporations or public-private partnerships (PPPs) often exhibits lower absorption and weaker overall multipliers than direct public capital formation (Bova and Klyviene, 2020; Tuladhar and Bruckner, 2010b).

The shift toward disaggregate analysis has paved the way for a dedicated literature on social protection macroeconomic effects that now exists alongside a growing field of more micro cash transfer multiplier evaluations. In the micro field, Gassmann et al. (2023) observe that there is still no unified methodological consensus. Despite this, results point to multipliers being generally high for cash transfer programmes (Gassmann et al., 2023). These large social protection multipliers are primarily driven by targeted distributions to credit-constrained or 'hand-to-mouth' households, although often with high rates of exclusion (Gassmann et al., 2023). Because low-income recipients face immediate liquidity constraints, they exhibit high MPCs, rapidly circulating transfers back into the local economy (Gassmann et al., 2023).

While micro-level trials and field experiments face natural limitations when generalising to national macroeconomic policy, they provide valuable empirical clarity on the transmission channels of multipliers. An example is Egger et al. (2022) who analyse a large-scale basic income pilot in rural Kenya covering over 10,000 low-income households. By administering universal transfers within specific treatment villages with all individuals in households receiving cash, the authors were able to measure local multiplier effects across specific villages that tend to be relatively closed off. They estimate an average local multiplier of approximately 2.5. They find that this was driven not only by direct spending from recipients, but also by positive spillovers to non-recipient households, whose consumption increased alongside rising local business revenues. Furthermore, because local firms had excess stock, the surge in demand was absorbed by existing slack capital, stimulating output with minimal inflationary pressures (Egger et al., 2022). This result mirrors the result often found in macro studies, of minimal impacts on private investment.

At the macroeconomic level, structural VAR and narrative approaches provide robust, long-run evidence confirming that social protection spending yields sizable expansionary effects across entire economies. Using a narrative approach across four decades of United States fiscal history, Romer and Romer (2016) demonstrate that permanent increases in social security benefits significantly boost private consumption — by as much as one-for-one within the first month of cash payments — whereas temporary benefit changes have no effect. This result is also echoed in European and broader OECD contexts. Gechert et al. (2021) applies a narrative dataset to German social security reforms (1970–2018), finding a persistent benefit multiplier of 1.1. Expanding to multi-country panels, Furceri and Zdzienicka (2012) evaluate OECD economies from 1980 to 2005, finding an average social spending multiplier of approximately 0.6. Investigating social protection in Brazil via an SVAR framework, Sanches and Carvalho (2023) document substantial multipliers, estimating an immediate impact multiplier of 0.77 and a cumulative multiplier of 4.5. Importantly, their findings demonstrate state dependence: when excluding major crisis periods from their sample, the cumulative multiplier drops to 3.1, confirming that social transfers exert even stronger macroeconomic effects during downturns. Furthermore, by disaggregating GDP components, Sanches and Carvalho (2023) show that while social protection positively impacts both investment and household consumption, the expansionary effect is overwhelmingly driven by increases to household consumption.

The most comprehensive cross-country application of the BP method to social protection is provided by Cardoso et al. (2025), who analyse 42 countries over the period 1985–2020. They find consistently positive GDP multipliers across both immediate and long-run horizons, reporting a sample-wide average impact multiplier of 0.53 and an average cumulative multiplier (evaluated over 8 to 12 quarters) of 1.84 — reaching as high as 7.4 in Mexico. In a direct comparative subanalysis of 28 European countries in their sample, they find that the cumulative multiplier on social spending significantly exceeds that of broad government expenditure in nearly every instance. Furthermore, cross-sectional analysis of their multiplier estimates reveals that the largest multiplier effects occur in countries characterised by lower baseline social spending-to-GDP ratios and higher income inequality.

2.2. The fiscal multiplier literature in South Africa

Some authors have undertaken multiplier studies in South Africa. Studies employing different modelling methodologies have found fiscal multipliers to be relatively low, and generally less than 1 in South Africa, though there is a large diversity of methodologies and estimates (for example Jooste et al., 2013; Kemp, 2020; Makrelov et al., 2018; Ntshangase and Ngozo, 2024; Nuru and Gereziher, 2025). Many studies have indicated that the fiscal multiplier is state-dependent or time-varying (Schröder and Storm, 2020), with most finding it is higher in times of recession, and can become negative in times of expansion (Kemp, 2020; Merrino, 2021), although Sanusi and Dickason-Koekemoer (2025) find the opposite, that the multiplier is larger during high-growth periods (though still very small, at 0.051). Most studies estimating fiscal multipliers in South Africa have focused largely on total government expenditure (in some cases excluding direct transfers such as social grants) and total tax revenue. It is generally agreed that fiscal multipliers have deteriorated over several decades (Burrows and Botha, 2013), with the deterioration accelerating since the period of fiscal consolidation from around 2014 (Janse van Rensburg et al., 2022), as the composition of public expenditure has shifted towards debt servicing and the public sector wage bill and away from investment in health, education, and social protection. This is consistent with the International Monetary Fund's (2016) observation that especially in low and middle-income countries, wage bill spending can crowd out other areas of spending which have a higher impact on economic growth, like basic services and social protection.

However, few studies have decomposed the fiscal multiplier in South Africa. There is a pressing need to do so. The view that public investment has a higher multiplier than public consumption is supported by some empirical research locally and internationally, particularly in developing countries (Izquierdo et al., 2019; Kemp and Hollander, 2020). However, very few researchers have disaggregated the components of public expenditure to isolate the specific multipliers of spending on fixed capital investments, services, social protection, etc. In the South African context, this constitutes a significant gap in the literature with real-world policy ramifications. Given the country's demand constraints and spare productive capacity, there should theoretically be considerable space for non-inflationary fiscal stimulus, concentrated on types of spending that boost aggregate demand and productivity (SPII, 2021). Social assistance, or direct cash transfers, in particular, hold high potential to resolve demand constraints and boost

economic activity. There are some indications in the literature that social protection has a higher multiplier than other components of expenditure. Mbaleki (2024) finds, using an autoregressive distributed lag (ARDL) model, that a 1% increase in social protection spending produces a 0.24% increase in economic growth in the long-run, the highest multiplier of all expenditure components assessed.

Only two studies have explicitly investigated the multipliers from social protection spending in South Africa. The first — Tiberti et al. (2018), using a recursive microsimulation CGE model, finds that a 20% real spending increase in the Child Support Grant (CSG) leads to a 0.26%-0.28% increase in real GDP. While Tiberti et al. (2018) do not convert these percentages into a standard multiplier, performing a simple conversion — that is, dividing the resulting elasticity by the ratio of CSG spending to GDP — yields a multiplier of 1.6, which is larger than CGE estimates of broad spending multipliers. We build on this study by employing the SVAR method and considering the entire social protection system, rather than a single grant. The second study, by amandla.mobi (2026) with a technical addendum by Cardoso, applies an SVAR model to data from 2007 to 2022. This study is limited because it only uses data from after social grant administration was centralised at the national level, but it still finds a social protection multiplier of 1.8. We go beyond this paper by extending the sample across a longer timeframe, and also by moving beyond the aggregate measures to isolate transmission channels, and disaggregate the distinct components of social spending.

2.3. South Africa's social protection framework

South Africa's social protection system is generally considered to be quite expansive, particularly when compared to low- and middle-income countries, and the African continent. However, the more apt comparison is with upper-middle income countries (UMICs), which South Africa numbers among. Despite being relatively wealthy at a national level, South Africa is an extreme outlier amongst UMICs in terms of its poverty rate. At a threshold of US$2.15 per day, as measured by the World Bank, over 20% of the South African population lives in extreme poverty, compared to an UMIC average of under 3%.[1] However, despite its outsized poverty headcount ratio, South Africa spends less on social protection than peers — at 5.4% of GDP, compared to a UMIC average of 8.5% (International Labour Organization, 2023). 63% of South Africa's population is covered by some kind of social security programme (including contributory social insurance), compared to an UMIC average of 71% (International Labour Organization, 2023).

In the democratic era, post-1994, South Africa has significantly expanded its social protection system, but critical gaps remain. The social safety net consists of means-tested non-contributory benefits (cash transfers), including the Child Support Grant (CSG), the Older Persons' Grant (OPG), the Disability Grant (DG), the Foster Child Grant (FCG), and the Care Dependency Grant (CDG), as well as contributory benefits such as unemployment insurance, and road accident cover. Since 2020, a cash transfer to low-income working age adults, the (Covid-19)

[1] Excluding Turkmenistan, for which recent data is not available.

Social Relief of Distress (SRD) grant, has also been in place, means-tested initially at the food poverty line (FPL), with the means-test later falling significantly below the FPL. Amidst a structural unemployment crisis, whereby 43.7% of the potential labour force is not employed (StatsSA, 2026), the SRD reaches approximately half of all adults in food poverty, and provides R370 per month (equivalent to less than half the value of the FPL). The CSG is also set at a value below the FPL. All other social grants are set at values above the upper-bound poverty line (UBPL). Thus there are significant gaps in the social protection floor, in terms of both coverage and adequacy, which predominantly impact children, their caregivers, and unemployed adults.

The future of the SRD grant has been the subject of intense debate. The government has repeatedly characterised the transfer as 'temporary', and National Treasury has allocated funding for it only in one-year increments (Damons, 2026a; Tembo, 2026). The Minister of Finance and the National Treasury have been the principal opponents of increasing coverage or adequacy of the SRD grant, claiming that doing so is 'unaffordable' (Damons, 2026b). Minister of Finance Godongwana has mooted on several occasions that the SRD should be replaced by a 'jobseekers' allowance' which would require holders to continually prove their jobseeking activities, and (inevitably, due to added administrative complexity and contextual inappropriateness) be accessed by significantly fewer people (Godongwana, 2026). The transition of the SRD into a jobseekers' allowance has also been the position of the World Bank. The Bank estimated in 2021 that a jobseekers' allowance would reach 3.9 million people (whereas the current SRD grant reaches approximately 8 million) (World Bank, 2021).The National Treasury is also overseeing reductions in spending on all other social grants, as part of its 'targeted and responsible savings' (TARS) initiative. This has involved the use of automated surveillance of public, credit, and bank data to flag potentially ineligible grant holders for 'review', and to cancel the grants of those who do not come forward for review, and (a much smaller number) who do come forward and are confirmed to be ineligible. National Treasury is targeting a R3 billion reduction in spending on social grants over two years through this programme (National Treasury, 2026).

At the heart of this crackdown on the SRD grant and broader social assistance is the National Treasury's rigid interpretation of affordability. This stance is best exemplified by their defence in recent litigation regarding the SRD grant, where the applicants argue that certain aspects of the grant's regulations such as online-only applications and inaccurate income verification, which research finds lead to high rates of erroneous exclusion (Howson et al., 2025), act as deliberate barriers that unfairly exclude millions to keep grant numbers below a low, arbitrary budget cap (Institute for Economic Justice and #PayTheGrants, 2023). In its answering affidavit, Treasury defends these exclusionary measures as fiscally necessary, arguing that the reality whereby over 43% of the population receives some form of a grant is "simply unsustainable" (Minister of Finance, 2023). Crucially, their defence explicitly pits social protection against economic growth. It characterises grants merely as a 'stop-gap measure' rather than a tool that can sustainably support livelihoods, arguing that further investments in social protection are counterproductive compared to investing in job creation (Minister of Finance, 2023). They also directly oppose the

Department of Social Development's long-standing commitment to a universal approach to social protection, insisting on a strategy of linking working-aged populations to employment opportunities instead (Minister of Finance, 2023). Ultimately, this framework assumes a direct, zero-sum trade-off where spending on grants inherently stifles growth and drains fiscal resources, thereby reducing the very revenue needed to fund such assistance. This premise entirely dismisses the potential of social protection to generate macroeconomic expansions. Thus, the debate over expansions of social protection boils down to the question of affordability within the current fiscal framework where affordability tends to be narrowly-conceived — understood simply as a function of current revenue versus spending requirements, in a context of low growth. Often missing from this government approach to the feasibility of social spending, is a more nuanced understanding of the dynamic and interrelated nature of public expenditure, revenue and growth.

2.4. Multipliers and fiscal policy

There is broad consensus in policy spaces that the fiscal multiplier in South Africa is below 1, and this has been invoked in support of the project of fiscal consolidation (Janse van Rensburg et al., 2022; H. Kemp and Hollander, 2020). The thrust of the argument is that public spending in South Africa is not an effective driver of growth, that in light of this, fiscal consolidation will not be particularly costly to the economy, and policy efforts should focus on crowding-in private investment. Some research has challenged this, such as Schröder and Storm (2020), who find an average multiplier of 1.68 using a closed input-output model that captures the current demand-constrained conditions of the South African economy. These authors caution that further fiscal consolidation will be destructive to growth and jobs.

However, in the 2024 Budget Review, the National Treasury invokes the supposed low multiplier to make the case for its focus on structural reforms and private investment. It refers to internal estimates which 'confirm' a low fiscal multiplier, and attribute this to government debt hampering the rate of private investment, because it drives up interest rates (National Treasury, 2024). In making this argument, however, National Treasury acknowledges that the composition of government spending matters for the fiscal multiplier. In particular it identifies spending on capital investment as growth-enhancing, while public consumption, it asserts, increases debt without boosting long-term growth. It concludes: "[t]hese findings support government's focus on the implementation of structural reforms to address the binding constraints to growth and reforms to increase infrastructure investment" (National Treasury, 2024, 28). Structural reforms here refer to increasing private sector participation in water, transport, and electricity.

The fiscal multiplier studies often relied on by the Treasury have received criticisms for being overly reliant on CGE and DSGE models for their derivations (SPII, 2021). These models are critiqued in South Africa for the same reasons as in the international literature: their underlying assumption of binding supply-side constraints is seen as unrealistic given the country's large base of untapped productive capacity (Schröder and Storm, 2020). There is also no explicit mention made of social protection spending or its multipliers.

Ultimately, the intersection of South Africa's political economy and broad macroeconomic literature highlights a tension. While the National Treasury relies on broad, aggregate estimates of a low fiscal multiplier to justify austerity and a lack of expansion of social assistance, emerging disaggregated evidence globally suggests that social protection can act as a powerful demand stimulus. Resolving this debate will require South Africa-specific evidence that can isolate the macroeconomic effects of specific aspects of spending such as social protection. In this study, we aim to fill this gap by applying a SVAR approach to disaggregated fiscal data to determine whether social protection represents an expensive drain on the fiscus or a productive, growth enhancing stimulus.

3. Methodology

3.1. Structural vector autoregression (SVAR) identification

There are many ways to estimate the multiplier effects of a fiscal policy instrument on output. The common challenge that researchers face is the correct identification of discretionary fiscal policy changes. The most common approach in the literature has been to use a SVAR, and contributions have typically relied on the BP SVAR method. This approach isolates structural, or exogenous, fiscal policy shocks by accounting for the endogenous relationship between spending, revenue, and output. In other words, it allows researchers to analyse the causal relationship between a change in a specific component of public expenditure — such as overall government expenditure, public investment, public consumption, social assistance — and changes in government revenue and total output. It allows for causality in both directions — so causation from output to fiscal variables via automatic stabilisers (automatic fiscal responses to GDP changes) and discretionary fiscal policy responses to changes in output — while simultaneously identifying causation from the fiscal variables to output.

In this paper, we begin by estimating a reduced VAR form with endogenous relationships between output (or later, a component of output such as private investment or household consumption), total/gross tax revenues, and government spending (or a specific component of spending, in our case social benefits) (a detailed discussion of the methodology is presented in Appendix A). The VAR models the predictable relationships between the three variables. We then apply BP's (2002) decomposition, which assumes that the residuals from the reduced form VAR decompose into a linear combination of (a.) the automatic responses of the fiscal variable to changes in output, (b.) discretionary responses of fiscal policy to changes in another fiscal policy variable, and (c.) the pure structural shocks in the variable of interest that are uncorrelated and unobservable. To this reduced form VAR, we then apply the identification assumptions made by BP (2002), which are derived from institutional information about fiscal policymaking, informed by empirical observations and economic theory. These assumptions are mainly related to the likelihood that causal effects on a specific variable, stemming from large-scale or unexpected changes in another variable, will take place in the same month or quarter.

We apply the assumptions sequentially. First, we assume that there are no automatic responses from spending to output. While it is a standard approach to maintain this assumption when analysing total government spending, some literature (for example Hamer-Adams and Wong, 2018; Montes-Galdón, 2013; Wemans and Pereira, 2013) argues for the existence of automatic stabilisers when working specifically with social spending. For example, unemployment insurance inherently creates an automatic response of spending to GDP; when GDP falls and unemployment rises, more people claim unemployment benefits, automatically raising spending. This spending then adjusts downwards when GDP recovers and employment rises again. Nevertheless, a common approach in the literature has been to maintain the zero-response assumption while explicitly acknowledging that this might yield lower-bound multiplier estimates (Cardoso et al., 2025; Sanches and Carvalho, 2023).

This limitation holds in our South African context, and so we acknowledge that the multipliers we calculate are possibly underestimated; however, we do not believe this significantly biases our results. There are strong reasons to believe that the unemployment insurance (UIF) scheme does act as an automatic stabiliser—when GDP is low and unemployment is high, UIF claims increase, driving up spending. This is evident, for example, in the sharp rise in social benefits paid out of social security funds during the Covid-19 period. However, social security fund payments (which include UIF, but also the Road Accident Fund (RAF), the Compensation Fund, and the Compensation Commissioner for Occupational Diseases in Mines and Work) account for only 20% of total consolidated general government spending on social benefits.

The social benefits system is overwhelmingly dominated by social assistance, or ‘social grants’. While means-tested grants could theoretically be linked to movements in GDP via unemployment, the majority of South Africa’s longstanding grants are means-tested only upon initial application, with relatively sporadic and random reviews. They are also mainly for non-labour market participants — children, the elderly, and disabled people. Therefore, we can safely assume a weaker structural automatic channel. We therefore maintain the zero-response assumption while acknowledging it yields lower-bound estimates, although likely only marginally.

The second assumption we make is that there is no contemporaneous discretionary response of spending to an unexpected change in tax revenues. In other words, spending is predetermined in relation to taxes. It could also be argued that the reverse is true, that the National Treasury cannot easily change tax policy in the same quarter as an unexpected spending shock. Blanchard and Perotti (2002) note that there is no theoretical basis to prioritise one ordering over another. However, because the correlation between the structural fiscal residuals is typically very small, the choice of ordering has little impact on the resulting multiplier (Blanchard and Perotti, 2002).[2] Finally, we assume that the automatic response of taxes to output can be estimated externally as this is just tax buoyancy, we estimate this constant using the IMF’s method of estimating tax buoyancy (Belinga et al., 2014).

[2] We find that our multiplier results are not sensitive to this decision when we test the alternative ordering.

Applying these assumptions to our system of reduced form residuals allows us to extract the structural shocks, that is, isolate the movements in each of our main variables that are not related to any other variable system. These structural shocks then allow us to compute impulse response functions (IRFs). The IRFs show the response in one variable, say output, to a shock in another variable, say spending.

When data is estimated in log-differences as is often the case in SVAR literature, the resulting impulse response functions (IRFs) do not output a direct multiplier (which measures a rand-for-rand change). Instead, the IRFs provide an elasticity — the percentage change in output in response to a percentage change in spending. For example, if social protection spending is increased by 1% and GDP subsequently rises by 0.1%, the elasticity would be 0.1 In the results section, for each multiplier we also present graphical representations of these IRFs. The IRFs we present in the results section are the most relevant because they show the change in output (or its components) given a standard deviation change in spending.

This is not the full picture however, because the changes we analyse are not temporary, and are instead persistent. Because our variables are autoregressive, a one-time large increase in spending is likely to influence spending in subsequent time periods. For example, a policy decision to expand the SRD would alter the baseline spending trajectory permanently, rather than acting as a one-off injection that immediately disappears. A permanent R20 increase raises spending in all future periods, whereas a R100 temporary top-up that is removed in the following quarter would not (spending would simply revert to the baseline trajectory). We are dealing with the former scenario, not the latter. Thus, the full elasticity is the IRF for the response in output given a change in spending divided by the IRF for a spending response to a change in spending (Restrepo, 2020). Returning to the earlier example, if social protection is increased by 1% in a quarter and GDP subsequently rises by 0.1% after 10 quarters, but social protection spending after these 10 quarters is up by 0.5%, then the true elasticity is 0.2. To convert these elasticities into standard rand-for-rand multipliers, we then divide the estimated response by the average ratio of the fiscal policy variable to output over the sample period. So if the elasticity is 0.2, and the average ratio of spending to GDP in the sample period is say 20%, then the rand-for-rand multiplier would be 1: *a R1 increase in social protection spending leads to a R1 increase in GDP*.

Multipliers differ depending on the forecast horizon being analysed. We follow the standard procedure in social spending multipliers (informed by Ramey and Zubairy (2018)) and calculate the following types of multipliers:

- Impact multiplier: The immediate response of GDP following a shock to the fiscal variable
- Peak multiplier: The largest value of the multiplier across the forecast horizon.

- Cumulative multiplier: The accumulated response of GDP over a specific time horizon, divided by the accumulated response of the fiscal variable over that same horizon.[3] This is the most widely reported metric in the modern literature, as it approximates the permanent effect of the policy, once marginal changes have dissipated.

3.2. Data

3.2.1. Data sources

The essence of the identification assumptions in our SVAR relies on high-frequency, quarterly data. We use quarterly time-series data from the South African Reserve Bank (SARB), accessed via their statistical query platform. All baseline series are analysed in real terms, using 2015 as the base year. Gross domestic product (GDP) and its primary components — private investment (gross fixed capital formation by private enterprises) and household consumption (final household consumption expenditure) — are retrieved pre-adjusted to 2015 prices.

Our series for social protection spending (cash payments for operating activity: social benefits) and tax revenue (cash receipts from operating activity: taxes) are converted to real terms using the consumer price index (CPI) series, indexed to 2015, obtained from the Federal Reserve Economic Data (FRED) database. To eliminate seasonal patterns, all series are seasonally adjusted using an X-12 ARIMA-SEATS user-created programme in STATA.

3.2.2. Series classifications and the 2006 social spending structural break

Data for fiscal variables are available at various levels of the public sector. The national government, extra-budgetary institutions, and social security funds combine to form the consolidated central government sector. Incorporating provincial and local governments yields the full general government sector.

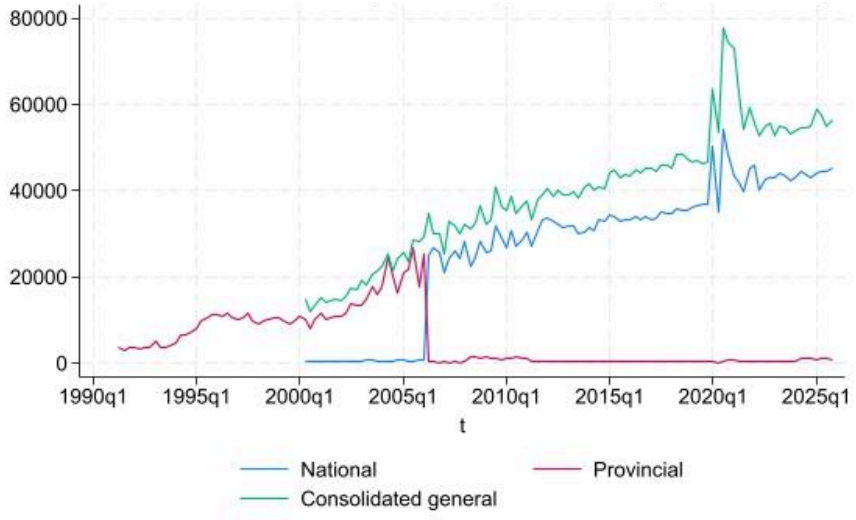
For our baseline analysis, we utilise series at the general government level. While the vast majority of taxes and social expenditures occur at the national level, utilising the consolidated general government sector is essential for social benefits. This is due to a major institutional shift in South Africa following the passage of the Social Assistance Act of 2004, which came into full effect in April 2006. This legislation centralised the administration of social grants, moving the mandate from individual provincial departments to a single national entity, the South African Social Security Agency (SASSA).

Failing to account for this shift creates a structural break in unconsolidated data which is characterised by a large drop-off in provincial spending and a simultaneous sharp spike in national spending as is clearly visible in Figure 1. Ignoring this would lead to spurious results from a structural break or force us to truncate our sample to post-2006 observations, as in amandla.mobi (2026), which would sacrifice important historical variation like the initial

[3] For our analysis, we model the accumulated response over a horizon of 10 quarters. While the long-run multiplier is technically the multiplier as time approaches infinity, in practice authors consider the periods needed for the multiplier to stabilise. In other words, it is the time for the IRFs to return to 0, which has commonly been found to be between 8 and 12 periods (Cardoso et al., 2025; Gonzalez-Garcia et al., 2013; Sanches and Carvalho, 2023).

expansions of the Child Support Grant or the high growth rate periods of the 2000s. It would also limit modelling possibilities as quarterly VARs can go up to 8 lags, requiring at least 72 observations. By utilising the consolidated general government series, we seamlessly bridge this transition although we add a dummy variable for the quarter of the transition (2006Q2) to account for any friction.

Figure 1: Real social benefits spending by the level of government since 1990.



3.2.3. Component disaggregation

Following the disaggregation approach of Sanches and Carvalho (2021), we look beyond the aggregate social protection multiplier to estimate multipliers for specific spending components: the non-contributory social grants (benefits) system and the contributory social security funds systems.

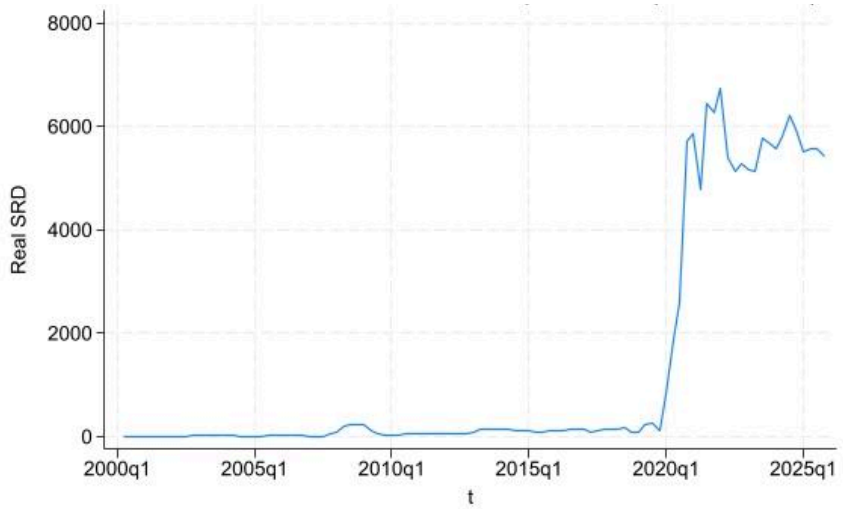
We also estimate multipliers for specific major grants: the OPG, the CSG, and the DG.[4] We compile our own historical expenditure data for these specific grants using annual National Treasury budget reviews and provincial budget votes for the pre-SASSA period. This data is only available in annual terms in the budget documents. To disaggregate these annual budget allocations into quarterly expenditures, we employ the Denton-Cholette disaggregation method, using our aggregate quarterly social grants series as the high-frequency indicator. A limitation of this disaggregation is that the series will be forced to follow the seasonal movements of the main social grants series when it is possible for the individual grants to deviate on a quarterly basis. Still the series should be able to capture the unique annual movements of these grants, resulting in series that are distinct from each other.

Finally, we isolate the macroeconomic impact of the Covid-19 SRD grant. The introduction of the Covid-19 SRD grant in 2020 caused a massive structural break as shown in Figure 2, with SRD spending expanding by over 4,000% in a single quarter as the state extended non-contributory

[4] We exclude the Care Dependency, Foster Care, War Veterans grants from our individual grant multiplier calculations as expenditure for these is reported inconsistently in the annual budget.

social assistance to working-age individuals for the first time. A post-2020 standalone series would yield only 23 quarters which would leave far too few degrees of freedom for a 3-variable VAR.

Figure 2: Real SRD grant spending since 2025



This would leave far too few degrees of freedom for a 3-variable VAR, so we follow Sanches and Carvalho (2023) and Ramey and Zubairy (2018) and implement a sample partitioning strategy. Sanches and Carvalho (2023) in particular had used the partitioning strategy to isolate the impact of social spending during Brazil's 2014—2018 financial crisis, by comparing a multiplier for the full sample with a pre-crisis multiplier. We partition our sample to exclude the pandemic and post-pandemic periods, running from 2000Q1 to 2019Q4. Comparing the multipliers from this pre-pandemic sample against the full sample allows us to isolate and comment on the structural macroeconomic impact of the SRD grant expansion as it was the main change during this period.

A limitation of this sample partitioning strategy is that macroeconomic behaviour fundamentally shifts during a crisis. Because the SRD grant's introduction coincides exactly with the Covid-19 pandemic, our strategy inherently captures its impact within an altered economic environment. The literature on state-dependent multipliers shows multipliers are typically larger in recessions and smaller during recoveries (Dufrénot et al., 2016; Montes-Galdón, 2013, 2013). The acute effects of the pandemic in South Africa peaked in the second quarter of 2020, when hard lockdowns effectively shut down all but essential economic activity, causing sharp falls in GDP and all economic indicators despite the temporary topping-up of social grants and similar measures. In subsequent quarters, lockdown requirements were relaxed, leading to recovery in all measures, though with very sharp rate rebounds following the sharp contraction.

In all our baseline specifications, we control for these sharp movements using time dummies for the fall (2020Q2) and the rise (2020Q3–Q4), following Cardoso (2026), thus mitigating the pandemic's influence on estimated multipliers. However, some crisis dynamics may persist

given that the State of Disaster to deal with the pandemic lasted until 2022 (COTA, 2022). If our sample partitioning shows significantly larger multipliers post-2020, this may be reflecting the additional stabilising effectiveness of social protection during a crisis rather than a pure SRD grant effect. However, two points mitigate this concern: the SRD grant persisted well beyond the acute crisis period, and our time dummies control for the worst pandemic effects from the multiplier estimate.

3.2.4. Stationarity

Prior to estimating the VAR system, we evaluate the time-series properties of our variables to ensure stationarity and avoid spurious regression results. We conduct unit root tests using the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), and KPSS methods. In levels, the unit root tests predominantly point to non-stationary data. Consequently, we transform the data by taking the first difference of the natural logarithm for each series. This log-differencing both detrends the data and allows us to interpret the resulting series as quarterly percentage changes (growth rates), which satisfy the stationarity requirements for the SVAR. The results of the unit root tests are presented in Appendix B.

3.2.5. Lag selection and autocorrelation

Choosing the optimal number of lags K for the VAR system requires balancing model parsimony against the risk of omitted variable bias via severe underfitting. Following standard practice for quarterly time-series data, we test between 1 and 8 lags (we present the output of the lag selection criterion in Appendix B). In our baseline general multiplier specification, the majority of the standard information criteria point to 8 lags as the optimal structure (LR, FPE, AIC, and HQIC). While the rule of thumb dictates following the majority, Ventzislav and Lutz (2005) note that criteria performance varies by sample size. For quarterly data, the Akaike Information Criterion (AIC) is often the most accurate. In simulation tests it performs the best at minimising the mean squared error when the true lag length is known. However, in small samples (under 120 observations), the Schwarz Information Criterion (SIC) which strictly penalises additional parameters often performs the best out of the other criterion.

For us, this presents a dilemma: choosing a highly parsimonious model (supported by SBIC) VAR(1) which risks underfitting and retaining serial correlation in the errors versus using a larger model VAR(8) (supported by the majority of the criteria) which risks overfitting, consuming degrees of freedom, and producing unstable IRFs. To resolve this, we rely on residual diagnostic testing, specifically using the Lagrange Multiplier (LM) test for autocorrelation. The LM test reveals significant residual autocorrelation at various lags for a VAR(1) specification. Because the data is already seasonally adjusted, this autocorrelation likely points to underfitting. Models specified with 6 to 8 lags present no significant autocorrelation, giving us confidence that the residuals are true white noise. The primary cost of this longer lag structure is a reduction in degrees of freedom. With eight lags, each equation in the VAR estimates 24 endogenous parameters alongside four exogenous time dummies (controlling for the change in grant administration, the financial crisis of 2009, and Covid-19 lockdowns), totalling 28 parameters per equation. To mitigate the impact of this parameter burden on the precision of our

estimates, we compute our IRFs using both standard asymptotic errors and bootstrapped standard errors with 1,000 replications.

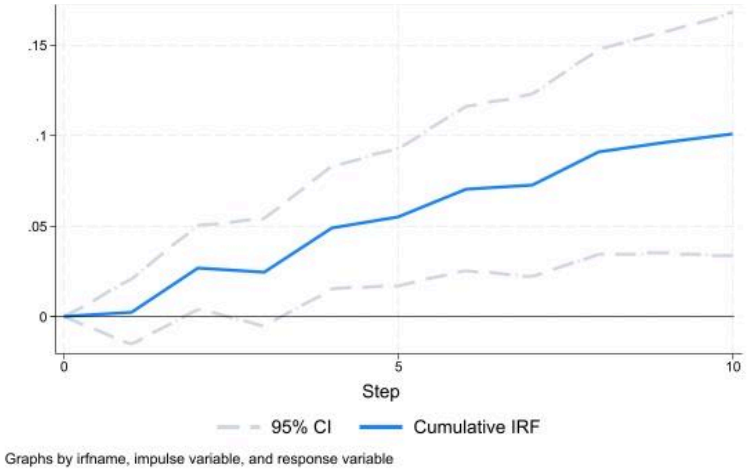
4. Results

4.1. Social benefits general multiplier

We begin by estimating the impact of an exogenous, expansionary shock to overall general government social benefits on total output (GDP). We focus on the overall consolidated social benefits to ensure comparability with the international macroeconomic literature on the multiplier effects of social protection. In the public finance national accounts, consolidated general government social benefits encompass all direct cash transfers, including the non-contributory social grants, contributory benefits from social security funds (such as UIF and the Compensation Fund), and provincial SRD payments. This consolidated aggregate explicitly excludes non-direct and in-kind transfers, such as health and education provisions.

Structural or unexpected increases in social protection spending generate a robust and persistent expansion in overall economic output, as illustrated by the accumulated response trajectory in Figure 3. While the initial impact on GDP is relatively slow, it builds steadily into a large and highly significant expansionary effect over subsequent quarters. The output response is statistically significant at the 68% confidence level (one standard deviation) immediately in the first quarter, and achieves strict significance at the 95% level (two standard deviations) by quarter 3. From there, it maintains statistical significance at 95% throughout the remainder of the 10-quarter horizon.

Figure 3: Cumulative IRF showing the response of output to a shock in social benefits



Our SVAR estimates an impact multiplier of 0.16 and a cumulative multiplier of 4.25, as summarised in Table 1 which shows the rand-for-rand multipliers. These also indicate a slow initial response to a shock that eventually builds to a prominent output response increase at the end of two and half years. In practical terms, a R1 increase in social benefits leads to a R4.25

increase in real GDP at the end of 10 quarters. This however does not mean that every rand historically spent on social benefits generated R4.25 of GDP. In a SVAR, the multiplier refers to the response of GDP to an unexpected deviation from the ordinary path of spending, after accounting for the historical relationships among the variables in the model. In this sense, the shock is additional spending over and above the model-predicted path of social benefits, which would already include regular trends such as the annual inflationary adjustments. So the correct interpretation would be that a *meaningful increase to social benefits spending increases GDP/output by a magnitude that is 4.25 larger than initial increase in social benefits in the medium run*.

Table 1: Social benefits multipliers

Impact multiplier	0.16*
Peak multiplier	4.53** (t = 8)
Cumulative multiplier	4.25**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Our results are consistent with recent literature examining social protection multipliers in developing economies. Specifically, Cardoso et al. (2025) finds that countries characterised by high levels of inequality tend to exhibit stronger multiplier effects from social transfers. When we benchmark our results against their multi-country panel, we find that our impact multiplier is lower than their sample average but that the cumulative multiplier effect places South Africa at the upper end of their panel, with only five of the 42 countries outperforming us.

4.1.1. Investment and consumption channels

To understand the channels that are driving the substantial social protection multipliers, we follow Sanches and Carvalho (2023) and go beyond the general social protection multiplier by decomposing the total GDP response into its relevant primary demand components: specifically final household consumption expenditure (private consumption) and gross fixed capital formation by private enterprises (private investment).

Table 2 provides a summary of both the consumption and investment rand-for-rand multipliers across the 10-quarter horizon. Figures 4 and 5 show the accumulated responses of the respective components to a one-standard deviation shock in social benefits.

Table 2: Rand-for-rand multipliers for components of GDP multipliers from a social benefits shock

	Investment	Consumption
Impact	-0.19	1.00*
Peak	-0.08 (t = 2)	3.77** (t = 8)
Cumulative	-0.10	3.71**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 4: Cumulative IRF showing the response of investment to a shock in social benefits

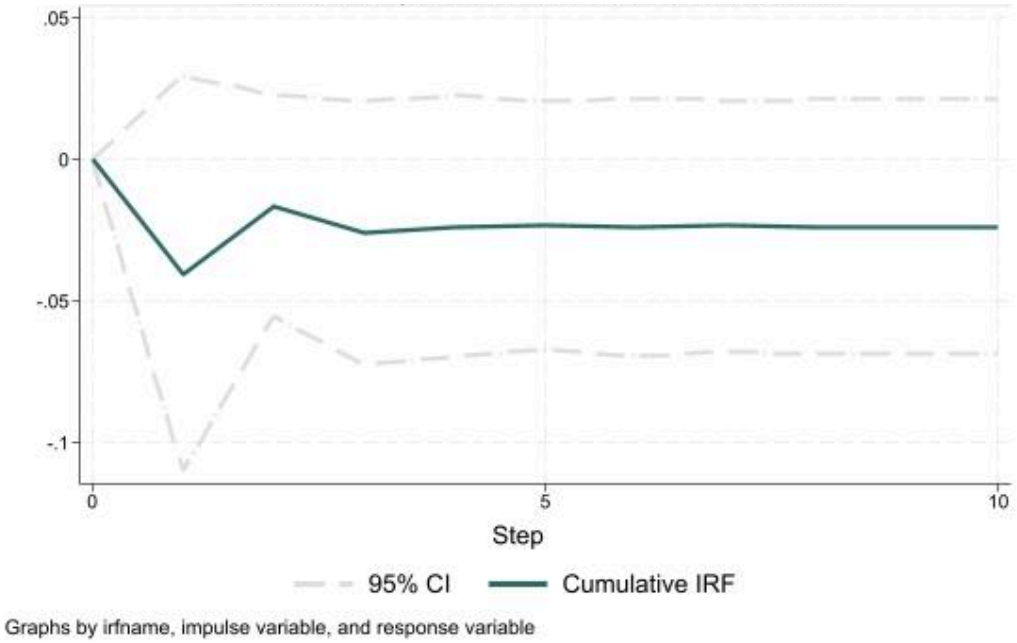
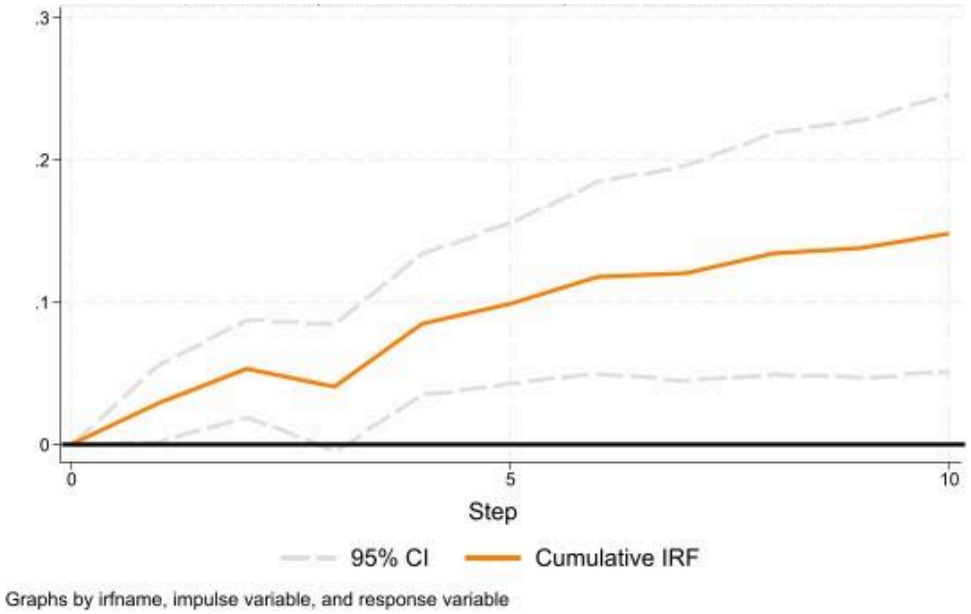


Figure 5: Cumulative IRF showing the response of consumption to a shock in social benefits



As illustrated in Figures 4 and 5, our results reveal that the output expansion is overwhelmingly driven by household consumption. The consumption channel exhibits a multiplier of 1.00 in the initial quarter of the transfer, significant at a one-standard deviation level. This almost one-to-one transmission likely reflects the high marginal propensity among social benefit recipients. Over the two-and-a-half year horizon, the consumption effect compounds significantly through successive rounds of local economic spending. It peaks at R3.77 in quarter 8 before eventually stabilising at a long-run multiplier of R3.71 by quarter 10. The IRF remains statistically significant across virtually the entire period. Contextualised alongside the aggregate multiplier on GDP, private consumption single-handedly accounts for over 80% of the total long-run expansion.

Conversely, the private investment channel is mostly muted, showing no meaningful transmission. On impact, the investment multiplier is a negative point estimate of -0.19, which moderately improves to a cumulative long-run multiplier of -0.10 by quarter 10. Notably, however, the private investment IRFs are not statistically significant at either the 68%[5] and 95% bootstrapped confidence intervals. This means that we detect no statistically significant effect on private investment from social spending shocks.

[5] We adopt one and two standard deviation bands for our confidence intervals as is common in government spending literature. (Blanchard and Perotti, 2002; Fatás and Mihov, 2001; Izquierdo et al., 2019; Sanches and Carvalho, 2023)

4.1.2. Revenue

A central debate in South African social protection policy concerns the fiscal sustainability of expanding benefits, with the main reservations often being increased debt burdens and increased taxes. We now specifically focus on the gross tax revenue cost of an expansion of social protection guided by our historical data. To evaluate this, we estimate the dynamic response of total/gross tax revenues to an exogenous social protection spending shock.

Our results reveal a highly elastic revenue response, meaning that tax revenues are highly responsive to the initial spending shock and grow substantially over time. On impact, the revenue multiplier is 0.96, although as illustrated by the resulting IRF in Figure 6, this impact is statistically insignificant (not different from zero) at the 95% level but is only significant at 68%. At quarter 4, the revenue IRF achieves strict statistical significance at 95% level, generating R2.26 in tax revenue. The accumulated tax revenue response peaks at quarter 9 (R2.62) before stabilising at a long-run cumulative multiplier of R2.56 by quarter 10. The IRF is statistically significant from the first quarter at the 68% level. These impact, peak, and cumulative multipliers are summarised in Table 3.

Figure 6: Cumulative IRF showing the response of revenue to a shock in social benefits

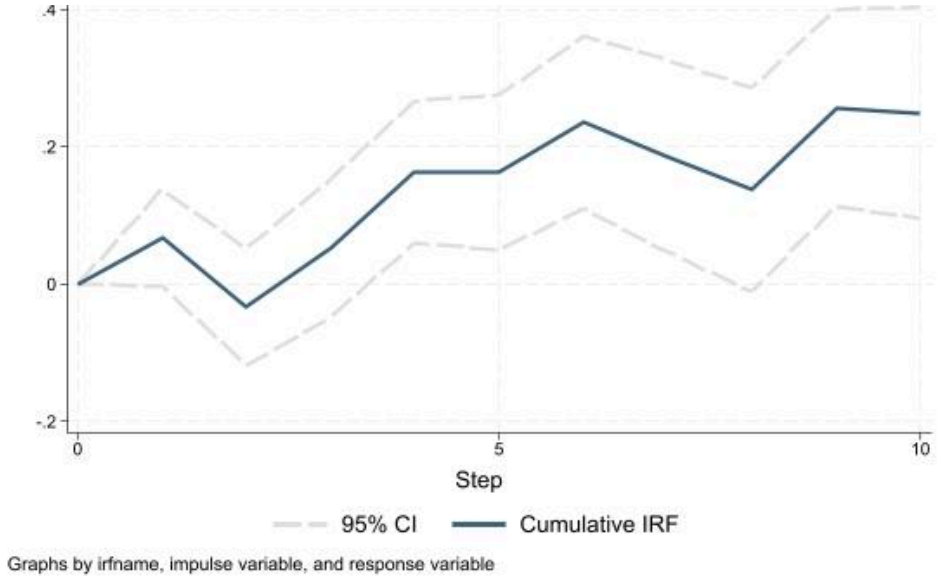


Table 3: Rand-for-rand multipliers for tax revenue from a social benefits shock

Impact	0.96*
Peak	2.62** (t = 9)
Cumulative	2.56**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

4.2. Social grant multipliers

Having found large multiplier effects from increases in broad social benefits spending, we now narrow our focus to the main components of social protection: the contributory social security fund schemes and the non-contributory social grant system. We start with the social assistance system.

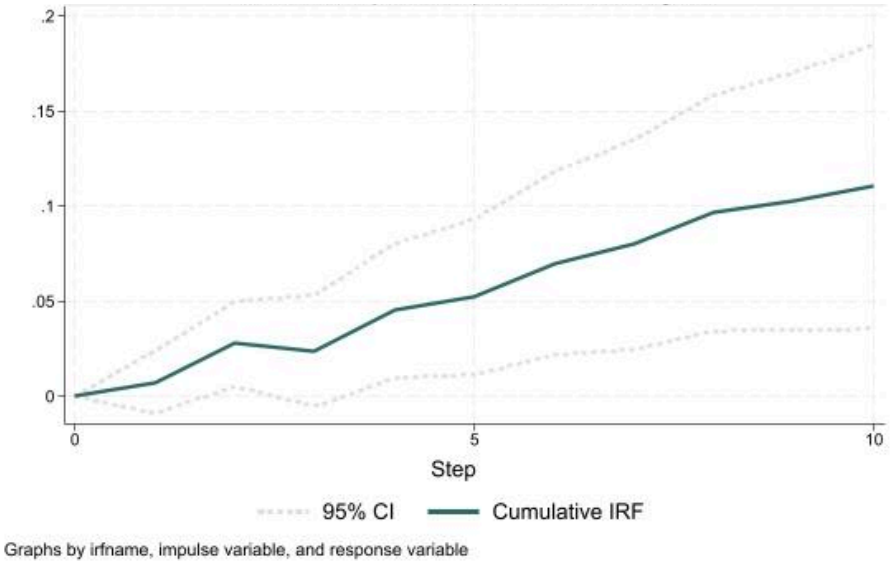
Increases to the social grant expenditure yield a strong macroeconomic return, generating a long-run multiplier that is statistically significantly larger than the return on overall social benefits. As summarised in Table 4, our results show a highly elastic response, with the cumulative multiplier peaking at 5.53 by the end of the 10-period horizon. As illustrated by the IRF trajectory in Figure 7, while the initial multiplier of 0.68 is statistically insignificant at a 95% level (similar to the broader social benefits category), the expansionary effect accelerates rapidly from the second quarter onwards and remains statistically significant. Ultimately, an unexpected R1 increase in social grant expenditure generates R5.53 in real GDP after two-and-a-half years.

Table 4: Rand-for-rand multipliers for output from a social grants shock

Impact	0.68
Peak	5.53** (t = 10)
Cumulative	5.53**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 7: Cumulative IRF showing the response of output to a shock in social grants



4.2.1. Social grants: consumption and investment

As we did for social protection, we now unpack the drivers behind our R5.53 social grant multiplier by decomposing the output response into household consumption and private investment, to get a better understanding of how the multiplier propagates through the economy.

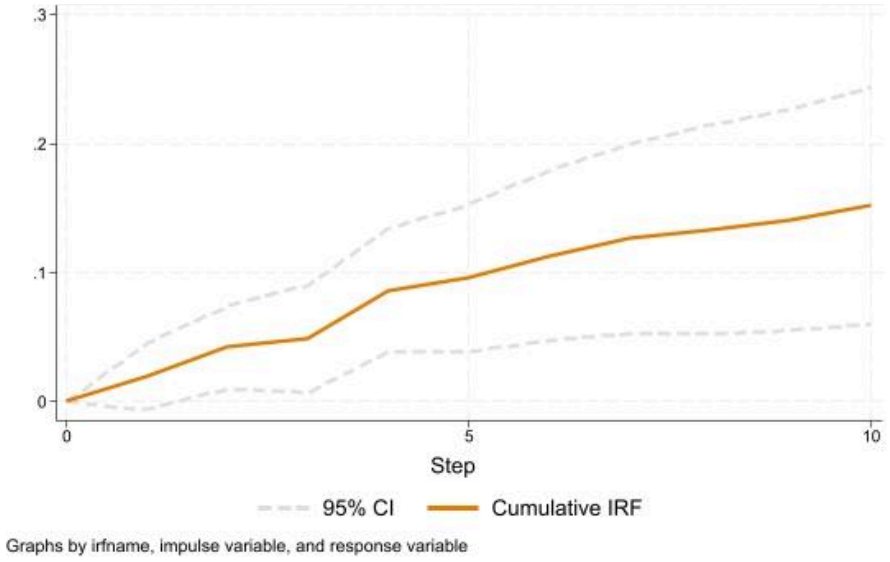
Our results indicate that an unexpected increase to social grants drives economic activity mainly through a powerful household consumption channel, which in turn triggers a 'crowding-in' effect on private investment. As illustrated by the IRF in Figure 8 and summarised in Table 5, household consumption responds strongly to a social grant shock. While the initial impact multiplier is only weakly significant at 68%, it eventually climbs, generating a multiplier of 3.73 in the fourth quarter before reaching 4.71 by quarter 10. This 4.71 cumulative multiplier is significantly larger than the R3.71 multiplier we found from a shock in general social benefits.

Table 5: Rand-for-rand multipliers for components of GDP from a social grants shock

	Private investment	Household consumption
Impact	-0.06	1.07*
Peak	1.92** (t = 8)	4.71** (t = 10)
Cumulative	1.89**	4.71**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

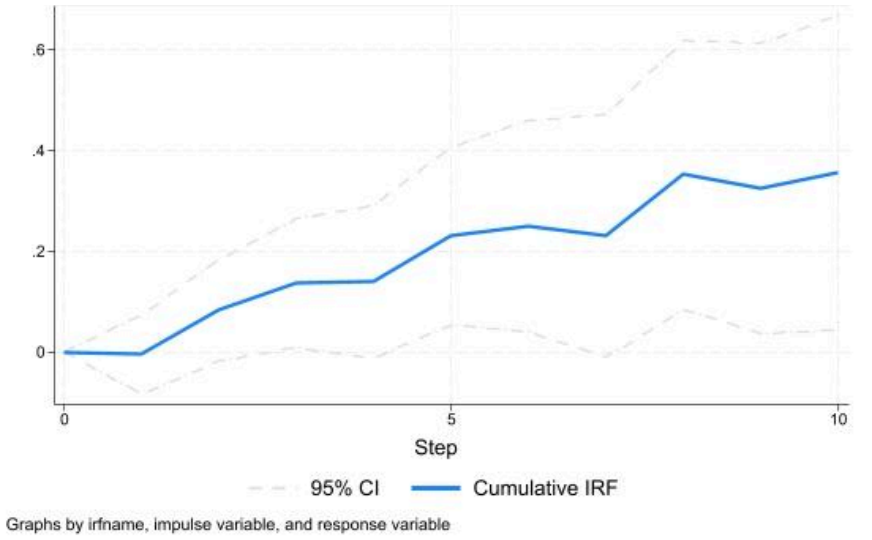
Figure 8: Cumulative IRF showing the response of consumption to a shock in social grants



Furthermore, we see an entirely different response of private investment to a shock in social grants compared to a shock in social benefits. While the social grants constitute the majority of

overall social benefits spending, contributory social security funds still account for roughly 20% of the aggregate, not an insignificant share. Because (as we discuss in Section 4d) social security fund spending generates smaller and less robust multipliers, it effectively drags down the aggregate investment response. Consequently, whereas under overall social protection we had seen a muted investment response, under a pure social grant shock, the investment channel demonstrates a significant 'crowding-in' effect. As illustrated in Figure 9, the IRF starts off insignificant, but by quarter 10, an unexpected R1 increase in social grants induces a R1.89 increase in private investment. We unpack this finding in greater detail in the results section, but taken together, the large effect on consumption and the delayed but significant effect on investment from an unexpected grants shock indicate a strong demand-side impact. The initial surge in spending drives up economic activity, mainly through increased household consumption, which eventually induces private enterprises to expand their productive capacity to meet the heightened demand.

Figure 9: Cumulative IRF showing the response of investment to a shock in social grants



4.2.2. Social grants: tax revenue response

To complete our structural analysis of the macroeconomic impacts of a shock in social grants, we now evaluate the revenue response of a pure social grant shock.

Unexpected increases to social grants generate a highly elastic tax revenue recovery that significantly outperforms the recovery from broader social benefits, driven mainly by their more targeted impact on households with the highest MPC. As summarised in Table 6 and illustrated by the cumulative IRF in Figure 10, we find evidence of a delayed, elastic revenue response to a social grant shock. The IRF that corresponds to the impact multiplier is not statistically significant at both the 68% and 95% levels. But by quarter 6, the IRF achieves strict statistical significance at the 95% level, generating R2.38 in tax recovery. This reaches a peak of R3.08 in the ninth quarter, before stabilising at a cumulative multiplier of R2.99.

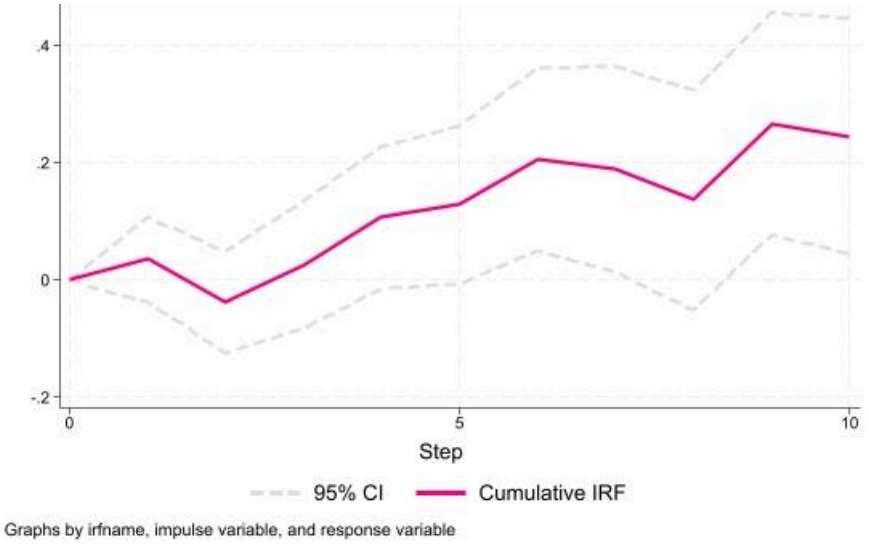
The R2.99 multiplier outperforms the R2.56 multiplier associated with a general social benefits shock which aligns with our expectations, as social grant increases generate a larger economic response compared to broad social benefits increases, since they are non-contributory, and received by households with the highest MPCs.

Table 6: Rand-for-rand multipliers for tax revenue from a social grants shock

Impact	0.77
Peak	3.08** (t = 9)
Cumulative	2.99**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 10: Cumulative IRF showing the response of revenue to a shock in social grants



4.3. Individual grants

To further isolate the macroeconomic effects within the social grant architecture, we decompose the aggregate social grant spending into specific major grant types. We begin with the largest grant in terms of expenditure, the Older Persons Grant.

Disaggregating the social grant expenditure into individual grants reveals that while all major non-contributory transfers generate large positive returns on output, the CSG stands out as the most statistically robust and reliable driver of economic output. As summarised in Table 7 and Figure 13, the CSG exhibits a large multiplier that achieves strict statistical significance at the conventional 95% level across ten periods. Its immediate impact multiplier is 3.00, which grows to 3.96 by the end of the first year before peaking at a cumulative 4.41 at the end of the tenth quarter.

In contrast, while the OPG and DG generate substantially larger multipliers, their estimates are more volatile and thus less precise. The OPG shows a massive impact multiplier of 11.60 that eventually dampens to a cumulative 6.45, yet, as can be seen in Figure 11, its output response is only significant in the first quarter at the 68% confidence level. Similarly, the DG yields a strong impact multiplier of 5.18 and a cumulative multiplier of 9.67, with its IRF in Figure 12 achieving significance only at the 68% level for most steps. Still, given that the direction of impact remains consistently positive and large magnitude-wise, the lack of strict significance for the OPG and DG likely points to statistical uncertainty regarding their exact magnitude, rather than evidence of completely null macroeconomic effects.

Table 7: Rand-for-rand multipliers for output from individual grant shocks

Multiplier type	OPG	DG	CSG
Impact	11.60*	5.18*	3.00**
Peak	11.60 (t =1)	9.67* (t =10)	4.41** (t = 10)
Cumulative	6.45	9.67*	4.41**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 11: Cumulative IRF showing the response of output to a shock in the OPG.

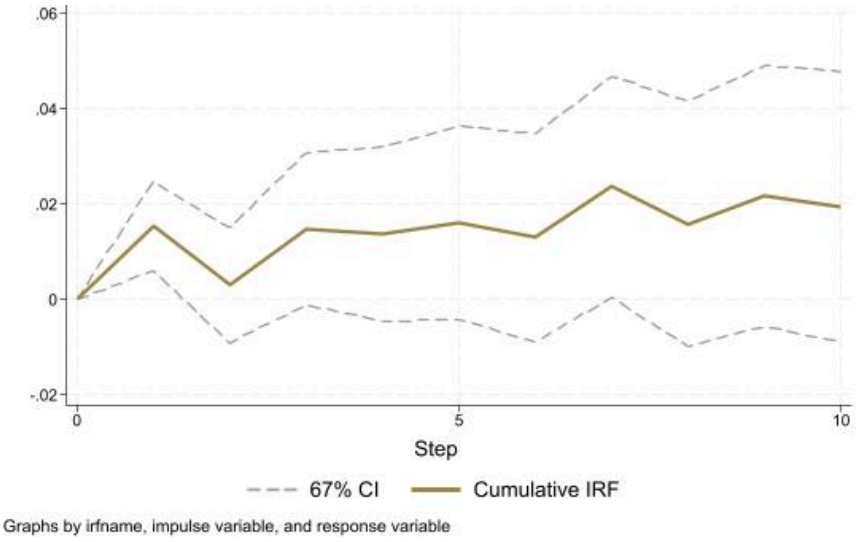


Figure 12: Cumulative IRF showing the response of output to a shock in the DG

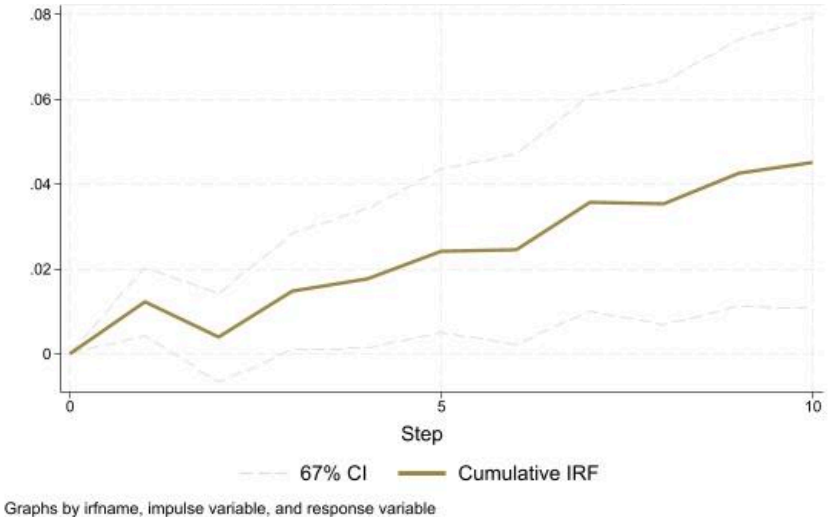
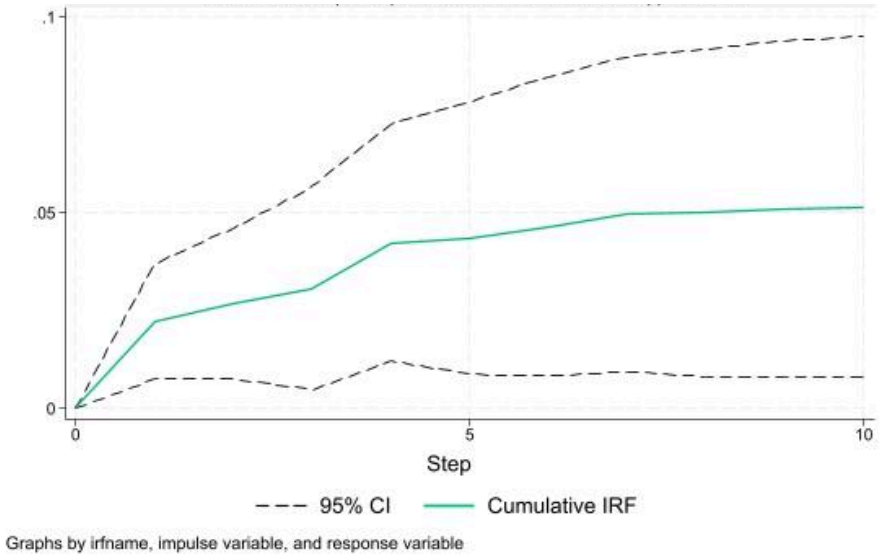


Figure 13: Cumulative IRF showing the response of output to a shock in the CSG.



4.3.1. Estimating the impact of the SRD grant: a pre-2020 comparison

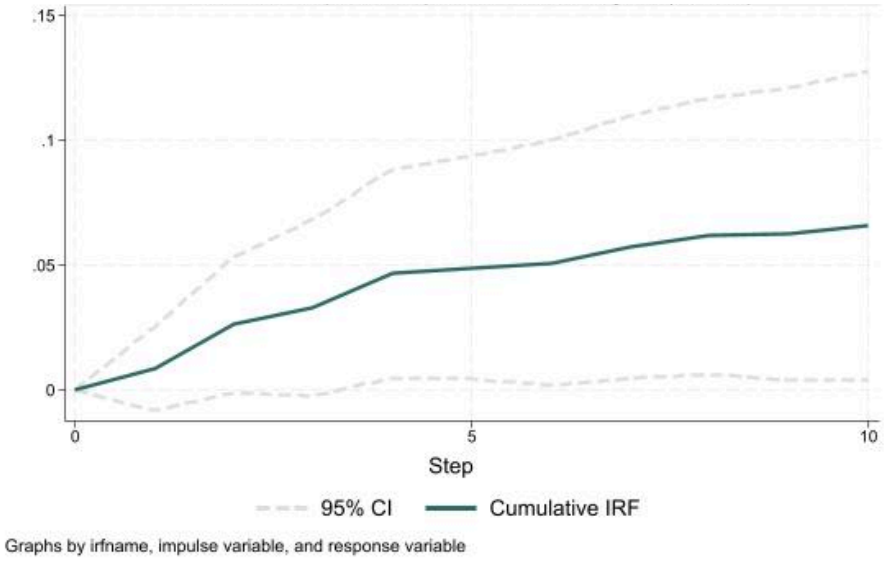
The introduction of the SRD grant represented a significant expansion in social assistance. We find that it proportionately expanded the social protection multiplier. As already outlined in the methodology section, because the SRD grant was only introduced in 2020, we cannot calculate its multiplier in isolation. Instead, Table 8 and Figure 14 present the results of a modified social grants multiplier that only considers the pre-pandemic period (2000Q1–2019Q4), which effectively shows the impact of the grants system before the SRD was introduced. By comparing this baseline multiplier to our findings in Section 4b, we can indirectly infer the SRD grant's additive contribution to the output multiplier.

Table 8: Rand-for-rand multipliers for output from a social grant shock (pre-2020 sample)

Impact	0.79*
Peak	4.33** (t = 10)
Cumulative	4.33**

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 14: Cumulative IRF showing the response of output to a shock in social grants (pre-2020).



Looking at the pre-2020 baseline in Table 8, our results indicate that while there was already a robust social grants impact on output prior to the introduction of the cSRD grant, this impact is significantly smaller than the one generated by the full sample which includes the cSRD grant. While the impact multiplier is small at 0.79 and the IRF is not significant at a 95% level, the response gains traction over time, becoming strictly statistical significance after a year and remaining significant through the end of the 10th period, where the cumulative multiplier peaks at R4.33.

Importantly, this pre-2020 social grants multiplier of R4.33 is R1.20 smaller, and statistically significantly so, compared to the full-sample multiplier. Having controlled for the most acute effects of the Covid-19 lockdown in the baseline specification, we assume that there are no significant differences between the samples except for the new and expanded SRD grant. While we cannot isolate the multiplier effect of the SRD, we can conclude on the basis of this comparison that the grant strengthened the macroeconomic impact of the social grants programme. In other words, had the SRD grant not been introduced, the multiplier would have

been R1.20 smaller, indicating that the SRD grant has a large and significant individual contribution to the multiplier.

However, we also note a potential limitation in these results. While we have controlled for the most acute lockdown effects in all of our specifications, with dummies for the quarters where the effects of lockdowns were most experienced in the economy, the literature consistently shows that multipliers tend to be larger during recessions and periods of economic slack (Gechert and Rannenberg, 2018; International Monetary Fund. Western Hemisphere Dept., 2015). Given an extended economic recovery period, with the State of Disaster only being lifted in 2022, our SRD grant's additive multiplier effect may represent an upper-bound estimate. It could be reflecting the enhanced effectiveness of grants during recessions, rather than a multiplier during normal times. In other words, it is possible that the social grants multiplier for the full sample would have still been larger than the pre-2020 social grants multiplier even without the SRD grant, simply because of the more slack economy.

4.4. Social security funds

To complete our decomposition of the general social protection aggregate, we isolate the macroeconomic impact of contributory social security funds, which consist of the Unemployment Insurance Fund (UIF), Road Accident Fund (RAF), the Compensation Fund, and the Compensation Commissioner for Occupational Diseases in Mines and Work. Unlike the non-contributory grants which are means-tested, these funds mainly operate as social insurance mechanisms for the formal labour market.

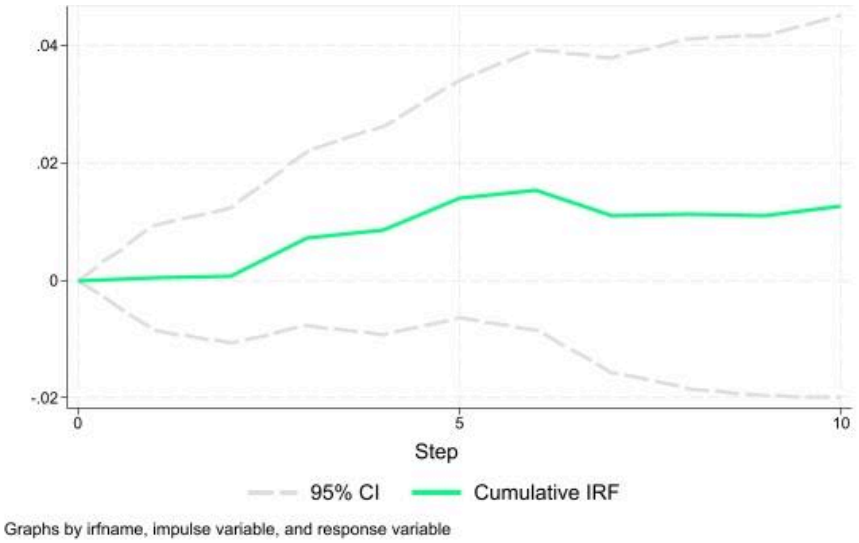
Our SVAR estimations reveal that, in contrast to the social grants, shocks to social security funds generate no statistically significant expansionary effect on total output across the entire 10-quarter horizon, as summarised in Table 9 and Figure 15. While the cumulative multiplier is large at 3.42, the bootstrapped confidence intervals for the IRF encompass zero at every step at a 95% level. At a one-standard deviation level (68% level), the confidence intervals encompass zero at almost all steps, only excluding the peak which is from quarter 4 to 6.

Table 9: Rand-for-rand multipliers for output from a social security fund shock

Impact	0.07
Peak	4.37* (t = 5)
Cumulative	3.42

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 15: Cumulative IRF showing the response of output to a shock in social security fund benefits



The relatively smaller multiplier and the lack of statistical significance most likely provides the explanation for the divergence between our general multiplier (4.25) and the pure social grant multiplier (5.53). Therefore, we can conclude that the inclusion of social security funds in the broad social benefits shock dilutes the overall macroeconomic stimulus.

4.5. General government expenditure multiplier

We now compare our estimates of the social protection multipliers to the total government spending. We first consider total general government expenditure, the most broad measure of spending and what is most often considered when referring to government spending. Following the public finance national accounts, the aggregate captures the state's total cash payments for operating activities which comprises the compensation of employees, the purchase of goods and services, debt-serving interest payments, subsidies, grants, and social benefits. We also consider separately the multipliers for goods and services, compensation of employees, and final government consumption expenditure, as summarised in Table 11.

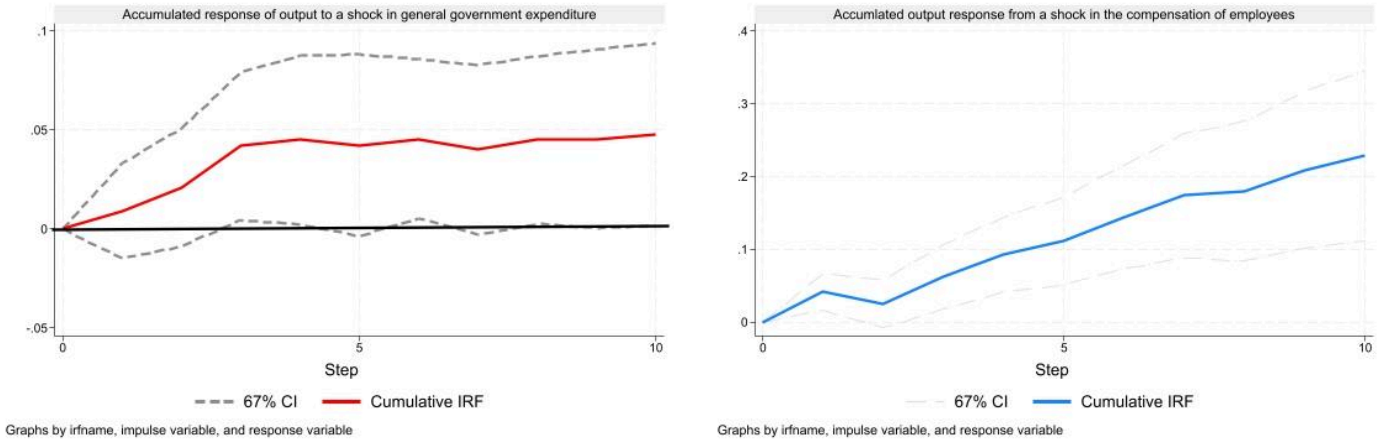
We do not find evidence of a large meaningful macroeconomic stimulus from a shock in general government expenditure. The impact multiplier is only a marginal 0.07, which rises to a peak of 0.26 at quarter 3 before settling at a cumulative long-run multiplier of 0.18. Notably, as shown in the block graphic of the IRFs in Figure 16 the bootstrapped confidence intervals for the IRFs are inclusive of zero across all quarters at a 95% level, meaning the general government multiplier is indistinguishable from zero. At a 68% level, it only excludes zero at periods 3 and 6.

Table 10: Rand-for-rand multipliers for output from various government expenditure measures

	Total general government expenditure	General government: goods and services	General government: compensation of employees	General government: consumption expenditure
Impact	0.07	-0.3*	0.75*	-0.21
Peak	0.26 (t = 3)	1.30 (t = 10)	2.30 (t =10)	1.62 (t = 10)
Cumulative	0.18	1.30*	2.30*	1.62*

** The IRF for Y on X is significant at one standard deviation (68% confidence level); **The IRF for Y on X is significant at two standard deviations (95% confidence level).*

Figure 16: Cumulative IRFs showing the response of output to a shock in government expenditure



5. Discussion: interpreting the results and their implications for social protection policy in South Africa

Overall, our results indicate that social protection spending has a significant fiscal multiplier in South Africa, and that the component of social protection spending with the greatest multiplier effect is direct non-contributory transfers. This points to social grants being a particularly effective macroeconomic tool, because they go to the poorest households, who are also likely more liquidity-constrained than the average social benefit recipients, minimising leakages such as savings.

Our findings on the general government multiplier — that it is marginal and even possibly negative — are broadly in line with the existing literature on fiscal multipliers in South Africa. Because the aggregate government expenditure actually includes social benefits, this points to the need for the consideration of the composition of the policy when discussing fiscal multipliers. General government expenditure, for example, is dominated by the public sector wage bill and debt interest payments. Civil servants are generally located in middle-to-upper income brackets and so exhibit a lower MPC and higher susceptibilities to savings and import leakages (although 'compensation of employees' yields the highest multiplier of the four categories of general government expenditure). Furthermore, interest payments represent direct leakages to domestic and foreign institutions and foreign bondholders and so generate no localised demand. While the National Treasury has invoked the negligible overall fiscal multiplier to justify fiscal consolidation including in social protection, this evidence supports a revaluation of that approach, indicating that additional spending on social protection and social grants in particular would have significant expansionary impacts on output and revenue.

We find across social protection spending and its components that the initial or impact multiplier is relatively muted. These results provide evidence that many households in South Africa are severely liquidity-constrained, indicating that latent demand is holding back broader economic growth. The delayed consumption response is also suggestive of accumulated private debt, with households initially using additional income to repair balance sheets before increasing expenditure. Taken together, these findings refute the Ricardian-equivalence proposition, according to which households would largely save additional transfers in anticipation of higher future taxation.

We find large and statistically significant peak and cumulative multipliers across social benefits and social grants, indicating that these mechanisms allow households to overcome indebtedness and eventually achieve a sustained higher level of consumption. Indeed, when decomposing the output response to look at the varying impacts of increased social protection spending on consumption and investment, we find that consumption accounts for the majority of the resultant GDP increase. This supports the conclusion that the majority of social protection spending reaches households with high MPC, and this is supported by evaluations of social grants in South Africa that have found they are primarily spent on food, energy, transport, personal care items, etc. (Department of Social Development, 2021).

By comparison, when looking at social protection spending overall we see a very slight, though not statistically significant, negative investment multiplier. This does not support the neoclassical assumption that public spending expansions will crowd-out private investment by driving up debt levels which in turn drive up interest rates and thus disincentivise private borrowing, or through or higher future tax expectations. Even in the absence of a positive response in private investment, the positive real GDP response suggests that the social-benefits shock is not merely inflationary and that any import leakage does not dominate the domestic output effect.

This, in turn, suggests the existence of substantial unused productive capacity, which can accommodate an increase in aggregate demand. Households are able to spend without exhausting the productive capacity of existing firms. If that were not the case, we would have seen an increase in private investment (investment in machinery, capital etc.) in our results as firms expand to meet the new demand; instead investment demand remains flat. It thus follows that we can also infer that concerns of increased inflation, resulting from expanded social benefits and undermining the welfare impacts of social spending are not borne out.

When looking specifically at social grants, we find statistically significant positive impacts on investment (a crowding-in effect) — of a cumulative 1.89. The effect becomes large and statistically significant a year after the initial shock in social grants, as such it probably represents a private investment response to the greatly increased economic activity. That is, there is new investment to meet the much higher level of demand. This may also reflect the fact that social grants are used to support economic activity, including enterprise formation and investment in productive assets and capacity — an effect widely observed in the literature (Bhorat and Köhler, 2025). When looking specifically at social grants there is risk of inflationary pressures, as some of the new demand is absorbed by firms having to increase their capacity. However, given that the multiplier on investment is much smaller than output, and that the effects only kick in after the year, the risk of inflation is likely low. Instead what is more likely to be observed is investment responding to an environment of increased economic activity, a positive effect for sustained, long-term economic growth.

Our findings on the revenue multipliers of social protection and social grants will be of particular interest to policymakers concerned about the fiscal sustainability of additional social protection spending, for instance amidst the ongoing policy development process for the basic income grant (BIG). Because social grant spending massively unlocks demand and supports economic activity, it broadens the domestic tax base, and generates a significant return to the fiscus, through consumption taxes (VAT), as well as personal and corporate income taxes. It is important to note here that the historical expansionary shocks to social grant spending in South Africa which we draw on in our modelling have not generally been accompanied by discretionary changes to tax rates, that is taxes have not been increased to finance the additional social spending. This does not mean that the expansions were minor changes. They constituted large shocks to the social benefit spending. For context, the progressive extension of the CSG's eligibility age limit (from seven to 14 and later 18) drove real CSG spending growth that averaged 34.5% year-on-year throughout the 2000s. Similarly, the equalisation of the OPG's qualifying age for men from 65 down to 60 resulted in real OPG spending growth averaging 5.4% during the 2010s. Most recently, the introduction of the SRD grant represented a massive shock, with SRD expenditure growing by over 4,000% in 2020.

On this basis, we can then conclude that the observed changes to revenue are purely the result of increased economic activity and thus tax buoyancy, likely driven by higher VAT, and personal and corporate income tax takes as the transferred rands circulated through the economy. Our results show that this return is greater than the additional spend — 2.99 times greater in the

case of social grants, measured over a period of 10 quarters. In other words, social grant expansions have paid for themselves more than twice over, in the space of two years. This demonstrates that not only is expanding social grants fiscally sustainable in South Africa, but that it would constitute a high-yield investment, potentially significantly improving the country's fiscal position over time.

However, we must also acknowledge this is contingent on how increases to social protection spending is financed. Our SVAR framework is designed to simulate a change in one variable at a time (holding others constant) based on historical trends. If a large-scale future expansion, such as a BIG, were explicitly premised on simultaneous tax increases (as many of its advocates propose), the net macroeconomic effect may differ (Institute for Economic Justice, 2021). For example, while our historical data shows no evidence of Ricardian equivalence, consumer and investor expectations could behave differently if faced with credible signs of increases in taxes or borrowing.

To predict the net effect of fully-funded social protection expansions, we must turn to existing literature, which strongly corroborates our overall finding of net expansionary effects. Theoretically, the Keynesian balanced-budget multiplier dictates that government spending funded by (at most) an equal increase in progressive taxes will still generate a net positive on output. Empirically, recent South African modelling of the BIG shows this. CGE modelling by the Expert Panel on BIG found that a R50 billion increase in SRD funding, funded by personal income tax increases on the top three deciles would result in a 2025 GDP that is 0.64 percentage points higher than baseline (van den Heever et al., 2021). Similarly, existing dynamically integrated macro-micro simulations — which relax many rigid neoclassical assumptions — project that a 'high-ambition' BIG financed by a 1% wealth tax and a 4% social security tax on wages would push GDP 1.3 percentage points above the baseline (Adelzadeh, 2023).

Consequently, while funded expansions introduce different fiscal dynamics, evidence suggests that funded expansions would likely still generate positive effects on output, and those positive effects would spillover into increased revenue collections beyond the discretionary change. Of course, while the direction of the impact of our multipliers would still be relevant, the magnitudes of our estimated multipliers would likely be upper-bound estimates in this scenario as higher tax rates or increased borrowing (and thus interest payments) would likely drag the multipliers down.

Finally, when decomposing social grant spending into individual grants, we generally find large positive multipliers, but noise in the data limits the robustness of these results, particularly for the OPG and DG, which are estimated much less precisely than the CSG. The impact multiplier of the CSG is the largest of all the programmes we have looked at, and unlike the impact multiplier for most of the spending categories we analyse (including overall social benefits and social grants), is significant at a 95% level. We attribute this to the varying beneficiary bases for these grants. The DG and OPG have much fewer beneficiaries (around 1 million and 4.2 million

respectively) compared to the CSG (12.6 million). This likely indicates that a wider beneficiary base outweighs individual grant value in determining aggregate impact. This is evidenced by the fact that while spending on the OPG makes up a greater share of GDP (1.2%) than the CSG (0.9%), and both the DG and the OPG have values that are at least four times larger than the CSG, the CSG generates a more robust macro signal. As such, macro effects from the DG and OPG would be harder to detect, though the direction is encouraging, pointing at least to some expansionary effect from the grants. A longer time series could strengthen the evidence. We use a slightly different methodology with the SRD grant, limiting our time series to exclude the anomalous period of Covid-19, and instead testing what the impact of the grant would have been were it introduced pre-2020. We cannot isolate the specific SRD grant multiplier in this approach, but we can conclude that the SRD grant significantly strengthens the overall social grants multiplier, increasing it from 4.33 to 5.53. This significant effect is likely due to the fact that the SRD grant is received by particularly liquidity constrained households, since it is means-tested at a very low level.

These findings on the multipliers of specific social grants in South Africa would tend to support the conclusion that prioritising the most deprived households, but spreading benefits as widely as possible, would be the optimal strategy to generate a strong multiplier. Of course, we note this with the caveat that achieving a fiscal multiplier should not be the only, or even the primary objective of social protection spending. Social assistance is a human right and enshrined in South Africa's constitutional and international obligations. Likewise, eliminating hunger and alleviating poverty are constitutional and moral imperatives, and must be the priorities of government regardless of projected returns to the economy and the fiscus. Nevertheless, our modelling demonstrates clearly that advancing these rights *does* have the added benefit of stimulating growth and increasing revenue in the South African context.

6. Conclusion

The results from our modelling strongly suggest that social protection spending has a considerable fiscal multiplier in South Africa. Direct non-contributory transfers are the component of social protection with the greatest multiplier effect. And, based on this, social grants are therefore a particularly effective macroeconomic lever. They reach the poorest households where liquidity constraints are much more amplified than among the average recipients of social benefits, minimising leakages such as savings.

Our results find large and statistically significant peaks and cumulative multipliers across social benefits and social grants. For instance, the inflow of social grants likely allows households to tackle indebtedness, and over the longer horizon they are able to sustain higher levels of consumption, whose overall impact is an increase in GDP. When the output response is decomposed into its constituent components to consider the varying impacts of increased social protection spending on consumption and investment, what we find is that the GDP increase is largely driven by consumption. This is aligned with findings that have shown that the bulk of

social protection spending reaches households with high MPCs. This spending enables access to food, energy, and transport, which also improves overall well-being.

A much more granular consideration of social protection, with a focus on social grants, shows significant albeit smaller impacts on private investment. As we are dealing with macro data, this indicates private enterprises expanding their productive capacities to meet heightened demand. Existing micro-level literature shows that recipient households do not merely consume in a narrow sense, but also set up small enterprises and invest in productive assets and capacity that enables households to withstand future shocks which would otherwise hamper their ability to meet needs including food and energy. These types of micro-level investments are likely captured in the consumption impact, while the investment impact likely represents large-scale improvements in productive capacity to cater to the increased demand driven by a social grants shock.

Opponents of increased investments in social protection such as social grants have often invoked the fiscal unsustainability narrative. We find that this is a narrowly conceived approach, as it simply focuses on the gross cost of social protection without accounting for broader macroeconomic effects. As a result of the increased economic activity that these increased investments generate, spending on social protection enlarges the domestic tax base. This is likely through consumption taxes such as VAT and also personal and corporate income taxes. In the case of social grants the return, measured over 10 quarters, is 2.99 times greater than the original spend which means that the grants more than pay for themselves. This cannot necessarily be taken as a direct indication of the exact multiplier of new, large-scale social assistance expansions. While the literature suggests that such expansions will indeed generate a multiplier, the degree may vary if they deviate from the funding models of the past, where expansions were not directly accompanied by increases in taxes. Nevertheless, our findings refute, for instance, the Treasury's position that spending on social grants is inherently fiscally unaffordable or unsustainable. It is imperative to note that beyond the multiplier effect, which is a boost to the fiscus, spending on social protection is a constitutional obligation. It is vital and enables the poor and marginalised to live in dignity as envisioned by the architects of South Africa's constitutional democracy.

References

Adelzadeh, A. (2023). *Macroeconomic and Developmental Impacts of Selected Basic Income Grant Pathways for South Africa.* Institute for Economic Justice and Applied Development Research Solutions.

Alesina, A., Barbiero, O., Favero, C., Giavazzi, F., and Paradisi, M. (2017). The Effects of Fiscal Consolidations: Theory and Evidence. *NBER Working Papers, NBER Working Papers*, Article 23385. https://ideas.repec.org//p/nbr/nberwo/23385.html

Baird, S., McKenzie, D., and Özler, B. (2018). The effects of cash transfers on adult labor market outcomes. *IZA Journal of Development and Migration*, *8*(1), 22. https://doi.org/10.1186/s40176-018-0131-9

Beetsma, R., and Giuliodori, M. (2011). The Effects of Government Purchases Shocks: Review and Estimates for the EU. *Economic Journal*, *121*(550), 4–32.

Belinga, V., Benedek, D., de Mooji, R., and Norregaard, J. (2014). *Tax Buoyancy in OECD Countries*. International Monetary Fund. https://www.imf.org/en/publications/wp/issues/2016/12/31/tax-buoyancy-in-oecd-countries-41661

Bhorat, H., and Köhler, T. (2025). The labour market effects of cash transfers to the unemployed: Evidence from South Africa. *World Development*, *188*, 106889. https://doi.org/10.1016/j.worlddev.2024.106889

Blanchard, O., and Perotti, R. (2002). An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. *The Quarterly Journal of Economics*, *117*(4), 1329–1368.

Bova, E., and Klyviene, V. (2020). Macroeconomic responses to fiscal shocks in Portugal. *Journal of Economic Studies*, *47*(5), 1051–1069.

Burrows, L. R., and Botha, A. P. (2013). Explaining the changing input-output multipliers in South African: 1980-2010. *The Biennial Conference of the Economic Society of South Africa*, 1–32.

BusinessTech. (2025). *Godongwana reveals the budget item causing VAT hike chaos in South Africa*. https://businesstech.co.za/news/government/815914/godongwana-names-the-budget-item-causing-vat-hike-chaos-in-south-africa/

Cardoso, D. (2026). *Unlocking true prosperity: Universal Basic Income. How the multiplier effect would fire up South Africa's economy | APPENDIX - technical paper*.

Cardoso, D., Carvalho, L., Lima, G. T., Nassif-Pires, L., Rugitsky, F., and Sanches, M. (2025). The Multiplier Effects of Government Expenditures on Social Protection: A Multi-country Study. *Development and Change*, *56*(1), 172–224. https://doi.org/10.1111/dech.12869

Carrière-Swallow, Y., David, A. C., and Leigh, D. (2021). Macroeconomic Effects of Fiscal Consolidation in Emerging Economies: New Narrative Evidence from Latin America and the Caribbean. *Journal of Money, Credit and Banking*, *53*(6), 1313–1335. https://doi.org/10.1111/jmcb.12784

COTA. (2022, April 5). South Africa Exits National State of Disaster – Department of Cooperative Governance and Traditional Affairs. *Government Gazette*. https://www.cogta.gov.za/index.php/2022/04/05/south-africa-exits-national-state-of-disaster/

Damons, M. (2026a). *SRD grant increase is "simply unaffordable" says Treasury*. GroundUp News. https://groundup.org.za/article/srd-grant-increase-is-simply-unaffordable-says-treasury/

Damons, M. (2026b, January 6). *Future of SRD grant uncertain, says Treasury*. GroundUp News. https://groundup.org.za/article/future-of-srd-grant-is-uncertain-says-treasury/

Deleidi, M., Iafrate, F., and Levrero, E. S. (2020). Public investment fiscal multipliers: An empirical assessment for European countries. *Structural Change and Economic Dynamics*, *52*, 354–365. https://doi.org/10.1016/j.strueco.2019.12.004

Department of Social Development. (2021). *The Assessment of the Implementation and Utilization of the special COVID-19 SRD Grant.*

Dufrénot, G., Jambois, A., Jambois, L., and Khayat, G. (2016). Regime-Dependent Fiscal Multipliers in the United States. *Open Economies Review*, *27*(5), 923–944. https://doi.org/10.1007/s11079-016-9410-3

Egger, D., Haushofer, J., Miguel, E., Niehaus, P., and Walker, M. (2022). General Equilibrium Effects of Cash Transfers: Experimental Evidence From Kenya. *Econometrica*, *90*(6), 2603–2643. https://doi.org/10.3982/ECTA17945

Fatás, A., and Mihov, I. (2001). *The Effects of Fiscal Policy on Consumption and Employment: Theory and Evidence* (SSRN Scholarly Paper No. 267281). Social Science Research Network. https://papers.ssrn.com/abstract=267281

Furceri, D., and Zdzienicka, A. (2012). The Effects of Social Spending on Economic Activity: Empirical Evidence from a Panel of OECD Countries. *Fiscal Studies*, *33*(1), 129–152.

Gassmann, F., Gentilini, U., Morais, J., Nunnenmacher, C., Okamura, Y., Bordon, G., and Valleriani, G. (2023). Is the Magic Happening ? A Systematic Literature Review of the Economic Multiplier of Cash Transfers. *Policy Research Working Paper Series, Policy Research Working Paper Series*, Article 10529. https://ideas.repec.org//p/wbk/wbrwps/10529.html

Gechert, S., Paetz, C., and Villanueva, P. (2021). The macroeconomic effects of social security contributions and benefits. *Journal of Monetary Economics*, *117*, 571–584. https://doi.org/10.1016/j.jmoneco.2020.03.012

Gechert, S., and Rannenberg, A. (2018). WHICH FISCAL MULTIPLIERS ARE REGIME-DEPENDENT? A META-REGRESSION ANALYSIS. *Journal of Economic Surveys*, *32*(4), 1160–1182. https://doi.org/10.1111/joes.12241

Gerard, F., Naritomi, J., and Silva, J. C. G. (2021). Cash Transfers and Formal Labor Markets: Evidence from Brazil : Cash Transfers and the Local Economy: Evidence from Brazil. *Policy Research Working Paper Series, Policy Research Working Paper Series*, Article 9778. https://ideas.repec.org//p/wbk/wbrwps/9778.html

Godongwana, E. (2026). *Minister Enoch Godongwana: Budget Speech 2025 | South African Government*. https://www.gov.za/news/speeches/minister-enoch-godongwana-budget-speech-2025%C2%A0-21-may-2025

Gonzalez-Garcia, M. J. R., Lemus, M. A., and Mrkaic, M. M. (2013). Fiscal Multipliers in the ECCU. *IMF Working Papers, IMF Working Papers*, Article 2013/117. https://ideas.repec.org//p/imf/imfwpa/2013-117.html

Hamer-Adams, A., and Wong, M. (2018). *Quantifying fiscal multipliers in New Zealand: The evidence from SVAR models* (AN2018/05). https://www.rbnz.govt.nz/hub/publications/analytical-note/2018/an2018-05

Hollmayr, J., and Kuckuck, J. (2018). Fiscal multipliers of central, state and local government and of the social security funds in Germany: Evidence of a SVAR*, Discussion Papers*, Article 28/2018. https://ideas.repec.org//p/zbw/bubdps/282018.html

Howson, K., Baduza, S., Setambule, T., and Khumalo, T. (2025). Systemic exclusion from a South African social assistance transfer. *Working Paper, Working Paper*, Article

a87fad44-c3c8-4ded-aa11-c514e75a264e. https://ideas.repec.org//p/avg/wpaper/en17894.html

Institute for Economic Justice. (2021). Financing options for a universal basic income guarantee in South Africa (Social Protection Series Policy Brief No. 2). Institute for Economic Justice.

International Labour Organization. (2023). *World Social Protection Data Dashboards*. Social Protection Platform | ILO. https://www.social-protection.org/gimi/WSPDB.action?id=55

International Monetary Fund. (2016). *Managing government compensation and employment—Insitutions. Policies, reform challenges*.

International Monetary Fund. Western Hemisphere Dept. (2015). Mexico: Selected Issues. *IMF Staff Country Reports*, *2015*(314), A001. https://doi.org/10.5089/9781513593432.002.A001

Izquierdo, A., Lama, R. E., Medina, J. P., Puig, J. P., Riera-Crichton, D., Vegh, C. A., and Vuletin, G. (2019). *Is the Public Investment Multiplier Higher in Developing Countries? An Empirical Investigation* (Working Paper No. 26478). National Bureau of Economic Research. https://doi.org/10.3386/w26478

Janse van Rensburg, T., de Jager, S., and Makrelov, K. H. (2022). Fiscal multipliers in South Africa after the global financial crisis. *South African Journal of Economic and Management Sciences*, *25*(1), 1–13. https://doi.org/10.4102/sajems.v25i1.4191

Jooste, C., Liu, G. (Dave), and Naraidoo, R. (2013). Analysing the effects of fiscal policy shocks in the South African economy. *Economic Modelling*, *32*(C), 215–224.

Kemp, H., and Hollander, H. (2020). Policy implications of empirically estimated fiscal multipliers for South Africa. *SA-TIED*.

Kemp, J. H. (2020). Empirical estimates of fiscal multipliers for South Africa. *WIDER Working Paper Series, WIDER Working Paper Series*, Article wp-2020-91. https://ideas.repec.org//p/unu/wpaper/wp-2020-91.html

Konstantinou, P. Th., and Partheniou, A. (2021). The Effects of Government Spending Over the Business Cycle: A Disaggregated Analysis for OECD and Non-OECD Countries. *The Quarterly Review of Economics and Finance*, *80*, 809–822. https://doi.org/10.1016/j.qref.2019.09.017

Makrelov, K., Arndt, C., Davies, R., and Harris, L. (2018). Fiscal multipliers in South Africa: The importance of financial sector dynamics. *WIDER Working Paper Series, WIDER Working Paper Series*, Article wp-2018-6. https://ideas.repec.org//p/unu/wpaper/wp-2018-6.html

Mbaleki, C. (2024). Fiscal Expenditure Multipliers in South Africa: Is there a crowding-out effect? *Studies in Economics and Econometrics*, *48*(2), 155–167. https://doi.org/10.1080/03796205.2024.2330154

Merrino, S. (2021). State-dependent fiscal multipliers and financial dynamics: An impulse response analysis by local projections for South Africa. *WIDER Working Paper Series, WIDER Working Paper Series*, Article wp-2021-77. https://ideas.repec.org//p/unu/wpaper/wp-2021-77.html

Minister of Finance. (2023). *Answering affidavit* [Case No. 2023/071891]. High Court of South Africa, Gauteng Division, Pretoria.

Montes-Galdón, C. (2013). *Are Fiscal Multipliers Larger during Recessions?* (SSRN Scholarly Paper No. 2383509). Social Science Research Network. https://doi.org/10.2139/ssrn.2383509

National Treasury. (2024). *Budget Review 2024*.

National Treasury. (2026). *Budget Review 2026*.

Ntshangase, L. S., and Ngozo, T. (2024). Quantifying Fiscal Multipliers in South Africa: A Structural Var Approach. *Journal of Economics and Behavioral Studies*, *16*(2(J)), 45–55. https://doi.org/10.22610/jebs.v16i2(J).3719

Nuru, N. Y., and Gereziher, H. Y. (2025). The impacts of public expenditure innovations on real effective exchange rate volatility in South Africa. *Cogent Economics and Finance*, *13*(1), 2523698. https://doi.org/10.1080/23322039.2025.2523698

Pereira, A., and Roca-Sagalés, O. (2011). Long‐term effects of fiscal policies in Portugal. *Journal of Economic Studies*, *38*, 114–127. https://doi.org/10.1108/01443581111096178

Ramey, V. A., and Zubairy, S. (2018). Government Spending Multipliers in Good Times and in Bad: Evidence from US Historical Data. *Journal of Political Economy*, *126*(2), 850–901. https://doi.org/10.1086/696277

Reeves, A., Basu, S., McKee, M., Meissner, C., and Stuckler, D. (2013). Does investment in the health sector promote or inhibit economic growth? *Globalization and Health*, *9*, 43. https://doi.org/10.1186/1744-8603-9-43

Restrepo, J. (2020). How Big are Fiscal Multipliers in Latin America? *IMF Working Papers, IMF Working Papers*, Article 2020/017. https://ideas.repec.org//p/imf/imfwpa/2020-017.html

Romer, C. D., and Romer, D. H. (2016). Transfer Payments and the Macroeconomy: The Effects of Social Security Benefit Increases, 1952-1991. *American Economic Journal: Macroeconomics*, *8*(4), 1–42. https://doi.org/10.1257/mac.20140348

Sanches, M. da S., and Carvalho, L. B. de. (2023). Multiplier effects of social protection: A SVAR approach for Brazil. *International Review of Applied Economics*, *37*(1), 93–112. https://doi.org/10.1080/02692171.2022.2117286

Sanusi, K. A., and Dickason-Koekemoer, Z. (2025). Estimating Time-varying Fiscal Multipliers in South Africa Using Bayesian Dynamic Linear Model. *International Journal of Economics and Financial Issues*, *15*(6), 481–489. https://doi.org/10.32479/ijefi.21319

Schröder, E., and Storm, S. (2020). *Fiscal policy in South Africa: Closed input-output income and employment multipliers*. *Research Note*(1).

Şen, H., and Kaya, A. (2020). How large are fiscal multipliers in Turkey? *Turkish Studies*, *21*(5), 772–799. https://doi.org/10.1080/14683849.2019.1696677

Silva, R., Carvalho, V. M., and Ribeiro, A. P. (2013). How large are fiscal multipliers? A panel-data VAR approach for the Euro area. *FEP Working Papers, FEP Working Papers*, Article 500. https://ideas.repec.org//p/por/fepwps/500.html

South African Revenue Service. (2026). *Media Release: SARS crosses historic R2 Trillion mark in Net Revenue Collection in our democracy | South African Revenue Service*. https://www.sars.gov.za/latest-news/media-release-sars-crosses-historic-r2-trillion-mark-in-net-revenue-collection-in-our-democracy/

SPII. (2021). *The Efficacy of Fiscal Policy in South Africa: Fiscal Multipliers and the financing of a Basic Income Guarantee*. Social Policy Institute.

Spilimbergo, M. A., Schindler, M. M., and Symansky, M. S. A. (2009). Fiscal Multipliers. *IMF Staff Position Notes, IMF Staff Position Notes*, Article 2009/011. https://ideas.repec.org//p/imf/imfspn/2009-011.html

StatsSA. (12026). *Quarterly Labour Force Survey: Quarter 1 2026* (Statistical Release No. 2026; P0211). Statistics South Africa.

Tembo, T. (2026). *Relief for millions as Godongwana extends SRD grant*. IOL. https://iol.co.za/capeargus/news/2025-11-12-relief-for-millions-as-godongwana-extends-srd-grant/

Tiberti, L., Maisonnave, H., Chitiga, M., and Mabugu, R. (2018). Reforming grants to tackle child poverty: An integrated macro-micro approach. *World Development*, *112*, 272–281. https://doi.org/10.1016/j.worlddev.2018.08.023

Tuladhar, A., and Bruckner, M. (2010a). Public Investment as a Fiscal Stimulus. *IMF Working Papers*, *2010*(110), 1. Crossref. https://doi.org/10.5089/9781455200696.001

Tuladhar, A., and Bruckner, M. (2010b). Public Investment as a Fiscal Stimulus. *IMF Working Papers*, *2010*(110), 1. Crossref. https://doi.org/10.5089/9781455200696.001

van den Heever, A., Chitiga-Mabugu, M., Devereux, S., Leibbrandt, M., Sachs, M., van Heerden, J., and Wright, G. (2021). *Expert Panel on Basic Income Support: Final Rport*. Department of Social Development.

Ventzislav, I., and Lutz, K. (2005). A Practitioner's Guide to Lag Order Selection For VAR Impulse Response Analysis. *Studies in Nonlinear Dynamics and Econometrics*, *9*(1), 1–36.

Wemans, L., and Pereira, M. C. (2013). Output effects of a measure of tax shocks based on changes in legislation for Portugal. *Working Papers, Working Papers*, Article w201315. https://ideas.repec.org//p/ptu/wpaper/w201315.html

World Bank. (2021). *South Africa: Social Assistance Programs and Systems Review*.

Appendix

Appendix A: Detailed discussion of the methodology

The relationship is modelled using a reduced-form VAR of the form:

$$Y_T = A(L)Y_{T-1} + u_T$$

Where Y is a 3x1 vector of government spending (g), primary tax revenue (T), and output (y). L is an operator representing the number of lags in the model. A is a matrix representing the autoregressive coefficients that capture the effects of past values of the variables on their current levels. Finally, the u represents a vector of reduced-form error terms capturing unexpected contemporaneous shocks to the system. The model is a 3-dimensional system of endogenous relationships between output, spending, and revenue.

The key econometric problem the SVAR method seeks to solve is that, given the endogenous relationships between these variables, the reduced-form errors will be contemporaneously correlated with each other, i.e we can not separate of a specific unexpected change in one variable because they all move together. Consequently, it is not possible to isolate the specific effect of an independent shock using just the reduced-form model. There would be no way to determine, for example, if an unexpected movement in GDP is being driven by a policy shock in spending or if it is the result of an exogenous macroeconomic movement. Because of this simultaneity problem, the reduced-form VAR alone has no structural economic significance. It cannot tell us anything about how the system responds to changes in a specific beyond just laying out the general trends “

Structural VAR

To do so, and to understand the sequential relationship between changes in variables, Blanchard and Perotti (2002) decompose the reduced-form residuals generated by the VAR, into three components:

a. Automatic responses of fiscal variables to changes in output.
b. Discretionary responses of fiscal policy to changes in another fiscal policy variable.
c. Pure structural shocks in the variable of interest that are uncorrelated and unobservable.

Their analysis relies on key assumptions derived from empirical observation and economic theory, related mainly to the likelihood that causal effects on a specific variable, stemming from large-scale or unexpected changes in another variable, will take place in the same month or quarter. Making these assumptions allows researchers to order variables, to see how one reacts

to another. In our case, because we want to understand the impact of changes in social assistance expenditure, the order is (1) expenditure, (2) tax revenue, (3) output.

Therefore, the first step is to estimate the reduced-form VAR and extract the residuals, which can be decomposed as follows:

$$u_g = \alpha_{gy} u_y + \beta_{gt} e_t + e_g$$

$$u_t = \alpha_{ty} u_y + \beta_{tg} e_g + e_t$$

$$u_y = \gamma_{yg} u_g + \gamma_{yt} u_t + e_y$$

Where u_g, u_t, and u_y represent the reduced-form residuals, and e_g, e_t, and e_y represent the structural (exogenous) shocks. Subscripts ij denote the response of variable i to a movement in variable j.

Spending equation: Unexpected movements in spending (u_g) are the result of automatic spending responses to unexpected changes in GDP ($\alpha_{gy} u_y$), spending responses to structural tax shocks ($\beta_{gt} e_t$), and pure structural shocks to spending itself (e_g).

Revenue equation: Unexpected movements in tax revenues (u_t) are the result of automatic tax responses to unexpected changes in GDP ($\alpha_{ty} u_y$), tax responses to structural spending shocks ($\beta_{tg} e_g$), and pure structural shocks to tax (e_t).

Output equation: Unexpected changes in output (u_y) behave differently; GDP responds to the total unexpected shocks in fiscal variables, regardless of their nature. Thus, unexpected changes in GDP are the sum of the GDP response to unexpected changes in social spending ($\gamma_{yg} u_g$), the GDP response to unexpected changes in revenue ($\gamma_{yt} u_t$), and pure structural shocks to GDP (e_y).

In matrix form, this identification of structural shocks can be written as:

$$Au_t = Be_t$$

or $$e_t = B^{-1} A u_t$$

or $$e_t = F u_t$$

Where A is a matrix of the α coefficients that capture the contemporaneous relationships between the reduced-form residuals (how the variables react to each other's unexpected changes), and B is a matrix of the β coefficients that capture the reactions to the pure, uncorrelated structural shocks. To make the matrix F identifiable so we can extract these structural shocks, we follow the Blanchard and Perotti approach and apply these four key institutional assumptions:

Assumption 1: No discretionary fiscal policy responses to unexpected changes in output.

Blanchard and Perotti argue that in high-frequency (monthly or quarterly) data there are no discretionary fiscal policy responses to unexpected changes in GDP. Policymakers cannot make discretionary adjustments to spending in response to unexpected movements in GDP within the same quarter because it would take longer than a quarter for policymakers to perceive changes in output, decide on an appropriate action, and then present proposed changes to the legislature or Treasury.

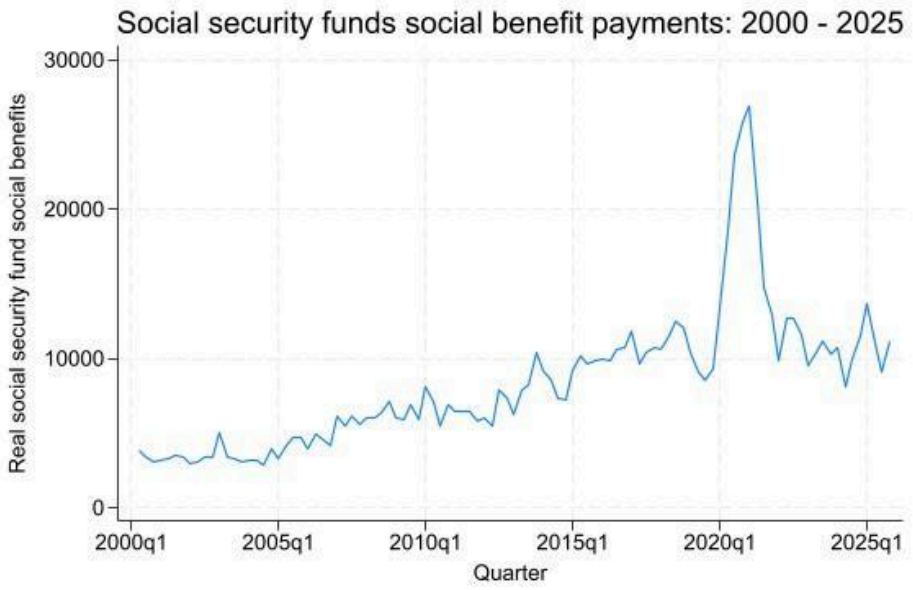
This means, for example, that the DSD would not increase grant values or introduce a new grant in response to a sudden drop in GDP (caused by, say, an international oil price shock) within the exact same quarter (or month) that the shock occurs. Such discretionary increases would require an amendment to the regulations governing social grants (which first need to be published for comment), and so would take longer than a quarter to implement. This assumption means then that the contemporaneous response of fiscal policy to unexpected changes in output could only happen through automatic stabilisers.

Assumption 2: No automatic spending response to unexpected changes in GDP

However, the second assumption is that there is in fact no automatic stabiliser between spending and GDP. Blanchard and Perotti make this assumption because empirically they find no contemporaneous feedback between government expenditure and output. While it is a standard approach to maintain this assumption when analysing total government spending, some literature argues for the existence of automatic stabilisers when the SVAR approach is applied specifically to social spending (Hamer-Adams and Wong, 2018; Montes-Galdón, 2013; Wemans and Pereira, 2013). For example, unemployment insurance inherently creates an automatic response of spending to GDP; when GDP falls and unemployment rises, more people claim unemployment benefits, automatically raising spending. This spending then adjusts downwards when GDP recovers and employment rises again. Nevertheless, a common approach in the literature is to maintain the zero-response assumption while explicitly acknowledging that this might yield lower-bound multiplier estimates (Cardoso et al., 2025; Sanches and Carvalho, 2023).

In the South African context, there are strong reasons to believe that the unemployment insurance (UIF) scheme does act as an automatic stabiliser—when GDP is low and

unemployment is high, UIF claims increase, driving up spending. This is evident, for example, in the sharp rise in social benefits paid out of social security funds during the Covid-19 period. (figure x below). However, as a share of total social benefits, social security fund payments (which include UIF, but also the Road Accident Fund (RAF), the Compensation Fund, and the Compensation Commissioner for Occupational Diseases in Mines and Work) account for only 20% of total consolidated general government spending on social benefits.



The system is overwhelmingly dominated by social grants. While means-tested grants could theoretically be linked to movements in GDP via unemployment, the majority of South Africa's longstanding grants are means-tested only upon initial application, with relatively sporadic and random reviews. They are also mainly for non-labour market participants—children, the elderly, and disabled people. Therefore, we can safely assume a weaker structural automatic channel.

An exception is the COVID-19 SRD grant, which is means-tested monthly. However, because it only moved to this mode in April 2022 (before, strict means testing was only applied on appeal), it only represents a small minority of the full sample horizon. Therefore, the effect of this automatic channel is still likely to be small. Consistent with the broader literature, we assume that our calculated multiplier is likely slightly underestimated as a result, meaning our model provides a conservative lower-bound estimate.

Assumption 3: No contemporaneous spending response to tax reform

It is assumed that spending decisions are predetermined relative to taxes. This means that spending does not react to unexpected tax changes within the same quarter. The rationale is that spending is typically determined in advance through the budgeting process. It would take

longer than a quarter for a department like DSD to adjust its spending plan in response to an unexpected tax policy change from the Treasury.

It could also be argued that the reverse is true, that the Treasury cannot easily change tax policy in the same quarter as an unexpected spending shock. Blanchard and Perotti (2002) note that there is no theoretical basis to prioritise one ordering over another. However, because the correlation between the structural fiscal residuals is typically very small, the choice of ordering has little impact on the resulting IRFs and thus the overall multiplier.

Assumption 4: Tax buoyancy can be estimated externally

While Assumption 1 rules out discretionary tax responses to GDP, there is an automatic response of revenue to output, which depends on the structure of the tax system. This parameter can be estimated externally from the VAR. We do so using the IMF method for calculating tax buoyancy, which measures the elasticity of taxation to changes in GDP.

This is estimated using an Autoregressive Distributed Lag (ARDL) model which allows for a flexible dynamic relationship between tax revenue and GDP:

$$lnt_T = \sum_{j=1}^{p} \phi_j lnt_{T-j} + \sum_{j=0}^{q} \theta_j lny_{T-j} + x_i + \varepsilon_T$$

Where t is tax revenue in quarter T, and y is GDP, x is a trend control term and ε is the error term. Both GDP and taxes are expressed in logs. Changes in taxes can be explained by previous value of taxes and both contemporaneous and past terms of GDP. The optimal lags p, and q are determined by the Bayesian Information Criterion.

Assuming a simple ARDL(1,1), the above model can be transformed into a single Error Correction Model (ECM) to separate short-run and long-run dynamics.

$$\Delta lnt_T = \lambda(lnt_{T-1} - \beta\ lny_{T-1}) + \theta_0 \Delta lny_T + x + \varepsilon$$

The instantaneous response (θ_0) provides the parameter required for the SVAR. In the literature, a reasonable buoyancy level for middle-income countries is often above 1 (e.g., Restrepo (2017) assumes it to be 2 for Latin American countries). The South African Revenue Service (SARS) reports buoyancy occasionally, with the latest estimate at 1.78 (South African Revenue Service, 2026). The results of our ARDL point to an instantaneous effect of 1.21, short-run buoyancy of 1.76, and long-run buoyancy of 1.43. This means that for our SVAR, a 1% increase in GDP, leads to a 1.21% contemporaneous increase in tax revenues. We later show that the multiplier is robust to different chosen values for tax buoyancy.

Applying the assumptions
The fiscal variables can be stripped of their automatic stabiliser components.

$$u_g^{ca} = u_g - \alpha_{gy} u_y = \beta_{gt} e_t + e_g$$

$$u_t^{ca} = u_t - \alpha_{ty} u_y = \beta_{tg} e_g + e_t$$

Applying the restrictions allows us to sequentially extract the structural shocks (e_g, e_t, e_y) from the reduced-form residuals.

Step 1: The Structural Spending Shock (e_g)

Applying Assumptions 1 and 2 ($\alpha_{gy} = 0$) and Assumption 3 ($\beta_{gt} = 0$), the spending equation simplifies entirely. The unexpected movements in spending are simply equal to the structural shocks to spending:

$$e_g = u_g$$

Step 2: The Structural Tax Shock (e_t)

Using our externally estimated tax buoyancy parameter (α_{ty}), which is equal to 1.21 in our baseline regression. We regress the cyclically adjusted tax residual (u_t^{ca}) on our previously identified structural spending shock (e_g) using Ordinary Least Squares (OLS) with no constant. A regression of the form:

$$u_t^{ca} = \beta_{tg} e_g + e_t \quad This\ regression\ gives\ us\ the\ parameter\ \beta_{tg}$$

(the response of taxes to structural spending shocks). The residuals extracted from this OLS regression represent the pure structural tax shocks (e_t).

Step 3: The Structural Output Shock (e_y)

Finally, we must uncover the structural shock to output e_y. The reduced-form output equation is:

$$u_y = \gamma_{yg} u_g + \gamma_{yt} u_t + e_y$$

Because the reduced-form residuals (u_g, u_t, u_y) are correlated, estimating this equation via simple ordinary least squares (OLS) regression would result in biased estimates. However, because we have already identified the pure structural shocks for spending (e_g) and taxes (e_t), we use them as instruments. We run a Two-Stage Least Squares (2SLS) regression (with no constant), using e_g and e_t as instruments for their reduced-form counterparts (u_g and u_y). The 2SLS regression gives us the parameters γ_{yg} and γ_{yt}. The residuals extracted from this 2SLS regression give us our final structural output shocks (e_y).

With all three structural residuals uncovered, we verify that they are indeed mutually uncorrelated [see Table A1]. The table below contrasts the correlation of reduced-form residuals with the extracted structural shocks, it confirms that the latter are entirely orthogonal and thus that our identification strategy is valid. These orthogonalized structural shocks are then used to compute the Impulse Response Functions (IRFs) of the SVAR model.

Table A1: Correlation matrices of SVAR residuals

Variable	u_g	u_t	u_y
u_g	1.0000		
u_t	0.1804	1.0000	
u_y	0.0116	0.4451	1.0000
	e_g	e_t	e_y
e_g	1.0000		
e_t	0.0000	1.0000	
e_y	-0.0000	0.0000	1.0000

Calculating the fiscal multipliers

There are several ways to estimate and report fiscal multipliers. In general, a fiscal multiplier is the change in GDP (or a specific component of GDP) caused by a shock in a fiscal variable.
Multiplier = $\frac{\Delta y}{\Delta g}$

When data is estimated in log-differences as is often the case in SVAR literature, the resulting Impulse Response Functions (IRFs) do not output a direct multiplier. Instead, the IRFs provide an elasticity—the percentage change in output for a given percentage change in spending.

$$\epsilon_{y,g} = \frac{\Delta y/y}{\Delta g/g} = \frac{\Delta y}{y} * \frac{g}{\Delta g} = \frac{\Delta y}{\Delta g} * \frac{g}{y}$$

To convert this elasticity into a standard rand-for-rand multiplier, we divide the estimated response by the average ratio of the fiscal policy variable to output over the sample period.

$$\epsilon_{y,g} \div \frac{g}{y} = \frac{\Delta y}{\Delta g} * \frac{g}{y} \div \frac{g}{y} = \frac{\Delta y}{\Delta g} * \frac{g}{y} * \frac{y}{g} = \frac{\Delta y}{\Delta g}$$

Multipliers differ depending on the forecast horizon being analysed. We follow the standard procedure in social spending multipliers (informed by Ramey and Zubairy (2018)) and calculate and the following types of multipliers:

Impact Multiplier: The immediate response of GDP following a shock to the fiscal variable

$$\frac{\Delta Y(t)}{\Delta G(t)}$$

Peak Multiplier: The largest value of the multiplier across the forecast horizon.

$$max \frac{\Delta Y(t+N)}{\Delta G(t)}$$

Cumulative Multiplier: The accumulated response of GDP over a specific time horizon, divided by the accumulated response of the fiscal variable over that same horizon. This is the most widely reported metric in the modern literature, as it approximates the long-term effect of the policy..

$$\frac{\Sigma_{j=0}^{N} \Delta Y(j+t)}{\Sigma_{j=0}^{N} \Delta G(j+t)}$$

For our analysis, we model the accumulated response over a horizon of 10 quarters, while the long run multiplier is technically the multiplier as time approaches infinity, in practice authors consider the periods needed for the multiplier to stabilise. In other words, it is the time for the IRFs to return to 0, which has commonly been found to be between 8 and 12 periods (Cardoso et al., 2025; Gonzalez-Garcia et al., 2013; Sanches and Carvalho, 2023).

Appendix B: Unit Root Testing

Table A2: Unit Root Test Results

Variable (logged)	ADF (Levels)	ADF (1st Diff)	PP (Levels)	PP (1st Diff)	KPSS (Levels)	KPSS (1st Diff)	Order of Integration
Social Spending (g)	-2.097	-5.511***	-2.560	-17.231***	0.355***	0.033	$I(1)$
Tax Revenue (t)	-1.182	-6.054***	-1.571	-17.771***	0.589***	0.051	$I(1)$
Output (y)	-0.123	-6.066***	-0.712	-17.560***	0.616***	0.129*	$I(1)$

*Note: ***, ** , and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. ADF is the Augmented Dickey-Fuller test, PP is the Phillips-Perron test, and KPSS is the Kwiatkowski–Phillips–Schmidt–Shin test. All tests include an intercept and a trend. For the ADF and the PP tests, the null hypothesis (H_0) is the presence of a unit root (non-stationarity). The null is inverted for the KPSS test, the null is trend stationarity. All variables are confirmed to be integrated of order one I(1) at at least 95% level of significance.*

Appendix C: Lag Selection

Lag	LL	LR	FPE	AIC	HQIC	SBIC
0	589.285	—	9.9e-10	-12.2188	-12.0549	-11.8130
1	639.707	100.840	4.1e-10	-13.1001	-12.8379	**-12.4508***
2	652.880	26.347	3.8e-10	-13.1889	-12.8283	-12.2961
3	662.960	20.160	3.7e-10	-13.2119	-12.7529	-12.0756
4	672.550	19.179	3.7e-10	-13.2245	-12.6671	-11.8446
5	686.388	27.677	3.3e-10	-13.3274	-12.6717	-11.7040
6	710.643	48.510	2.4e-10	-13.6520	-12.8979	-11.7851
7	720.005	18.723	2.5e-10	-13.6597	-12.8072	-11.5493
8	739.333	**38.656***	**2.0e-1***	**-13.8794***	**-12.9286***	-11.5255

*Note: * represents the optimal lag*