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Macroeconomic stimulus packages and income inequality in developing countries: Lessons from the 2007-9 Great Recession for the Covid-19 crisis in South Africa

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Abstract

In 2020, the South African government announced that it was planning to implement an ambitious macroeconomic rescue package worth about 10% of the country's gross domestic product (GDP) to cushion the economy from the socioeconomic impact of Covid-19 lockdown. However, it was unclear what the likely effects of the package's measures would be on income growth and employment in the post-crisis recovery period. This paper uses a fiscal multiplier framework to examine the links between such packages and patterns of growth, employment and inequality in nine developing counties during the recovery period following the Great Recession of 2007-2009. The findings indicate that countries which privileged larger fiscal packages enacted through public infrastructure investments had more favourable outcomes in terms of employment recovery and preventing the worsening of poverty. Moreover, the implementation of deficit-financed stimulus packages did not lead to unsustainable debt levels or persistent inflation. As South Africa contemplates rolling out a sizable new infrastructure stimulus package to tow the economy out of the current crisis, insights from those experiences may provide useful lessons for building a more equitable and more shock-resilient post-Covid-19 economy.

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1

1 Introduction

As the Covid-19 pandemic continues to spread across the planet, lockdowns have been imposed in most countries, significantly curtailing economic activity and forcing communities around the world to brace for the impact of a severe downturn. Most reliable estimates agree that the fallout of the Covid-19 pandemic will lead to an economic crisis comparable to the 1930-33 Great Depression.[1] Both developed and developing economies expect to be severely affected by the shock and have adopted bold macroeconomic stimulus packages to protect public health and prevent an employment haemorrhage, while gearing for the post-pandemic economic rebound (Baldwin and Weder di Mauro, 2020; Galí, 2020). Alongside fiscal measures to support affected businesses, colossal amounts of liquidity were injected into their financial markets in order to bail out most large banks and protect large corporations from an almost certain collapse (Krugman, 2009; Torres, 2011; Verick and Islam, 2010). In the absence of fiscal and monetary policy measures commensurate with the scale of the threat, the economic fallout of the current national lockdowns being imposed across the world could afflict the entire global economic system and continue to reverberate long after the health crisis itself has come under control. In South Africa, the government responded to the crisis in 2020 by announcing an ambitious ZAR500 billion fiscal response package combined with an estimated additional ZAR300 billion in monetary policy injections by the South African Reserve Bank (South Africa National Treasury, 2020). The proposed short-term interventions alone represented more than 10 percent of the country's gross domestic product (GDP), yet they are far from enough to adequately cushion the economy from the impact of the exogenous shock produced by the pandemic and national lockdown measures or to enable the economy to recover and become more productive after several years of underperformance (Mohamed,

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[1]In the supplementary budget speech presented in June 2020, the South African Minister of Finance projected a GDP contraction of 7.2 percent in 2020/21 fiscal year.

2009; Luiz, 2016; Kruss, 2020). What is more, only 10 percent of the proposed sum was earmarked to provide support to vulnerable households, which raises important questions over the potentially skewed distributional aspect of the intervention (see **Table** 1). The government now plans to put infrastructure spending at the heart of the post-pandemic stimulus for economic recovery (Creamer, 2020; Sguazzin, 2020; Larkin, 2020). Against this background, this study poses a number of key questions to examine the benefits that may derive from stimulus packages in situations of economic shock and how these may be most effectively leveraged:

- What are the likely distributional effects of these stimulus packages on the dynamics of recovery growth, employment and inequality?

- How does the structure of stimulus packages and their proposed roll-out affect the distributional outcomes in the recovery period?

- Which lessons could be learned from the fiscal responses to past crises in terms of fostering the economic resilience and inclusion in the post-crisis period?

Macroeconomists tend to have divergent views on which monetary and fiscal targeting strategies are most effective for a strong recovery and a robust post-crisis growth rate (see e.g. Goodfriend and King, 1997; Clark, 2011; Ravallion, 2009). They also highlight important trade-offs that exist between social equity and economic efficiency, and between risk insurance and moral hazard, as well as the intertemporal trade-off between current and future consumption.[2] Understanding the bearing mechanisms through which such packages affect economic performance and distributional outcomes is key to analysing the adequacy of current macroeconomic measures and avoiding the shortcomings of past policies and their adverse effects.[3] The fiscal multiplier framework provides relatively simple, yet practical and efficient tools to estimate the likely impact of a given fiscal policy intervention on output expansion (Spilimbergo et al., 2009). For example, it is

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[2]Contenders of the equity vs efficiency trade-off see the provision of safety nets for the poor as being harmful, at best neutral to economic growth; those who highlight the insurance-moral hazard trade off argue that bailouts in a crisis may encourage excessively risky behavior in the future. Intertemporal trade-off is concerned with the choice between poverty now and poverty in the future.

[3]Distribution matters because achieving good rates of economic growth is not *per se* sufficient to translate into poverty reduction unless the benefits of economic growth are more equitably distributed (Lee et al., 2013).

Table 1: South Africa's COVID-19 fiscal response package

Target program	Amount in R million
Credit Guarantee Scheme	200 000
Job creation and support for SME	100 000
Tax measures for income support	70 000
Support to vulnerable households for 6 months	50 000
Wage protection	40 000
Health and other frontline services	20 000
Support to municipalities	20 000
Total	**500 000**

Source: National Treasury of South Africa (2020)

generally acknowledged that public expenditure for a stronger social protection system and measures for job creation are more effective than tax cuts in countering the impact of a global economic downturn (Spilimbergo et al., 2009; OECD, 2009; Verick and Islam, 2010). Conversely, an insufficient fiscal response due to a narrow fiscal space that a given government may be facing, can lead to unnecessary hardships for households if the monetary policy decision makers are too rigid on inflation targeting and reluctant to allow counter-cyclical spending (Vera, 2009; Baldwin and Weder di Mauro, 2020). Krugman (2009) for instance, found that the insufficiency of the US stimulus package in response to the 2008 Global Financial Crisis, which only amounted to 1 percent of national GDP, made it difficult for the economy to recover quickly. He estimated that an additional 4 percent of GDP would have been necessary to achieve a quick recovery. [4]

Over recent years, the new neoclassical synthesis (NNS, also called the new Keynesian synthesis) has become the most utilised analytical framework for the estimating the effects of monetary policy effects. This synthetic theory can accommodate real business cycle dynamics, technological change, sticky prices and rational expectations. Different models have been developed to formalise such a framework so that it can be estimated as a dynamic stochastic general equilibrium (DSGE) in a steady state (Smets and Wouters, 2007; Goodfriend and King, 1997). However, the distributional effects of fiscal or monetary policy responses on the dynamics of poverty and income inequality

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[4]An example of such a response is found in the 2008 crisis in Europe, where the stigma of accepting financial aid under the European Stability Mechanism programme led to too little recapitalisation, which resulted into a weaker system and an prolongation of the banking crisis that could have been avoided (Baldwin and Weder di Mauro, 2020).

in times of crisis are more complex and difficult to model using mathematical tools. In this regard, disagreements among micro-economists has led to a diversity of models being produced (Goodfriend and King, 1997); and the country-specific conditions surrounding any macroeconomic policy interventions during crises imply that an experience-based analysis may be the most appropriate approach to guide macroeconomic policy interventions and subsequent analysis of their impact. Next to fiscal and monetary policy measures, the allocation of national income between investment profit earners and wage earners also affects capacity utilisation and growth dynamics (see e.g. Bhaduri and Marglin, 1990; Bhaduri, 2008; Lavoie and Stockhammer, 2013). This implies that shifts in national income distribution may be leveraged to stimulate aggregate demand if the prevailing economic regime presents credit constraints to consumers with a high marginal propensity to consume (MPC). This study has consequently been undertaken with the aim of providing an exploratory analysis of the effects of crisis-induced macroeconomic stimulus packages on real income growth and inequality in developing countries, so that some useful lessons can be drawn for South Africa as it plans its macroeconomic options to weather the forthcoming recession.[5]

The study focuses on linking the recovery experiences of developing economies in Africa (in Kenya, Mauritius and Nigeria), Asia (in China, Indonesia and Turkey) and Latin America (in Argentina, Brazil and Chile) to the macroeconomic intervention measures that they undertook in response to the 2007-2009 Great Recession. These comparator countries were chosen for this study because their economic conditions present significant degrees of similarity with those in South Africa. Mauritius in particular, even though it is a small island economy, has striking similarities with South Africa in terms of its connections to European financial markets and its trade links, as well as in terms of its business cycles and investment flows. At a time when most countries affected by the current Covid-19 pandemic are scrambling to develop and implement new macroeconomic stimulus measures to shield their economies from the looming threat of recession, it is important to learn lessons from the failures and successes of past stimulus packages. The analysis applied the fiscal multiplier framework (Spilimbergo et al., 2009) and in-

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[5]In the context of dealing with a crisis within a narrow fiscal space, this study also uses Roy (2010) fiscal diamond framework to analyse how the country balances different financing sources to broaden its fiscal space.

sights from the new neoclassical synthesis model, as well as a case study methodology to analyse the multiplier effects of the Great Recession fiscal interventions among the selected sample. The goal was to derive implications for the macroeconomic responses to the COVID-19 crisis proposed by the South African government. This discussion also takes clues from the ongoing post-Keynesian debates on wage-led versus profit-led growth (Bhaduri and Marglin, 1990; Lavoie and Stockhammer, 2013; Palley, 2017). Overall, the form of analysis adopted by this study has the advantage of being grounded in empirical observation, while also taking into account each country's specific characteristics and how these affect its particular multipliers. The aim is to use the available characteristics to synthesise a reliable frame, which can be used to produce reasonable estimates of probable impacts on income, employment and inequality in the recovery period. This study proceeds as follows: Section 2 presents the fiscal multiplier and the new neoclassical synthesis analytical frameworks used to link the macroeconomic policy interventions to the expected subsequent economic performance during the recovery period. It also gives an overview of the main insights from the profit- versus wage-led growth debate. Thereafter, section 3 presents historical experiences of macroeconomic policy interventions during the Great Recession in the nine comparator countries and South Africa. Section 4 makes an attempt to discern the performance and distributional patterns that connect the outcomes of the growth trajectories of these countries with the structure and implementation of their stimulus packages. Thereafter, section 5 discusses some key insights from the experiences of the Great Recession and the implications of these for South Africa. Section 6 examines the potential and limitations of South Africa's Covid-19 ZAR500 million fiscal response package in light of the main insights from sections 4 and 5. Section 7 concludes by synthesising the main findings and reflecting on macroeconomics-theory debates and issues of concern for South Africa in its current predicament, which is one of structural stagnation within a narrow fiscal space.

2   Analytical frame for macroeconomic policy interventions

How does the adoption of countercyclical macroeconomic policy measures by governments and central banks, (like fiscal stimulation and monetary expansion), actually help to

mitigate crises and enhance economic performance? Fiscal multipliers (Spilimbergo et al., 2009; Sinai, 2009) are useful tools to analyse the effects of fiscal measures on the expansion of output; whereas monetary policy theories, such as the New Neoclassical Synthesis models with sticky prices, is most commonly used to analyse the effects of monetary policy interventions (Smets and Wouters, 2007; Vera, 2009; Nassif et al., 2020). This section considers these analytical tools and explores how they are used; then highlights some of the debates about the effectiveness of their application during crises such as the ongoing COVID-19 pandemic.

2.1 Fiscal multiplier framework

This framework is used to measure the extent to which increases in government spending or tax cuts contribute to expanding output by stimulating aggregate demand. The fiscal multiplier measures the ratio at which an exogenous change in the fiscal expansion measure (government spending $[\Delta G]$ or tax cut $[-\Delta T]$ produces a change in output $[-\Delta Y]$ relative to their respective baselines.

Different multipliers are used, depending on the time frame considered:

$$\text{The impact multiplier:} \equiv \frac{\Delta Y(t)}{\Delta G(t)}$$

$$\text{The multiplier at some time horizon T} :\equiv \frac{\Delta Y(t+T)}{\Delta G(t)}$$

$$\text{The peak multiplier} :\equiv \max_N \left(\frac{\Delta Y(t+T)}{\Delta G(t)} \right)$$

$$\text{The cumulative multiplier} :\equiv \frac{\sum_{j=0}^{N} \Delta Y(t+j)}{\sum_{j=0}^{N} \Delta G(t)}$$

The impact multiplier represents the immediate effects of the fiscal stimulus measure taken at time t on the output in the same year, while the multiplier at some horizon T indicates the corresponding change in output in the year t+T as a response to the same stimulus. The cumulative multiplier, as its name indicates, reflects the total effects of

the fiscal intervention on output over the considered period and is typically larger than the impact or peak multipliers Spilimbergo et al. (2009). The size of the multiplier is influenced by three main factors:

- Leakages (=saving of the stimulus money or spending it on imports);

- Monetary conditions (change in interest rate as a consequence of the fiscal expansion);and

- The sustainability of the country's fiscal position after the stimulus.

The fiscal multiplier will usually be larger if: there are limited "leakages", i.e. the interest rate does not change as a result of the stimulus, and the fiscal position of the country remains sustainable after the stimulus (**Table** 2). To minimize the leakages the stimulus package must have a higher government spending component, relative to tax cuts, because direct spending produces an immediate effect on demand, while those who benefit from tax cuts may save (part of) their additional income (see.e.g. Anos Casero et al., 2010, for Argentina). The marginal propensity to consume must be large: the measures should therefore be targeted at those consumers who are most constrained by a lack of liquidity. Moreover, the consumers should be expected to anticipate large increases in future taxes and therefore compensate by increasing their current savings against an increase in debt.

Table 2: Estimates of fiscal multipliers for different types of fiscal measures

Type of fiscal measure	Main value of multiplier
Capital expenditure	1.1
Other gvt expenditure	0.65
Tax cuts	0.45
Source: Spilimbergo et al (2009)	
Government expenditure	1.1
Corporate tax cuts	0.3
Personal income tax cuts	0.5
Indirect tax cuts	0.5
Reduction in Social security contributions	0.4
Source: OECD (2009)	

How should fiscal multipliers be used to produce estimates of the economic effects?

The size of the fiscal multiplier depends on the specific country, varies in time and is affected by the circumstances under which the stimulus is provided. The reliability of fiscal multiplier estimates is challenged by a number of methodological difficulties related to how they are calculated . The main empirical challenge is posed by what is commonly known as the "simultaneity bias", which may occur, for example, when the increased government spending (or tax cut) comes in response to a shock cut in output. Four different methods can be used to calculate multipliers, depending on data availability: model simulation (using IS/LM [Investment Savings/Liquidity preference Money supply] modelling); a case study approach that considers identifiable episodes of exogenous fiscal expansion; vector auto-regression (VAR); and econometric studies of how consumers respond to fiscal shocks (Spilimbergo et al., 2009), although these suffer from the drawback of being specific to the particular measures and surrounding economic conditions being studied, which means that the findings cannot readily be extrapolated and applied to a different situation. If a country has sufficiently detailed data on government spending and output, its fiscal multipliers can be calculated by taking account of its specific circumstances. Availability of data covering long periods makes it possible to estimate more reliable multipliers for the country in question. According to Spilimbergo et al. (2009), an impact multiplier will typically be between 1.5 and 1 for government spending measures in large countries. It will range from 1 to 0.5 for medium-sized countries; and will feature values of 0.5 or less for small open economies as a rule of thumb. Revenue and transfers produce smaller multipliers of approximately half of the above values; while investment spending can be expected to generate slightly larger multipliers. However, fiscal multipliers can also be negative, especially if the stimulus weakens the country's fiscal sustainability or is simply perceived as such. Verick and Islam (2010) compared the multipliers for the different component of fiscal packages across a range studies (Table 2) and suggest that when governments prepare to enact fiscal stimulus packages, they should allocate more resources to spending measures than to tax cuts. Within the spending measures, policymakers are advised to focus on capital investment, such as spending on employment-intensive infrastructure, because this is where the largest impact on output and employment can be generated relative to the

amount of money spent. Using data from the United States (US), Sinai (2009) also identified transfers as having a slower but significant multiplier effect on real GDP which lasts through the simulation interval. The effects of capital spending on economic growth are higher and last longer than those produced by federal government purchases, even though they appear to have less impact on reducing unemployment.

2.2 New Neoclassical Synthesis and the effects of monetary policy

New neoclassical synthesis models have become the most commonly used econometric tools for analysing monetary policy (Smets and Wouters, 2007). NNS grew out of neoclassical synthesis and real business cycles theory to incorporate intertemporal optimisation and rational expectations (Lucas et al., 1976; Sargent, 1978; Sargent and Wallace, 1975) into dynamic macroeconomic models (Goodfriend and King, 1997; Smets and Wouters, 2007). The aims of NNS modelling are comparable to those of the real business cycles models: it seeks to quantitatively model economic fluctuations (Goodfriend and King, 1997). The approach also borrows the concepts of imperfect competition and costly price adjustment considerations from new Keynesian economics. New neoclassical synthesis models are thus relatively complex, since they have to take account of the impacts of monopolistic competition; dynamic wage setting; costly price adjustment; rational expectations; and intertemporal optimisation, while at the same time providing for the role of monetary policy (Barro, 1976; McCallum, 1980; Smets and Wouters, 2007). The importance attached to price-level stickiness in the neoclassical synthesis model led to recognition of the powerful effects of monetary policy (Barro, 1976; Goodfriend and King, 1997). With the neoclassical synthesis model, monetary policy reaction can be analysed by empirically modelling it as an adaptive response to changes in the complex relationships in the dynamics of production, consumption, investment, capital utilisation and exogenous spending as a result of exogenous shocks (Taylor, 1993). In this regard, monetary policy authorities are assumed to adjust the interest rate r_t gradually in response to the dynamics of inflation and the output gap, according to the Taylor rule. The output gap is defined as the difference between actual and potential output (Taylor, 1993).[6]

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[6]Potential output is the level of output that would prevail under flexible prices and wages but without price and wage mark-up shocks.

In the dynamic stochastic general equilibrium model proposed by Smets and Wouters (2007), the interest rate varies as a function of inflation π) and the output gap $y_t - y_t^p$:

$$r_t = \rho r_{t-1} + (1-r)\{r_\pi \pi_t + r_Y(y_t - y_t^p)\} + r_{\Delta y}[(y_t - y_t^p) - (y_{t-1} - y_{t-1}^p)] + \varepsilon_i^r$$

The parameter ρ gives a measure of interest rate smoothing , while the other terms of the equation represent a short-run feedback from the change in the output gap and a stochastic term ε_i^r to capture monetary policy shocks (Smets and Wouters, 2007).[7] This dynamic model also describes other complex relationships, such as those between the variation in the (costs of) production factors wages and capital utilisation as a result of changes in factor supply, the evolution of the price level; and movements in the allocation of output on the demand side between consumption, investment, capital utilisation and exogenous spending.[8] On the demand side, consumption is driven by utility maximisation dependent on habit formation; intertemporal substitution; and expected real interest rates. Current consumption (c_t) is a weighted function of past and expected consumption, as well as of expected growth in labour inputs ($l_t - E_t l_{t+1}$), the expected real interest rate ($r_t - E_t \pi_{t+1}$) and a stochastic error term ε_t^b. The consumption dynamics can therefore be expressed by the Euler utility equation:

$$c_t = c_1 c_{t-1} + (1-c_1)E_t c_{t+1} + c_2(l_t - E_t l_{t+1}) - c_3(r_t - E_t \pi_{t+1} + \varepsilon_t^b)$$

where
$$c_1 = \frac{\lambda/\gamma}{1+\lambda/\gamma}, c_2 = \frac{(\sigma_c - 1)(W_x^h L_x / C_x)}{\sigma_c(1+\lambda/\gamma)} \text{ and } c_3 = \frac{1-\lambda/\gamma}{(1+\lambda/\gamma)\sigma_c}$$

The parameter, λ is the external habit formation factor, γ is the steady-state growth rate, while σ is the inverse of the intertemporal elasticity of substitution. Consumption is therefore forward looking (based on expected inflation) in the absence of external habit formation with log utility in consumption($\sigma = 1$). As for the disturbance term ε_t^b, it

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[7]The corresponding long-term interest rate is determined by the short-term interest rate setting by the central bank through the yield curve.

[8]In Smets and Wouters (2007), the stochastic behaviour of the system of linear rational expectations equations is driven by seven exogenous disturbances: total factor productivity, investment-specific technology, risk premium, exogenous spending, price mark-up, wage mark-up and monetary policy shocks.

represents the difference between the interest rate set by the central bank and the return on assets held by the households. A positive shock to this factor increases the required return on assets and reduces current consumption. After consumption, the rest of the income is spent on investments i, capital-utilisation costs and exogenous spending.

On the supply side, output is produced using capital k_t^s and labour input l_t, which denotes the number of person-hours worked.

$$yt = \phi_p(\alpha k_t^s + (1-\alpha)l_t + \varepsilon_t^\alpha)$$

Total factor productivity ε_t^α is assumed to follow a first-order autoregressive process: the parameter α is the product elasticity of capital in production and the parameter ϕ_p is one plus the share of fixed costs in production, reflecting the presence of fixed costs in production.

As for the price dynamics, they are assumed to adjust only slowly to their target mark-up, due to price stickiness. Profit maximisation by price-setting firms yield the following New-Keynesian Phillips curve:

$$\pi_t = \pi_1 \pi_{t-1} + \pi_2 E_t \pi_{t+1} + \pi_3 \mu_t^p + \varepsilon_t^p$$

where

$$\pi_1 - \frac{l_p}{1 + \beta\gamma^{1-\sigma_c}l_p}, \pi_2 = \frac{\beta\gamma^{1-\sigma_c}}{1 + \beta\gamma^{1-\sigma_c}l_p}, \text{and } \pi_3 = \frac{1}{1 + \beta\gamma^{1-\sigma_c}l_p}\frac{1 + \beta\gamma^{1-\sigma_c}\xi_p(1-\xi_p)}{\xi_p((\phi_p - 1)\varepsilon_p + 1)}$$

Inflation π_t depends positively on past and expected future inflation, negatively on the current price mark-up and positively on a price mark-up disturbance (ε_t^p). The price mark-up disturbance is assumed to follow an ARMA(1,1) process, whereby price mark-up shocks behave as in a normal distribution, with independent and identically distributed deviations by assumption. The speed of adjustment to the desired mark-up depends, among other factors, on the degree of price stickiness ξ_p, the curvature of the Kimball goods market aggregator ε_p and the steady-state mark-up.

Wage dynamics is determined in the conditions of monopolistic competition on the labour market. In analogy to the goods market, the wage mark-up in the monopolistically

competitive labour market will be equal to the difference between the real wage and the marginal rate of substitution between working and consuming. Similarly to prices in the output market, real wages only adjust gradually to the desired wage mark-up as a result of wage stickiness and the partial indexation of wages to inflation.

The real wage w_t is therefore a function of expected and past real wages, expected, current and past inflation, the wage mark-up and a wage-markup disturbance (ε_t^w).

$$w_t = w_1 w_{t-1} + (1 - w_1)(E_t w_{t+1} + E_t \pi_{t+1}) - w_2 \pi_t + w_3 \pi_{t-1} - w_4 \mu_t^w + \varepsilon_t^w$$

where
$$w_1 = \frac{1}{1 + \beta \gamma^{1-\sigma_c} l_p}, w_2 = \frac{1 + \beta \gamma^{1-\sigma_c} l_w}{1 + \beta \gamma^{1-\sigma_c}}, w_3 = \frac{l_w}{1 + \beta \gamma^{1-\sigma_c}},$$

and $w_4 = \frac{1}{1 + \beta \gamma^{1-\sigma_c}} \frac{1 + \beta \gamma^{1-\sigma_c}(1-\xi_w)}{\xi_w((\phi_w - 1)\varepsilon_w + 1)}$

When wages are perfectly flexible ($\xi_w = 0$), the real wage becomes a constant mark-up over the marginal rate of substitution between consumption and leisure. In general, the speed of adjustment to the desired wage mark-up depends on the degree of wage stickiness (ξ_w) and the demand elasticity of labour, which itself is a function of the steady-state labour market mark-up ($\varepsilon_w - 1$) and the curvature of the Kimball labour market aggregator (ε_w) (Smets and Wouters, 2007). The wage-markup disturbance (ε_w^t) is assumed to follow an ARMA (1,1) process with an IID-Normal error term. As is the case for the price mark-up shocks, the inclusion of an MA term makes it possible to pick up some of the high frequency fluctuations in wages.

NNS models that are currently in use can be categorised into three distinct modelling scales:

1) small analytical models that are tractable enough to be solved by hand, which are used to study a range of theoretical and empirical issues;

2) medium-scale macroeconomic models analogous to those developed by real business

cycles researchers, used to address a wide range of positive and normative issues.[9]

3) the new FRB/US large-scale model of the American economy developed over the last few years, now the principal model used for policy evaluation by the Federal Reserve. By relying on the idea that sticky prices lead to a positive relationship between aggregate demand and real economic activity in the short run, these models are able to offer a sound basis for monetary policy advice (Barro, 1976; Goodfriend and King, 1997; Smets and Wouters, 2007). The theoretical implications of NNS models are that monetary policy can exert considerable influence on real economic activity, which puts it in prime position to be used as a powerful instrument for economic stimulation. Or from another point of view, it is nearly impossible to interpret economic fluctuations accurately without considering monetary policy. Against this background, many central banks with conservative doctrines, including in South Africa, have used the established consensus on monetary policy to focus on inflation-targeting as the best way of minimising the output gap. This approach seeks to anchor credible expectations on price levels. However, as is shown by Nassif et al. (2020) for the case of Brazil, a fixation on inflation targeting in a developing country with an open exchange-rate regime can, on balance, bring more harm than benefits to its growth prospects.

2.3 Distributional effects on aggregate demand: wage-led vs profit-led growth

Macroeconomic models relying on "money illusion" for demand stimulation do not take account of how the redistribution of income between wages and profits can produce significant changes in aggregate demand and capacity utilisation (i.e. actual output as a fraction of potential output). The overarching assumption for aggregate demand stimulation is the existence of an output gap, which is created by suboptimal capacity utilisation and underconsumption (Palley, 2017; Bhaduri and Marglin, 1990). In a closed economy, a shift in the distribution of income between profits and wages can change aggregate demand through its effects on consumption and investment levels. For example,

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[9]Bayesian NNS models of that kind, such as the type presented by Smets and Wouters (2007), combine a sound policy analysis structure founded on micro-economic behaviour with a good probabilistic description of the observed data and good forecasting performance.

if the marginal propensity to consume is higher for wage income than it is for profit income, any change in income distribution that lowers real wages to increase profits will depress total expenditure on consumption. The increased profits might, however, be used to stimulate investment expenditure, which may (partially) offset the effect of lower consumption on aggregate demand (Bhaduri and Marglin, 1990; Bhaduri, 2008).

Conversely, an increase in real wages will depress profits, but contribute to an increase in output by stimulating consumption; while the depressed profits will lead to lower demand for investment. The overall effect of such a redistribution on demand-led expansion would therefore depend on which of these two effects becomes quantitatively dominant. An economic structure dominated by larger aggregate consumption expenditure when real wages increase is called "wage-led", whereas an economic situation dominated by expansion in investment because of a higher profit share and lower real wages is called "profit-led" (Bhaduri and Marglin, 1990; Lavoie and Stockhammer, 2013).[10]. Proponents of wage-led growth argue that underconsumption represents the primary force causing economic stagnation (a so-called *stagnationist* regime); whereas proponents of profit-led growth insist on the need to increase profits so that the economy can grow through increased investments (an *exhilarationist* regime). In the model proposed by Bhaduri and Marglin (1990), which is based on the assumption of exogenous wage setting, the sign and elasticity of the Hicks I/S schedule are central to determining which regime is going to prevail. When the I/S-curve is downward-sloping (in a space where the vertical axis represents capacity utilisation as a function of profit share, which is represented on the horizontal axis), the underconsumption argument is validated.[11] A downward sloping I/S curve will therefore imply beneficial effect of higher real wages on demand. In contrast, if the I/S schedule is upward-sloping, then the exhilarationist profit-led regime prevails (Bhaduri and Marglin, 1990). In an open-economy setting, the depressing effects of lower real wages on aggregate demand may be felt in the short run without a corresponding rise in investment, because investment levels generally adjust much more slowly to price

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[10]10The described changes are short-term adjustments. In a dynamic setting, Lavoie and Stockhammer (2013) point to adjustments following a wage-led investment regime, which suggests that an increase in wage income as a share of total income will lead to an increase in investment expenditure to adjust to the increase in aggregate demand. This results in a higher rate of capital accumulation in the long run.

[11]As pointed out by Bhaduri and Marglin (1990), capitalist investors may continue to make a larger total profit in a stagnationist regime even when wages are increased, if the negatively sloped I/S-curve is elastic; that is, if increased sales volumes can more than offset what they lose on profit margins per unit.

variation than do import levels. Moreover, for a small open economy that is a price-taker on the world market, increasing wages may drive up costs and decrease competitiveness, leading to a profit squeeze (Lavoie and Stockhammer, 2013; Bhaduri and Marglin, 1990). An open economy is therefore more likely to exhibit an exhilarationist regime in its attempt to compete internationally on the basis of low labour costs. In this regard, the South African labour market has historically been skewed towards profit accumulation; and the resulting profits were not necessarily invested in expanding output because segregation enabled a privileged white minority to enjoy all the desired amenities without needing to expand and extend them to the rest of the population. Considering the long period of sluggish growth and high levels of unemployment that have persisted since the Great Recession (Toyana and Nqobile, 2020), South Africa is exhibiting all the characteristics of a stagnationist open economy. Despite abundant cheap labour supply, the economy displays little evidence of international competitiveness in producing goods for the export market(see also Luiz (2016) and Kruss (2020) on South Africa's middle-income trap).[12]

3 Great Recession experiences from 9 developing countries

3.1 Mauritius

3.1.1 The impact of the crisis

Because of extensive trade liberalisation and the intricate connections of the Mauritian economy to Europe and the global banking system, all its key sectors were affected by the Global Financial Crisis with varying degrees of severity.[13] The textile and tourism sectors were the hardest hit (IMF, 2009). The speed with which the international crisis affected the Mauritian economy and the scale of the impact indicated the downside of global integration as experienced by small island states. As the financial position of local banks deteriorated in September 2008, investors in Mauritius reacted by selling off large quantities of shares, which led to fall in the share prices of companies in the bank-

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[12]With the background of its apartheid history of dispossession and cheap migrant labour, 47 percent of salaried workers are still earning the minimum wage or below, while 54 percent of full-time working population earn incomes below the working poor poverty line (SANews, 2019).

[13]Most affected sectors include the textile industry, tourism, sugar production, and financial services

ing and financial sector. As a result, the Mauritius Stock Exchange share price index, the SEMDEX, declined to its lowest level in more than ten years. Many textile firms were forced to close down. As incomes fell and unemployment rose in key tourism markets, tourist arrivals dried up. Similarly, as international capital flows were redirected in response to global crisis, foreign direct investments also fell significantly, stalling construction projects and damaging the local economy even further. The effects of the crisis were compounded by a reform of the sugar industry, which was already taking place following the termination of the country's preferential access to the European Union (EU) market through a sugar protocol that had just expired in 2006. All these factors combined to produce a rise in unemployment accompanied by a decline in growth. However, despite the slowdown in various sectors of the economy, Mauritius did not suffer from any output contraction over the entire period of the Great Recession. A local recession was successfully avoided as a result of decisive macroeconomic policy measures taken by the government and the central bank.

3.1.2 Macroeconomic interventions

Fiscal stimulus measures

As the global crisis started to affect the Mauritian economy, the government announced a fiscal stimulus package in December 2008, to be implemented from the first half of 2009. Despite a positive projection of 5.5 percent growth for the fiscal year 2008, the government adopted counter-cyclical, expansionary fiscal policies similar to those adopted in most other affected countries. In order to increase economic resilience against future shocks, an additional stimulus package of 6 billion Mauritian rupees (MUR), equivalent to 3.8 percent of GDP, was put in place. The total package was therefore quite substantial, accounting for about 5 percent of GDP. A large proportion of this package was financed by funds that had been amassed in the previous fiscal year in case of crisis, and to which further contributions had been made in fiscal year 2008/09. On November 18, 2009, the government announced a range of measures which were to be pursued until December 2010. These included actions to:

- Protect jobs and enterprises through direct support to SMEs and large firms facing temporary difficulties as a result of the crisis;

- Support a work-come-training programme for retrenched workers and the unemployed;

- Prioritise public infrastructure projects in the education, health, environment, and sports sectors in order to boost construction and create jobs;

- Support the modernisation of machinery and equipment, and invest in upgrading skills to accelerate private sector investment and improve competitiveness;

- Extend tax breaks for the sectors most affected by the crisis, such as tourism and construction, in order to stimulate their recovery and protect jobs;

- Develop additional infrastructure and provide incentives for tourism growth on Rodrigues Island; and

- Invigorate efforts aimed at absolute poverty eradication.

The new funds were allocated to the expansion of the airport of Port Louis and for the establishment of reserves to help cushion the economy against potential future large-scale, exogenous shocks.

Monetary policy measures

Once the Great Recession started to affect the domestic economy, the Bank of Mauritius coordinated with the government in order to limit the negative impact. While the government was pursuing an expansionary fiscal policy to stimulate aggregate demand and foster productivity, the Bank of Mauritius adopted a number of policy actions to ease the supply of money. These measures were similar to those being pursued by many other central banks worldwide. The monetary policy committee of the bank decided to bring the policy interest rate down by 150 basis points to 5.75 percent and to reduce the cash reserve ratio from 6 percent to 5 percent in the last quarter of 2008. This led to an injection of approximately MUR2.5 billion into the financial market. The aim was to enable commercial banks to offer more loans to the private sector, thereby increasing

investment levels and boosting economic activity. By the end of 2009, inflationary pressures remained subdued, while the textile and tourism sectors started showing signs of recovery. At this point, the monetary policy committee felt that the bank had already provided sufficient liquidity and that a further reduction of the policy interest rate would be unlikely to lead to substantial increases in private lending. The repo rate was therefore left unchanged at 5.75 percent for the beginning of 2010, with an option to change it in response to clear evidence of real economic change.

3.1.3 Macroeconomic outcomes in the recovery period 2010-2014

The coordinated interventions of the government and the Bank of Mauritius helped avert a worst-case scenario. Having pursued prudent macroeconomic policies before the crisis, the country was well-placed to deploy its financial reserves to stimulate the economy without exhausting its fiscal space. In the period following the crisis, Mauritius maintained a moderate fiscal deficit, which fluctuated at around 3.2 percent of GDP. Meanwhile, as shown in **Table** 3, the country's growth rate, which stood at 5.7 percent on the eve of the crisis, dropped to 5.4 percent in 2008 and 3.5 percent in 2009. However, it is notable that the growth rate remained positive throughout the crisis and its aftermath, even though it did not return to previous levels. (It was still only 3.7 percent in 2014.) At the same time, the official unemployment rate, which stood at 7.2 percent at the beginning of the crisis in 2009, increased slightly to 7.3 percent in 2009 and 7.8 percent in 2009; and the country has not been successful in bringing this down. The increase in unemployment was accompanied by a rise in the headcount poverty ratio, which reached 7.9 percent in 2013 and 20.3 percent in 2017, according to World Bank data. (Data for the other years are not available.) Likewise, inequality measures show a deterioration, with the Gini index (in percentage points) increasing from its pre-crisis level of 35.7 in 2006 to 38.5 in 2012. The share of income held by the bottom 10 percent of the population also dropped from 3.1 percent in 2008 to 2.8 percent in 2011, according to World Bank data. To summarise, the crisis significantly slowed the country's relatively healthy growth trajectory and impeded its previously successful efforts to reduce poverty. Furthermore, despite adopting seemingly appropriate macro-economic policy measures, the recovery

indicators	2008	2009	2010	2011	2012	2013	2014	
Govt borrowing	-1.9	0.6	0.5	-2.5	-1.2	-0.5	-2.8	-2.2
Budget deficit	-4	-2.6	-3	-3.2	-3.2	-1.8	-3.5	-3.2
GDP growth	5.7	5.4	3.3	4.4	4.1	3.5	3.4	3.7
Inflation	8.8	9.7	2.5	2.9	6.5	3.9	3.5	3.2
Exch rate	29.2	29.3	34.4	31.5	27.3	29.6	30.69	29.92
Gini index	35.7^a	n.a	n.a	n.a	n.a	38.5	n.a	n.a
Poverty rate	n.a	n.a	n.a	n.a	n.a	7.9		10.3^b
Income lowest 10%	n.a	3.1	3.1	n.a	2.8	2.8	2.8	2.8
Income highest 10%	28.7^a	n.a	n.a	n.a	n.a	29	n.a	n.a
Unemployment	8.5	7.2	7.3	7.8	7.9	8.1	8.0	7.8

Notes: a = data for 2006; b = data for 2017

since the crisis has been slow and incomplete. A key question therefore is whether the magnitude and nature of the measures taken were adequate to produce a strong recovery and return the country to its earlier growth trajectory. In addition, notwithstanding their positive effects in producing some economic resilience, the measures seem to have produced greater unemployment and poverty.

3.2 Nigeria

3.2.1 Economic impact of the Global Financial Crisis

The Nigerian economy, which depends heavily on crude oil and natural gas exports, was immediately affected by a drop in the prices of oil and other commodities, as demand fell in response to the global financial crisis. Consequently, revenues contracted and capital inflows declined, prompting a de-accumulation of foreign reserves and placing pressure on the exchange rate, which caused a depreciation of the Nigerian naira (NGN) (Soludo, 2009) .[14] The corresponding shock produced a domino effect, with the non-oil sector also suffering from the falling revenues. The sectoral contribution of crude oil and natural gas to GDP dropped from 38.2 percent in 2008 to 32.3 percent in 2009, according to data from the Nigerian Bureau of Statistics. This led to agriculture becoming the leading contributor to GDP that year, in part as the result of a good harvest. As

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[14]The naira's exchange rate was allowed to adjust to reflect pressures on demand in relation to supply. It depreciated from NGN117 to NGN135 to the USD by the end of December 2008, according to data from the Central Bank of Nigeria.

economic activity declined across the economy, there were massive job losses in multiple sectors, with the textile industry particularly hard-hit (Saget and Yao, 2011). More than 90 percent of textile companies were forced to close, while many of the remaining few were forced to relocate abroad. Within three years of this collapse of the Nigerian textile industry (2007-2009), more than 1 million farmers lost their jobs. The fall in revenues meant a reduction in the fiscal space available to the government to confront the crisis. The financial sector was also affected as a result of a drop in finance for foreign trade, coupled with a downturn in the capital market and shrinking foreign direct investments. Despite the squeeze, however, GDP growth rate surprisingly increased from 6.2 percent in 2007 to an estimated 6.8 percent in 2008, according to data from the Nigerian Bureau of Statistics. Moreover, although oil-sector revenues declined by 4.5 percent, the combined growth in the non-oil sector rose to 9.5 percent, which helped the economy avoid deceleration.

3.2.2 Macroeconomic policy interventions

Fiscal policy measures

As in many other countries affected by the crisis, the government intervened to minimise the negative impact of the crisis. In the context of budgetary restrictions caused by falling oil revenues, a modest fiscal stimulus package was announced for 2009. The objective was to sustain aggregate demand, enhance infrastructure and protect the most vulnerable households. The package amounted to NGN250.4 billion or almost 1 percent of GDP for that year (Saget and Yao, 2011). A large proportion of the package, 36.4 percent, was allocated to investment in developing infrastructure. A total of 25.2 percent was allocated to measures aimed to support the labour market and protect jobs. A total of 11.6 percent was allocated to fund tax cuts. Meanwhile, only 1 percent of the package was to be spent on subsidies and grants for disadvantaged households. Additional measures to boost aggregate demand accounted for the remaining 26 percent of the stimulus budget. A number of other interventions were also implemented to limit the negative effects of the crisis and foster a relatively quick economic recovery. The macroeconomic stimulus package provided for 36.4 percent of the total stimulus budget to be used for launching

infrastructure projects.[15] A particular goal was to bridge critical infrastructural gaps so that the costs of doing business in Nigeria could be significantly reduced. The focus on infrastructure programmes was also expected to generate hundreds of employment opportunities. The financing of such measures was achieved through an increase in government spending, as a budget surplus of 3.5 percent of GDP was transformed into a deficit of 5.2 percent of GDP in 2009 (Saget and Yao, 2011).

Monetary policy measures

The central bank reacted to the crisis by instituting expansionary monetary policy measures to increase liquidity in the financial market and stimulate aggregate demand. Measures taken at the beginning of 2009 included: The central bank has reacted to the crisis by instituting expansionary monetary policy measures to increase liquidity in the financial market and stimulate aggregate demand. In the beginning of 2009, the following measures were taken:

1. Reducing the repo rate from 10.25 percent to 9.75 percent

2. Reducing the cash reserve requirement ratio from 4.0 to 2.0 percent

3. Reducing the liquidity ratio from 40.0 to 30.0 percent

4. Expanding lending facilities to banks up to 360 days

5. Introducing expanded discount window facility

On January 21, 2009, the Central Bank of Nigeria also proposed to spend NGN3 trillion (USD20 billion) of the country's reserves to cushion the economy from the consequences of drying up of financial inflows (Soludo, 2009). This led to a sizable draw down of foreign reserves and put pressure on the NGN's exchange rate.

3.2.3 Performance and distributional outcomes

One of the immediate economic consequences of the crisis in Nigeria was a sharp drop in the GDP growth rate from 6.8 percent in 2008 to 3 percent in 2009. However, as a result of decisive measures taken by the government in coordination with the central

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[15]Projects to be implemented included both new infrastructure and maintenance works on existing ones(respectively, 28 percent and 8 percent of the total package).

bank to contain the effects of the worldwide downturn, the growth rate rebounded to an astonishing 8.4 percent in 2010 and remained relatively robust in subsequent years (see **Table** 4).[16] Notwithstanding the positive growth rates, there was a sharp jump in official unemployment rates from 3.6 percent in 2007 to 14.9 in 2008, which was followed by a further increase to 19.7 percent in 2010, before the level fell, fluctuating between 5 and 10 percent during the subsequent recovery years.[17] Meanwhile, there was a sharp increase in inflation from 5.4 percent in 2007 to 11.6 percent in 2008. The rate further climbed to 13.7 percent in 2010 and stayed at double-digits level until 2012, before falling to 8.1 percent in 2014. Significant reserves enabled the government to limit budget deficits, which remained at about 3.2 percent of GDP. Similarly, the central bank was also able to draw on its reserves to fund the stabilisation of the currency exchange rate. The country's positive growth rate also helped to stabilise the exchange rate, which has fluctuated at just below NGN30/USD. During that period, the incidence of poverty in the country rose from 6.3 percent in 2007 to an estimated 6.8 percent in 2008.

As for the measures of inequality, which is difficult to estimate given the scarcity of available data, it seems that the income share held by the bottom 10 percent fell slightly from 2 percent in 2009 to 1.8 percent in 2010; while the income share of the top 10 percent of earners increased from 28.7 percent in 2006 to 29 percent in 2012. The corresponding Gini index rose from 35.6 percent in 2006 to 38.5 percent in 2012, which suggests that the crisis may have exacerbated the country's already skewed income distribution.

3.3 Kenya

3.3.1 Economic impact of the Global Financial Crisis

The crisis hit the Kenyan economy at a time when the country was reeling from the impacts of post-election violence in the aftermath of a presidential poll in December 2007. The effects of the exogenous crisis compounded the economic damage wrought by the internal political violence; and economic growth decelerated from a robust 6.8 percent in 2007 to a mere 0.3 percent in 2008. Meanwhile, rising commodity prices led

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[16]15The non-oil sectors recorded a growth rate of 9.5 percent, while the oil sector shrank by 4.5 percent.

[17]These numbers represent official unemployment statistics (World Bank) and should therefore be regarded with caution as they are unlikely to adequately reflect underemployment and precarious employment in the informal economy. .

Table 4: Nigeria recovery indicators 2007-2014

Indicators	2007	2008	2009	2010	2011	2012	2013	2014
Govt borrowing	-1.9	0.6	0.5	-2.5	-1.2	-0.5	-2.8	-2.2
Budget deficit	-4	-2.6	-3	-3.2	-3.2	-1.8	-3.5	-3.2
GDP growth	5.7	5.4	3.3	4.4	4.1	3.5	3.4	3.7
Inflation	5.4	11.6	12.6	13.7	610.8	12.2	8.5	8.2
Exchange rate	29.2	29.3	34.4	31.5	27.3	29.6	30.69	29.92
Gini index	35.7[a]	n.a	n.a	n.a	n.a	38.5	n.a	n.a
Poverty rate	n.a	n.a	n.a	n.a	n.a	7.9		10.3[b]
Income lowest 10%	n.a	3.1	3.1	n.a	2.8	2.8	2.8	2.8
Income highest 10%	28.7[a]	n.a	n.a	n.a	n.a	29	n.a	n.a
Unemployment	8.5	7.2	7.3	7.8	7.9	8.1	8.0	7.8

Notes: a = data for 2006, b = data for 2017

to a spike in inflation, which reached 31.5 percent in May 2008. The volatile situation deteriorated further as demand for Kenyan exports fell in the fourth quarter of 2008, as the Great Recession began to cripple Kenya's trade partners in the developed world. Foreign investment inflows also declined significantly, and portfolio investment in the domestic market fell as economic activity slackened. The resulting outflow of capital investment aggravated the country's macroeconomic imbalances. In response and in an effort to manage and stabilise the economy, the government was forced to incur a budget deficit of KES127 billion in 2008/9 and increase its foreign borrowing.

3.3.2 Macroeconomic policy interventions

Fiscal policy measures

In early 2009, the Kenyan government adopted a number of macroeconomic policy measures to prevent the crisis from destabilising the entire economy. The Minister of Finance, Uhuru Kenyatta, announced a fiscal package which was intended to reinvigorate the economy and defuse ongoing political tensions. Key sectors such as infrastructure, agriculture and tourism, were targeted by the package, which also focused on key groups such as the youth and the segment of the population that were particularly vulnerable to rising food prices (Saget and Yao, 2011). Planned expenditure on infrastructure for 2009, which amounted to 38.4 billion Kenyan Shillings(KES), or 1.7 percent of GDP for that year, included KES12.87 for road construction, KES15.82 billion for energy-supply

infrastructure and KES 10.15 billion for the construction and rehabilitation of health and education facilities. In seeking to fund the new measures, the government incurred a fiscal deficit of KES 127 billion in the 2008/9 budget, which was partly financed by foreign borrowing. As part of its efforts to promote aggregate demand, the government also raised the basic minimum wage for general workers in large towns by 18 percent and that for agricultural workers by 20 percent starting from May 2009.

Monetary policy measures

As the global economic crisis threatened to spill over into the domestic economy in the last quarter of 2008, the Kenyan central bank responded by lowering its cash reserve ratio from 6 percent to 5 percent, while concurrently reducing the repo rate from 9 percent to 8.5 percent in December 2008. The following February, the repo rate was further reduced to 8.25 percent and then to 8 percent in May. In July 2009, the cash reserve ratio was brought down further to 4.5 percent, which released about KES5 billion (the equivalent of USD65 million) to domestic banks end enabled them to lend more. By the end of 2009, the repo rate had been reduced to 7 percent and was to fall even further to 6.75 percent in March 2010, in order to help ensure liquidity in the financial market.

3.3.3 Performance and distributional outcomes

Even before the global crisis spread to Kenya, the country's real GDP growth rate had sharply decreased from 7.5 percent in the first quarter of 2007 to a negative growth rate of -1 percent in the first quarter of 2008 (**Table** 5). The existing crisis, which had been in part provoked by post-election violence, played a significant role in the economic deterioration that was experienced once the impacts of the global financial crisis on the domestic economy started to be felt. The resulting economic turmoil caused the Kenyan shilling to sharply depreciate against the US dollar, falling from an average rate of KES63.30/USD in December 2007 to KES70.62/USD in February 2008. The subsequent global rise in the prices of crude oil and food commodities in early 2008 further increased inflationary pressures in the domestic market, with the inflation rate rising from a moderate 5.7 percent in December 2007 to a peak of 18.6 percent in May 2008. The inflationary pressure remained throughout 2009 and afterwards, with inflation

Indicators	2007	2008	2009	2010	2011	2012	2013	2014
Net govt borrowing	-2.5	-3.5	-4.4	-4.9	-3.8	-3.9	-5.8	-5.3
Budget deficit	-4.1	-5	-6.2	-7.2	-4.5	-4.7	-5.6	-8
GDP growth	6.9	0.2	3.3	8.4	6.1	4.6	5.9	5.4
Inflation	9.8	26.2	9.2	4.0	14.2	9.4	5.7	6.9
Exchange rate	67.7	62.0	79.5	76.4	100.5	85.8	85.2	90.2
Gini index	n.a	n.a	n.a	n.a	n.a	n.a	n.a	40.8
Poverty rate	46.5	46.5	46.5	n.a	36.1	36.1	36.1	36.1
Income lowest 10%	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Income highest 10%	36.8^a	n.a	n.a	n.a	n.a	n.a	n.a	31.8^b
Unemployment	7.1	8.9	9.6	9.7	9.7	9.7	9.8	9.5

Notes: a = data for 2005; b = data for 2015

continuing to rise until it reached a peak of 19.7 percent at the end of 2011; before starting a steady decline to single digit levels from 2012 onwards.

Despite the fiscal and monetary interventions implemented by the government and the central bank, the unemployment rate jumped from a pre-crisis level of 7.2 percent to 8.9 percent in 2008 and 9.6 percent in 2009. It has remained fixed at that level throughout the entire recovery period and has still failed to come down. By contrast, the poverty rate fell markedly in the wake of the crisis, from a headcount ratio of 46.5 percent in 2007 and 2008 to one of 36.1 percent in 2011. Meanwhile, the income share of the top 10 percent of income earners, which is an indicator of economic inequality, gradually fell from 37.8 percent of total income in 2005 (before the onset of the domestic political and global economic crises) to 31.8 percent in 2015. At the same time, the budget deficit significantly increased relative to its level at the beginning of the crisis, reaching 7.2 percent of GDP in 2010; but reverting to below 5 percent of GDP in 2011 and 2012, before rising again in 2014. Persistent budget deficits at this level can constrain the fiscal space and the ability of the government to effectively respond to emergency situations such as the one posed by the current Covid-19 pandemic.

3.4 Argentina

3.4.1 Impact of the crisis on Argentina

When the effects of the crisis reached Argentina, economic growth fell sharply in 2008 and 2009, but recovered soon thereafter, rising significantly in 2010 and 2011, although it fell substantially again in 2012. A drop in output once the crisis struck was accompanied by a marginal reduction in the inflation rate from 8.6 percent in 2008 to 6.3 percent in 2009. However, the fall in price levels was short-lived as inflation took off again to reach double digit levels the following year. In addition, some observers have questioned these official data, claiming that they indicate rates which are lower than the real inflation experienced in the economy. These claims are partly based on the fact that public service costs had been artificially frozen and partly on the manipulation of official data from 2007 (Haines et al., 2020). The effects of the crisis on employment were relatively moderate. By the end of 2009, the unemployment rate had only risen 1.1 percentage points over the previous year's rate. The economy shed a total of 142,000 jobs in the first half of 2009, but the scale of job losses in the second half of the year was more moderate.

3.4.2 Macroeconomic policy interventions

Fiscal policy measures

In response to the Global Financial Crisis, the government rolled out a number of fiscal measures to prevent a drop in aggregate demand. In particular, it sought to provide temporary financial assistance to vulnerable segments of the population (Haines et al., 2020). About 35 percent of the package, which adopted counter-cyclical budgetary measures, was allocated to social policies. A total of 63 percent of this part of the package targeted labour policies and income support; and the relative success of the Argentinean stimulus package has been partly attributed to this pragmatic approach. Another factor that contributed to the country's relatively rapid recovery from the crisis was the extent of the endowments held by the government which had been accumulated in response to previous crises. These accounted for 56 per cent of the total available package (IILS, 2011). Fiscal measures taken to face the crisis included (Haines et al., 2020):

- Increase in government spending by providing subsidies to the private sector

- Reduction in income tax for middle-income households

- Investment in infrastructure and funding programmes to combat poverty

- Nationalisation of private retirement schemes

- Reduction in export taxes on agricultural products

Monetary policy measures

Monetary policy intervention consisted primarily of a series of measures to enable small and medium-sized enterprises to access credit and subsidies more easily. The interest rate was lowered by 400 basis points for loans intended to finance SMEs' working capital . In April 2009, the government also granted financial backing to 16 banks offering such loans to SMEs, which enabled them to distribute a total of 498 million Argentinian nuevos pesos (ARS) in loans to private firms.

3.4.3 Recovery outcomes

Despite a strong growth rebound in 2010 and 2011, the Argentinian economy experienced negative growth in 2012 and again in 2014, pointing to an unstable trajectory which has characterised the economy for several years. The inflation rate remained above 10 percent in wake of the Great Recession, reaching a disquieting 23.9 percent in 2014. The country's currency also depreciated considerably against the USD, from ARS3.1/USD in 2008 to ARS8.1/USD in 2014. On the positive side, the unemployment rate stabilized and there was a marginal decrease in inequality, both in terms of the Gini co-efficient, which fell from 45.3 in 2008 to 41.7 in 2014, and in relation to the stability of the income share of the lowest decile, as displayed in **Table** 6. The income share of the top decile also decreased from 32.5 percent to 20.9 percent over the same period.

3.5 Brazil

3.5.1 Economic impact of the Global Financial Crisis

After a short-lived recession was provoked by the Global Financial Crisis in 2009, the Brazilian economy recovered strongly in 2010. According to IBGE-Brazil (2011), the

Table 6: Argentina recovery indicators 2008-2014

Indicators	2008	2009	2010	2011	2012	2013	2014
Net govt borrowing	0.352	-1.8	-1.4	-2.76	-3.0	-3.2	-4.2
Budget deficit	0	0	0.2	-1.7	-2.5	-2.6	-3.8
GDP growth	4.1	-5.9	10.1	6.0	-1.0	2.4	-2.5
Inflation	8.6	6.3	10.8	9.5	10.0	10.6	23.9
Exchange rate	3.1	3.7	3.9	4.1	4.5	5.5	8.1
Gini index	45.3	44.1	44.5	42.7	41.4	41	41.7
Poverty rate	2.6	2.6	1.1	0.9	0.8	0.8	0.7
Income lowest 10%	1.3	1.3	1.3	1.7	1.7	1.8	1.8
Income highest 10%	32.5	31.4	32	31	29.7	29.4	29.9
Unemployment	7.8	8.7	7.7	7.1	7.2	7.1	7.2

country's economy was one of the least affected globally. Indeed, it showed strong resilience, as GDP increased by 7.5 percent in 2010. The year-to-year inflation rate over the period 2007-2010 was 5.1 percent on average, with its rise above a 4.5 percent target set by policymakers mainly caused by commodity price shocks, especially the price of foodstuffs. At the same time, the average unemployment rate fell by 2.6 percentage points from 2007 to 2010, while the average exchange rate of the Brazilian Real (BRL) appreciated 8.3 percent as a result of a hike in interest rates (Ferrari Filho, 2011).

3.5.2 Macroeconomic policy interventions

Fiscal policy measures

To counter the depressing effects of the crisis, the Brazilian government rolled out a fiscal stimulus package of BRL37.9 billion for 2008, which represents approximately 1.2 percent of that year's GDP. This package was relatively varied in its composition but quite modest compared with the packages adopted by other G20 countries. A total of 40.3 percent of the package was allocated to spending on infrastructure, 36.9 percent was allocated to tax cuts, 15 percent to subsidies for enterprises, while 2.4 percent went to social protection measures (ILO, 2011). BRL15.3 billion (USD8.3 billion), equivalent to 0.5 percent of GDP, was allocated to expanding infrastructure investments. Tax cuts of BRL15.1 billion (USD7.6 billion) were intended to boost consumption and provide relief to the sectors most adversely affected by the global financial crisis. Fiscal relief measures

included a reduction in the tax on financial operations from 3 percent to 1.5 percent and a temporary cut in the tax on industrial products. Tax on real estate transactions was also cut from 7 percent to 1 percent for all purchases costing up to BRL110.6 million (USD55.6 million) and to 6 percent for all purchases costing more than that (ILO, 2011). Extraordinary budgetary transfers to local governments amounting to BRL 2.2 billion (USD1.1 billion) were also included in the 2009 budget in an effort to counter the pro-cyclical effects produced by a fall in municipal tax revenues.

Monetary policy measures

According to (Haines et al., 2020), the Brazilian central bank responded to the financial crisis with a range of measures including: an interest rate cut, liquidity enhancing packages, the sale of USD 23 billion in foreign reserves, efforts to encourage state banks to expand their credit operations, reducing industrial product tax, increasing the duration of unemployment insurance and other actions to stimulate aggregate demand. Basic interest rates were successively cut from 13.5 percent in December 2008 to 8.75 percent in September 2009, after the monetary policy authorities concluded that the threat posed by the crisis to economic activity outweighed the danger of inflation (ILO, 2011).

3.5.3 Performance and distributional outcomes

Thanks to these interventions, Brazil was able to avert some of the potential adverse effects of the global downturn and emerge from the crisis relatively quickly. However, the country's economy did not perform as it should have done under the circumstances. Indeed, as Nassif et al. (2020)note, Brazilian policymakers subsequently prioritised granting tax exemptions to corporations and providing households with credit incentives over expanding aggregate demand through public investment. Moreover, even though interest rates dropped significantly, their final level remained relatively high at 6.3 percent, indicating that the strong growth rebound to 10.7 percent in 2010, after a 0.3 percent contraction, was achieved in spite of interest rates not because of them (Nassif et al., 2020). **Table** 7 a number of indicators of Brazil's economic health over the 2008-2014 period.

Indicators	2008	2009	2010	2011	2012	2013	2014
Net govt borrowing	-1.2	-3.4	-2.3	-2.4	-1.3	-2.5	-5.0
Budget deficit	n.a	n.a	-2.4	-2.5	-2.3	-3.0	-6.0
GDP growth rate	5.1	-0.3	10.7	4.0	1.9	3.0	0.5
Inflation (CPI)	5.7	4.9	5.0	6.6	5.4	6.2	6.3
Exchange rate	1.8	2.0	1.8	1.7	2.0	2.2	2.4
Gini index	54.0	53.7	n.a	52.9	53.5	52.8	52.1
Poverty rate	5.6	4.7	n.a	5.4	3.8	3.8	2.8
Income share lowest 10%	1.0	1.0	0.0	1.1	1.1	1.2	1.2
Income share top 10%	42.5	42.2	n.a	41.7	42.6	41.8	41.2
Unemployment	9.4	9.7	8.5	7.8	7.4	7.2	6.8

3.6 Chile

3.6.1 Economic impact of the Global Financial Crisis

The crisis hit Chile mainly by stifling exports. In 2007, the ratio of exports to GDP dropped by 2 percentage points and between 2007 and 2009, it dropped by an additional 4 percentage points. As a result, the country's GDP started to contract in the second quarter of 2008, while the unemployment rate rose from 8 percent to 11 percent. At the end of 2008, the crisis had reached its peak in the country and the economy started to recover (Martorano, 2014).

3.6.2 Macroeconomic policy interventions

Fiscal policy measures

According to the OECD (2010), the Chilean government quickly instituted a number of fiscal stimulus measures when the country's economy was hit by the Global Financial Crisis. A stimulus package amounting to USD4 billion, or 3 percent of the country's GDP, was announced. The government used the resources that it had accumulated during previous years of prosperity to increase public expenditure, even as its tax revenues fell sharply. Expenditure was considered necessary to stimulate economic activity and sustain employment; while part of the package was also allocated to alleviate the negative impact of the crisis on the vulnerable segments of the population (Martorano, 2014). The fiscal stimulus measures included increasing government spending on a number of

temporary programmes. A total of 441 billion Chilean pesos (CLP) was allocated to public works; CLP138.9 billion was allocated to a once-off cash transfer to low-income households; and CLP113.5 billion was allocated to the provision of additional subsidies for training. The new measures included a scheme under which the government granted unemployment benefits to workers who enrolled for training rather than merely for those who had been laid off. In order to protect employment, the government implemented additional measures to support vulnerable firms and provide incentives for young people working in the formal sector (Contreras and French-Davis, 2012). A number of tax reduction measures were also adopted. The fiscal stimulus package included a temporary reduction of income tax for companies worth CLP290 billion; and measures to speed the payment of personal income tax rebates. The fiscal measures seemed innovative at the time, although the country soon started to lose significant tax revenues.

Monetary policy measures

When the crisis hit Chile, it was suffering from high inflationary pressures, which only eased in January 2009. The interest rate was successively lowered by 750 basis points, dropping to 0.75 percent (Martorano, 2014). A total of USD 5 billion was injected into the country's financial markets through a swap programme and a repurchase agreement programme was established to inject new liquidity into the domestic financial system. The aim of these measures was to provide the needed boost to economic activity by increasing access to credit.

3.6.3   Recovery outcomes

As can be seen from **Table** 8, Chile managed to maintain positive growth rates throughout the crisis, after stumbling to a negative 1.6 percent in 2008. Inflation was kept in check and remained moderate throughout the crisis and the recovery period. The budget deficit also remained quite modest, even turning into a surplus in 2011 and 2012, before reverting to a mere 1.6 percent of GDP in 2014.

Indicator	2008	2009	2010	2011	2012	2013	2014
Net govt borrow.	4.5	-4.2	-0.4	1.3	0.5	-0.6	-1.6
Budget deficit	n.a	n.a	-0.5	1.3	0.6	-0.6	-1.6
GDP growth	3.5	-1.6	5.8	6.1	5.3	4.0	1.8
Inflation	8.7	0.4	1.4	3.3	3.0	1.8	4.7
Exchange rate	522.5	560.9	510.2	483.7	486.5	495.3	570.3
Gini index	n.a	47.0	n.a	46.0	n.a	45.8	n.a
Poverty rate	n.a	25.3	n.a	22.2	n.a	14.4	n.a
Income share lowest 10%	n.a	1.9	n.a	2.1	n.a	2.1	n.a
Income share highest 10%	0.0	38.2	n.a	37.3	na.	37.4	n.a
Unemployment	7.7	11.1	8.3	7.3	6.6	6.1	6.5

3.7   Turkey

3.7.1   Economic impact of the Global Financial Crisis

At the onset of the crisis, the Turkish government swiftly implemented monetary and fiscal policies to stabilise the economy and help it to withstand the impacts of the shock. Despite multiple stabilisation measures, the economy was nonetheless affected significantly, with the GDP growth rate falling to 0.7 percent in 2008, followed by a further decrease in the first quarter of 2009. The country also saw a 1.2 percent drop in exports, which led to a sharp increase in unemployment, which is one of the main structural problems in the economy. Collective bargaining agreements were implemented to prevent a further increase in unemployment. The economy was further harmed by a sudden increase in the outflow of portfolio investments. The resulting decline in economic activity was compounded by a fall in domestic demand linked to a major dip in export revenues, which led to a trade deficit that year.

3.7.2   Macroeconomic policy interventions

Fiscal policy measures

The first comprehensive package aimed at mitigating the crisis was announced in mid-March 2009. It was followed by the introduction of two additional packages three months later. The packages sought to promote spending on domestic consumption, primarily by reducing taxes and introducing measures to protect and promote employment. Tempo-

rary tax cuts were implemented for a 6-month period ending in September 2009. Value-added tax (VAT) on the sale of new houses was reduced from 18 percent to 8 percent and a temporary reduction in VAT from 6.7 percent to 0 percent was applied to sales of electrical appliances. Vehicles with a low engine capacity also benefited from a sales tax reduction. Meanwhile, in seeking to protect employment, the Turkish government spent an estimated 64.8 billion Turkish lira (TL) or the equivalent of about USD45 billion, from 2008 to 2010 on a furlough scheme, supporting workers on reduced hours.[18] The stimulus package deployed by Turkey accounted for about 6.8 percent of its GDP in 2008, making it one of the most generous stimulus-package providers among OECD countries at this time (Ercan et al., 2010).

Monetary policy interventions

To ease the pressure of the crisis on the financial markets, Turkey's central bank (TCMB) cut interest rates in 11 successive steps from November 2008 to September 2009, reducing the borrowing rate from 16.75 to 7.25 percent. These moves were unusual for the TCMB which has a strong history of inflation-targeting. In parallel to the rate reductions, cash reserve requirement ratios were also relaxed in order to provide greater liquidity and enable banks to keep lending (Uygur, 2010). A number of measures aimed at strengthening the capital structure of local banks were adopted; and it was decided that the central bank should provide support to the domestic banks in order to ease the constraints on export financing. This resulted in interest-free loans amounting to USD1.2 billion being extended to exporter small and medium-sized enterprises (SMEs) and other manufacturers. An additional USD2 billion was also made available to provide low-interest loans to SMEs, which helped them finance their working capital requirements (Macovei et al., 2009). In order to encourage capital inflows, the government also adopted an "asset peace law", which granted a tax amnesty to holders of unrecorded financial and real estate assets. The measures also provided a tax exemption for incomes generated from foreign dividends and financial transactions conducted with foreign companies as long as that income was repatriated to Turkey before the end of May 2009.

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[18]Additional measures introduced in mid-2008 to help protect employment included subsidies on energy expenditures and a programme of incentives for short-time working. A youth employment support package was also introduced.

34

3.7.3 Performance and distributional outcomes

Thanks to the various crisis mitigation measures adopted by the government and the country's central bank, the Turkish economy recovered, recording a strong GDP growth rate of 7 percent in 2010, after stumbling to negative 5.9 percent growth in 2009 (see **Table** 9). The growth rate remained positive in the recovery period, although somewhat more subdued. At the same time, in the second half of 2008, unemployment rose rapidly, reaching a rate of 16.1 percent by February 2009 and remaining above 10 percent for the whole of 2010, before started to fall into single digits in 2011. The eventual drop may in part be attributed to the effectiveness of the fiscal measure which were specifically implemented to protect employment. Meanwhile, the annual inflation rate remained pegged at single digit-levels throughout the crisis years, even as the Turkish lira's exchange rate deteriorated from TL1.3/USD in 2007 to TL2.2/USD in 2014. The budget deficit, which reached a peak of 5.3 percent of GDP in 2009, was brought down to 3.5 percent in 2011 and subsequently stabilised at below 2 percent. The poverty rate as measured by the headcount ratio of people living below the national poverty line remained stable during the crisis and subsequently gradually fell from 17.1 percent in 2007 to 14.7 percent in 2014. The income share accruing to the poorest 10 percent remained steady at 2.2 percent, while that of the richest 10 percent increased from 29.4 percent in 2007 to 31.6 percent in 2014. At the same time, the Gini coefficient indicated a slight reduction in income inequality, declining from 43 percent to 41.2 percent over the same period. This implies that, while overall income distribution improved during the recovery period, those receiving the highest incomes might have derived greater benefit from the stimulus packages, while those in the bottom decile were provided with insufficient support to obtain a greater share of the reallocated national income.

3.8 Indonesia

3.8.1 Economic impact of the crisis on Indonesian

According to Titiheruw et al. (2009), the Indonesian economy was initially quite unaffected by the effects of the global financial crisis, demonstrating significant resilience in line with that experienced among most developed economies. It was not until October-

Table 9: Turkey recovery outcomes 2008-2014

Indicator	2008	2009	2010	2011	2012	2013	2014
GDP growth rate	-4.8	-5.9	7.0	9.4	3.1	6.7	3.4
Poverty ratio	17.1	16.9	16.1	16.3	15.0	15.0	14.7
Net govt borrowing	-1.6	-5.5	-3.0	-1.0	-0.4	0.2	0.4
Exchange rate	1.3	1.5	1.5	1.7	1.8	1.9	2.2
Inflation	10.4	6.3	8.6	6.5	8.9	7.5	8.9
Budget deficit	-1.8	-5.3	-3.5	-1.3	-1.9	-1.0	-1.1
Income share lowest 10%	2.1	2.2	2.2	2.2	2.2	2.2	2.2
Income share highest 10%	29.4	29.2	29.3	30.5	30.5	30.6	31.6
Gini index	43.0	44.2	43.5	43.3	42.8	42.1	41.2
Unemployment, total	9.7	12.6	10.7	8.8	8.1	8.7	9.9

December 2009 that the economy started to feel the pinch of the Great Recession, which translated into an unexpected deterioration in economic performance. The quarterly growth rate fell from 6.1 percent to 5.2 percent and export growth fell to only 1.82 percent, its lowest level since 1986. In addition, investment growth was expected to fall to 5.9 percent. The government therefore considered it necessary to adopt a stimulus package in order to protect employment and shield the country's poverty reduction programmes from external shocks.

3.8.2 Macroeconomic policy interventions

Fiscal policy measures

On February 24, 2009, a package worth 2 trillion Indonesian rupiah (IDR) was added to the existing budget, which totalled IDR73.3 trillion , or 2.6 percent of GDP. An additional IDR25.91 trillion was allocated to stimulate household consumption. The government also increased the salaries of all its employees by 15 percent and granted them a once-off bonus equivalent to a month's salary. It further arranged to distribute direct cash transfers of (the equivalent of) USD8million to 18.2 million targeted to priority households over a two-month period. The government further instituted temporary measures to support firms by reducing their taxes, granting temporary exemptions on import duties for raw materials and capital goods, reducing the cost of industrial electricity and subsidising exploration for oil and gas. A total of IDR12.2 trillion was allocated for investment in

labour-intensive infrastructure projects in an effort to create jobs for unemployed and laid-off workers.

Monetary policy measures

In support of these fiscal measures, the Bank of Indonesia gradually lowered its policy rate from 9.5 percent in November 2008 down to 6.5 percent in August 2009. It eased loan approval criteria to support the financing of small, micro and medium-sized enterprises (SMMEs) in order to push domestic consumption growth above 4 percent. Additional measures to support aggregate demand included: 1) maintaining supply-side inflation relatively stable at 6-7 percent per year by lowering energy and basic commodity prices through improvement of distribution channels; 2) tax cuts on personal income tax by raising the limit of non-taxable income to IDR15.8 million/year; 3) removing the sales tax on cooking oil and non-fossil fuel; 4) direct subsidies for household oil and generic medicines.

3.8.3 Performance and distributional outcomes

Thanks to the spending measures undertaken by the government, the country's GDP received a boost of 0.27 percent and the labour market generated an additional 292,801 full-time equivalent jobs (Chatani and Ernst, 2011). The injection of infrastructure investment worth IDR10.8 trillion, which represented only 0.19 percent of GDP, generated additional GDP growth of nearly 1.6 percent. However, the growth rate stumbled to 4.6 percent and 3.2 percent in 2008 and 2009 respectively from a pre-crisis high of 6.8 perceent. Thereafter, it struggled to recover and was still relatively low, at 3.6 percent, in 2014 (**Table** 10). In contrast, unemployment steadily declined and stayed below pre-crisis levels. The rate of inflation, which stood at 6.4 percent in 2007, increased sharply when the crisis hit in 2008, but subsided in subsequent years before increasing again to 8.4 percent in 2013. Similarly, the currency depreciated sharply as the exchange rate went from IDR9,699/USD in 2008 to IDR10,389/USD in 2009. Even though the Indonesian rupiah regained value in the next two years, the aftermath of the crisis saw it slip back to IDR11,865/USD in 2014. As a result of an effective targeting of the fiscal measures intended to sustain the poverty reduction strategy already in place, the poverty

Indicator	2008	2009	2010	2011	2012	2013	2014
GDP growth rate	4.6	3.2	4.8	4.7	4.6	4.2	3.6
Poverty ratio	15.4	14.1	13.3	12.5	12.0	11.4	11.3
Net govt borrowing	-0.1	-1.6	-0.7	-1.1	-1.8	-2.2	-2.1
Exchange rate	9699	10389	9090	8770	9386	10461	11865
Inflation	11.1	2.8	7.0	3.8	4.3	8.4	8.4
Govt budget deficit	-0.1	-1.6	-0.7	-1.1	-1.9	-2.3	-2.3
Income share lowest 10%	3.2	3.3	3.1	2.9	3.0	3.0	3.0
Income share highest 10%	29.6	29.9	30.0	33.1	33.4	33.5	33.0
Gini Index	36.8	36.7	37.9	41.1	41.1	41.5	40.8
Unemployment	7.2	6.1	5.6	5.2	4.5	4.3	4.0

headcount ratio (using national poverty lines) has been on the decline throughout the crisis and during the recovery years, reaching 11.3 percent in 2014 from its pre-crisis 16.6 percent. In contrast, inequality has been on the rise, as evidenced by in increasing trend in the Gini index from the initial 36.5 percent in 2007 to 40.8 percent in 2014. Measured by the income share held by the bottom 10 percent, the poorest decile held to a steady tiny share (slightly worsening from 3.2 percent in 2008 to 3.0 percent in 2014) while the richest 10 percent improved their share from 29.6 percent in 2008 to 33 percent in 2014. The fiscal measures do not appear to have significantly affected the country's budget deficit, which remained moderate (below 2 percent) during the crisis and only rose slightly above 2 percent from 2013 onwards. In large part, as a result of the fiscal measures which were taken to continue the country's poverty reduction strategy, the poverty headcount ratio (using national poverty lines) has been declining throughout the crisis period and during the recovery years afterwards, reaching 11.3 percent in 2014 from its pre-crisis level of 16.6 percent. In contrast, income inequality rose, with the Gini co-efficient climbing from 36.5 percent in 2007 to 40.8 percent in 2014. In this regard, the income share held by the bottom 10 percent, that is, the poorest decile, remained quite tiny, albeit slightly reduced, falling from 3.2 percent in 2008 to 3 percent in 2014, while the richest 10 percent improved their share from 29.6 percent in 2008 to 33 percent, over the same period. Broadly speaking, the fiscal stimulus measures generated relatively greater benefits for wealthy citizens and employees in the formal sector, since

they were the ones able to take advantage of the tax cuts on offer. High-income urban households were the primary beneficiaries of the skewed fiscal measures, but high-income households in rural areas also benefited from them. The only concrete benefit derived by poor households in rural areas was a modest increase in access to food consumption (Campbell, 2011), while a subsequent deterioration in income inequality tends to suggest that the stimulus packages favoured the wealthy more than the poor.

3.9 China

3.9.1 Impact on the Chinese economy

When the financial crisis hit, China's financial institutions were not affected in any significant way (Peterson Institute, 2008). In contrast to the banking systems in many western countries, Chinese banks had relatively little exposure to risk on international financial markets. Government entities control most Chinese investment flows, restricting capital inflows and outflows and thus limiting the ability of private banks and individual citizens to invest their financial assets elsewhere. The effects of the global crisis on the Chinese financial system therefore remained modest. However, the overall growth of the economy slowed down as a result of reduced foreign investment and fewer export orders.

3.9.2 Fiscal and monetary policy responses

Fiscal policy measures

In response to the crisis in November 2008, the Chinese government proposed a number of macroeconomic policies supplemented by some industrial policies (Li et al., 2012). It announced a fiscal stimulus package worth 4 trillion renminbi(RMB) for 2009 -2010 , which was equivalent to 13,3 percent of the 2008 GDP (Dullien et al., 2010; Peterson Institute, 2008). The aim of the stimulus package was to drive aggregate demand by investing in: public infrastructure and reconstruction in earthquake-stricken Sichuan Province; low-cost public housing in urban agglomerations and rural infrastructure development. Additional measures included funding for: environmental-protection projects; incentives for technology development and innovation; improvement in health care facilities and social security provision. Measures aimed at reducing taxes were also adopted

by the government. These were primarily targeted at firms (Dullien et al., 2010). The largest share of the stimulus package (37.5 percent) was allocated to the development of transport infrastructure; while the second largest chunk (35 percent) was allocated to the reconstruction of Wenchuan Country in Sichuan Province, which had been devastated by an earthquake. A total of 9.3 percent of the package was allocated to rural area infrastructure, while 10 percent was allocated to building affordable housing in urban areas.

Monetary policy measures

In responding to the crisis, the Bank of China adopted a countercyclical monetary policy approach, cutting interest rates to an unusually low level, lowering cash reserve requirement ratios and suspending quota controls on commercial bank lending . This resulted in an injection of large quantities of liquidity into the banking system. In order to reverse the decline in lending, the government introduced a series of incentives to encourage banks to increase their lending capacity by providing them with guarantee services (Li et al., 2012). Residents were also provided with mortgage-loan incentives aimed to stimulate property acquisition. The combination of all these measures quickly boosted money supply in the Chinese economy, which led to an increase in aggregate demand from the beginning of 2009.

3.9.3   Performance and distributional outcomes

According to World Bank (2009), the stimulus package helped China strengthen its recovery by avoiding the negative effects of a fall in exports caused by lower demand from foreign trade partners who were experiencing a recession in their home countries. In the first quarter of 2010, GDP increased by 11.9 percent, compared with 6.1 percent growth over the same period in 2009 and 6.8 percent growth in the fourth quarter of 2008. Indeed, the strong recovery led to the economy's fastest growth since 2007 (**Table 11**). Massive government-led spending, which amounted to 5.9 percent of the country's GDP in 2009, was a major factor in ensuring a quick rebound. It helped create many jobs, which mitigated the effects of job losses in the export-driven manufacturing sector. Despite the massive injections of liquidity into the financial system, inflation was kept in check. It peaked at only 5.6 percent in 2011, before falling to a modest 2.6 percent in the

Table 11: GFC key outcomes: China

Indicator	2008	2008	2010	2011	2012	2013	2014
Net govt borrowing %GDP	0.0	-1.8	-0.4	-0.1	-0.3	-0.8	-0.9
Exchange rate	6.9	6.8	6.8	6.5	6.3	6.2	6.1
Inflation	5.9	-0.7	3.2	5.6	2.6	2.6	1.9
Govt budget deficit	-0.4	-2.8	-2.5	-1.1	-1.5	-2.1	-1.8
Income share bottom 10%	2.1	na	2.0	2.1	2.1	2.5	2.5
Income share top 10%	32.0	n.a	32.6	31.8	31.5	30.3	29.7
Gini index	43.0	n.a	43.7	42.4	42.2	39.7	39.2
Unemployment	4.6	4.7	4.5	4.5	4.6	4.6	4.6

two following years and dropping again after that. Meanwhile, the renminbi steadily appreciated against the USD throughout the crisis period and the recovery years, whereas the government budget deficit remained moderate, rising to only 2.8 percent of GDP in 2009 before falling back for the remainder of the recovery period.

3.10   South Africa in the Great Recession

At home, South Africa has been lauded for the way it handled the global financial crisis. As a result of pre-crisis policies which favoured expansive spending, the government was well-positioned to managed the 2007-2009 financial crisis and is generally credited with producing adequate fiscal and monetary responses (Ngandu et al., 2010; Verick, 2010). The country maintained its commitment to a counter-cyclical fiscal and monetary policy orientation. The government increased spending on public infrastructure investment, offered support to industries in distress and set up a program for re-skilling workers (Steytler and Powell, 2010). The central bank lowered the repurchase rate to 7 percent in order to ease the flow of liquidity into the financial sector. A sound macroeconomic policy response and prudent regulation of exposure to external risk were viewed as key in fostering South Africa's resilience in the face of the crisis (Ngandu et al., 2010; Verick, 2010; Rena and Msoni, 2014). Despite these measures, however, the crisis in the South African commodity sector led to massive job losses. Thereafter, employment has struggled to recover and growth has remained sluggish in the recovery period (Kucera et al., 2012; Verick, 2010; Islam and Verick, 2010). Inequality measures also indicate that the income share of the poorest segments of the population continued to fall during the

Table 12: Recovery indicator South Africa 2007-2014

Indicator	2007	2008	2009	2010	2011	2012	2013	2014
Net gvt borrowing	1.2	-0.6	-5.1	-4.0	-4.5	-4.9	-5.7	-3.8
Budget deficit	1.0	-1.0	-6.3	-4.7	-5.0	-4.4	-4.3	-4.1
GDP growth	5.4	3.2	-1.5	3.0	3.3	2.2	2.5	1.8
Inflation	6.2	10.1	7.3	4.1	5.0	5.7	5.8	6.1
Exchange rate	7.2	7.9	10.1	7.9	7.5	8.4	9.1	10.7
Gini index	64.1	63	63.1	63.4	63.4	n.a	n.a	63
Poverty rate	66.6	62.1	n.a	53.2	n.a	53.8	n.a	55.5
Income top 10%	n.a	51.3	n.a	51.3	n.a	n.a	n.a	50.5
Income lowest 10%	1	1	1.17	0.9	n.a	n.a	n.a	0.9

recovery period (**Table** 12).

4 Linking outcomes to macroeconomic policy measures

4.1 Unemployment outcomes

The unemployment outcomes displayed in **Figure** 1 indicate a degree of correspondence to the magnitude and structure of the fiscal measure deployed in the various countries. China, Indonesia Turkey and Mauritius, which put in place more substantial stimulus packages with strong components devoted to infrastructure and employment protection display the lowest rates of unemployment in comparisons to their African and Latin American counterparts. Even though unemployment rates result from the conjunction of multiple and complex factors, the observed differences in outcomes may be reflective of the congruence between the targeting of the stimulus package and the employment policies already in place. South Africa conspicuously stands out of the lot with its high unemployment rates, while Nigeria and Kenya remain on the upper bound of, but closer to the rates observed in the rest of the group. Whether a larger stimulus would have enabled them to lower their unemployment rates cannot be derived from the observed behaviour in the graph, but it is reasonable to note that when unemployment reduction is policy priority, it also reflects more strongly in the stimulus package. As for South Africa, it was experiencing a decline in the unemployment rates that were very high prior to the crisis, but great recession put a halt to the decline (Ngandu et al., 2010). Being one
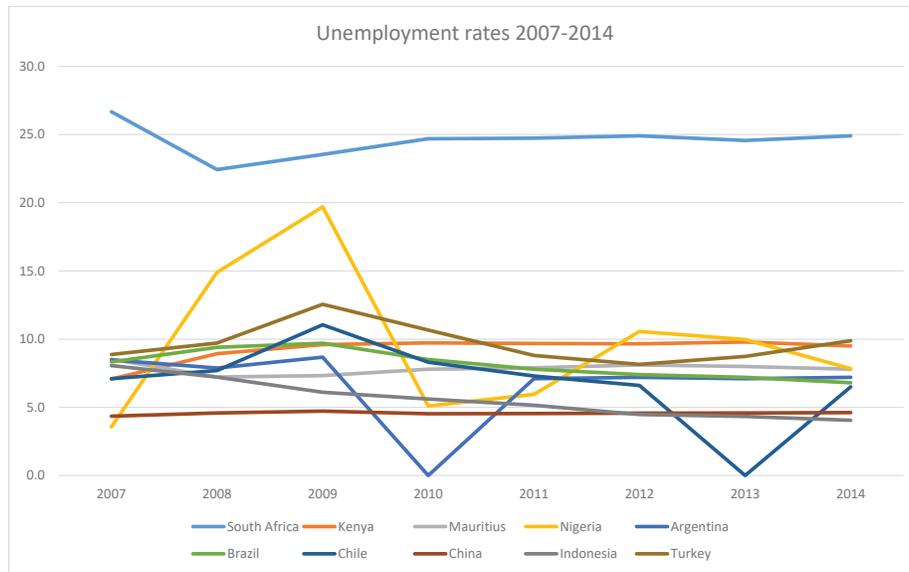
Figure 1: Unemployment rates 2007-2014

of the hardest hit on the African continent, South Africa shed employment by almost 900,000 from 2008 to 2009 (Verick and Islam, 2010).[19] Since then, the job losses incurred during the crisis have not been recovered; quite to the contrary, the unemployment rate has been deteriorating over the recent period (Toyana and Nqobile, 2020).[20].

4.2   Growth performance

The macroeconomic stimulus packages adopted in the sample countries were strikingly effective in averting or reversing downturns in growth, as can be seen in **Figure** 2. The graph provides a glimpse of the effects of the various stimulus packages under the socio-economic conditions surrounding the crisis in each country. Prior to being hit by this

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[19]Rather than a surge in official unemployment numbers, the job losses and inability to regenerate led to rising discouragement, especially for vulnerable segments of the population, namely, uneducated, black South Africans (Verick, 2010).

[20]On June 23, 2020, Reuters reported that South Africa had reached an official unemployment rate of 30.1 percent in the last quarter of 2019, i.e. before the Covid-19 crisis reached South Africa, according to data from the Statistics South Africa's quarterly labour force survey

crisis, most of these economies had relatively robust, positive growth rates. China, in particular, had been enjoying double digit growth rates, buoyed by a boom in the export manufacturing industry. The crisis brought the growth rate below 10 percent in 2008, but massive stimulus measures (RMB4 trillion, or 13.5 percent of the 2008 GDP) stabilised growth at a relatively high level and even produced some gains in 2010. The longer-term legacy of the crisis, however, seems to indicate that the peak growth rates of the early 2000s are unlikely to return in the near future. Argentina appears to have suffered the greatest fluctuations in growth rates during the crisis and the subsequent recovery period. After suffering an initial downturn which slashed its growth rate from a high 9 percent in 2007 to a -5.9 percent in 2009, the economy recovered and recorded a growth rate of about 10 percent in 2010, before subsiding once more. However, Argentina's growth rates had been oscillating between positive and negative values for quite a long time, since the 1960s. So, it is perhaps unsurprising that the gains from the stimulus could not be sustained for long before the economy returned to its historical oscillation between recessions and resurgence. In contrast, Turkey stands out for having achieved some cumulative gains. It managed to reverse a negative growth rate of -6 percent in 2009 to reach a positive rate of 7 percent in 2010, which climbed to 9.4 percent in 2011. Even though the country's stimulus measures alone cannot be credited for producing this impressive upturn, the government's approach should be hailed for helping to turn the economy around. Brazil also recorded some significant gains as a result of its economic stabilisation measures. Growth bounced back from a slight recession in 2009 to an impressive growth rate of 10.7 percent in 2010, even though the rate dropped below 5 percent in subsequent years (Nassif et al., 2020). Among African countries, Kenya and Nigeria also made substantial gains as a result of their stimulus measures. Kenya suffered an economic deceleration in 2008 and Nigerian growth dropped significantly in 2009, but both countries reversed their downturns and maintained positive growth rates throughout the crisis and in its aftermath. Although their stimulus packages were relatively modest as a percentage of their respective GDPs (Nigeria's represented only 1 percent of its GDP wile Kenya deployed 1.5 percent of its GDP) both countries allocated much of the funding to infrastructure investments and other measures that directly increased aggregate demand. For example, Nigeria used only

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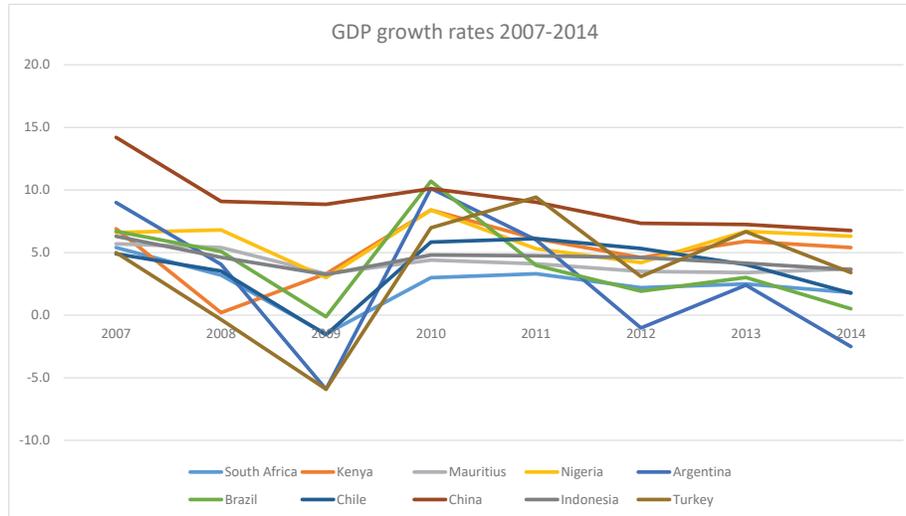
Figure 2: GDP growth rates: crisis and recovery 2007-2014

11 percent of its package for tax cuts, but allocated 36.4 percent for infrastructure and 26 percent for other measures to boost aggregate demand and spending. For its part, Kenya not only invested in infrastructure for job creation, but it also sought to increase wages, thereby testing the wage-led growth hypothesis. Indeed, Kenya's successful recovery partly reflects the effectiveness of this measure in expanding capacity utilisation and boosting production. Indonesia and Mauritius appear to have simply managed to stabilise their existing momentum by avoiding any downturn, rather than producing any surge in growth. Amid the global turmoil, South Africa suffered a downturn that saw its growth rate drop from 5.4 percent in 2007 to a negative rate of -1.5 percent in 2009. It subsequently registered the least gains in terms of reversing this loss, compared to its peers in this study. Chile's growth pattern is similar to South Africa's, albeit with relatively higher growth rates in the recovery period of above 5 percent between 2010 and 2012.

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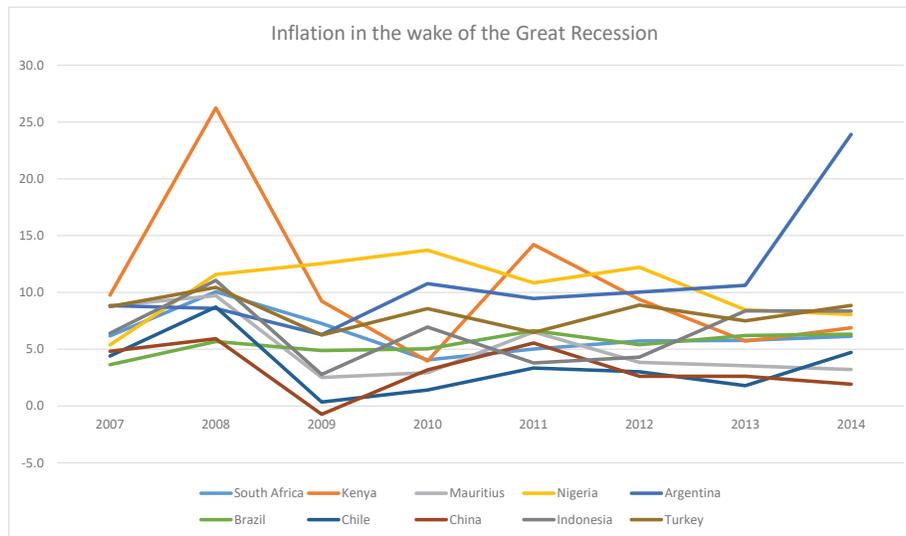
Figure 3: Inflation behaviour 2007-2014

4.3   Inflation behaviour

Figure 3 indicates a general increase in inflation in 2008 among the ten countries, except for Argentina, where the rate fell in 2009 as the crisis intensified. Kenya experienced the highest increase in inflation, in large part because of an existing crisis created by ongoing post-electoral violence. However, it managed to reduce the headline rate to single digit levels despite a resurgence in 2011. Nigeria's inflation stands out as having persistently stood above 10 percent throughout the crisis. It only started to decline in 2013. In contrast, Argentina's inflation rate took off from 2010 and kept going upwards throughout the entire recovery period. For all the other countries in the sample, the inflation rate was kept within the usual bounds after increasing slightly in 2010.

4.4   Is the fear of debt sustainability justified?

A glance at **Figure** 4 indicates that among all the ten countries surveyed in this study , budget deficits increased in 2009 in response to the crisis. In every case, however, the increase was unambiguously associated with a resurgence in economic growth the following year, as predicted by the fiscal multiplier argument. After 2009, government spending in most countries reverted to normal levels with the result that debt financing remained sustainable in the aftermath of the deficit increase.[21] Deficit expenditure by governments to stimulate aggregate demand is often resisted by proponents of market orthodoxy and fiscal discipline on the grounds that it can lead to unsustainable debt burdens, while being ineffective in increasing production because of the Ricardian equivalence (Sinai, 2009).[22] When considering the Ricardian equivalence proposal, however, it is important to keep in mind that many developing economies, which may be operating below their potential capacity for quite long periods, have a higher likelihood to benefit from fiscal stimulation. If the stimulus is properly targeted to activities that yield long-term benefits, the stimulus can indeed be expected to generate increased capacity which will generate output (or avoid loss) in the future.[23] The debt sustainability condition must therefore take into account the potential of government expenditure to generate additional revenue in the future.

4.5   Dynamics of income inequality

The analysis of the evolution of income inequality in the relevant period does not suggest any unusual change in its dynamics during and after the crisis, except for South Africa where we observe a clear upward trend from 63.1 in 2009 to 69 in 2011 (**Figure** 5). Any link that may exist between the macroeconomic policy stimulus and income inequality would be impossible to prove because of the paucity of data on inequality in most

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[21]Kenya seems to be the country that struggled the most to stabilise its deficit levels over the period in question.

[22]As argued by Sinai (2009), even with accommodative monetary policy, financing stimulus trough deficits can produce side effects which will limit or even crowd out its positive effects on aggregate demand if deficits are feared to be permanent. Expectations of future deficits and the possible future increase in tax to finance them with them will affect the current prices and yields on government bonds.

[23]For example, if the accumulation of public debt is used to finance large expenditure on development projects such as public infrastructure, it can be justified provided that the expected rate of return of the development projects is higher than the cost of borrowing.
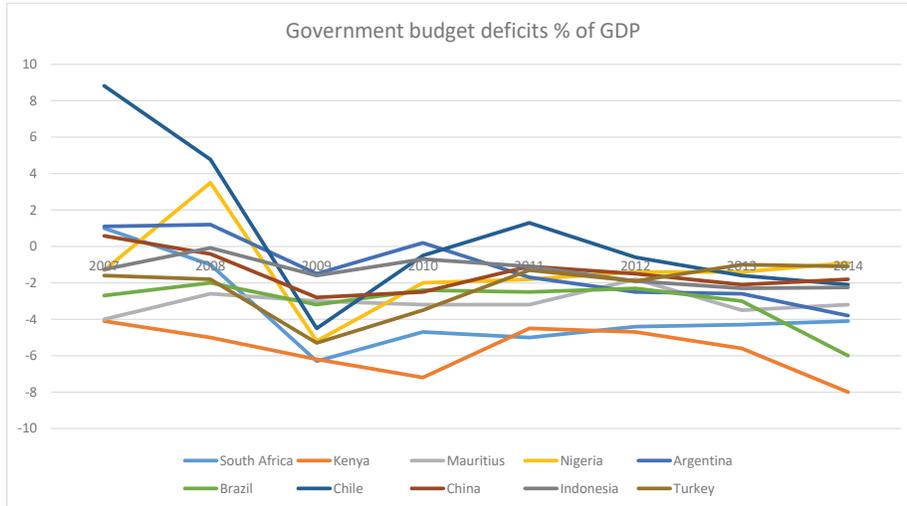
Figure 4: Government budget deficit 2007-2014

countries and because of the lack of observable variation around in the years in which other socio-economic outcomes display visible changes attributable to the crisis and the measures taken to mitigate it. South Africa also stands out for its high inequality index followed only from a distance by Brazil and Chile.

4.6 Income distribution: income share held by bottom 10%

Measured by the income share of the bottom 10 percent, the income distribution displayed in **Table** 13 does not display unusual changes either, even though the unavailability of many data points renders an accurate assessment of its dynamics quite difficult. There are therefore no observable effects that can be readily attributed to the stimulus measures, even though other indicators seem to suggest that the higher income benefited more from the stimulus. Indonesia and Mauritius had the highest shares in the sample (with China catching up in 2014) while South Africa stands out again for its lowest income share for
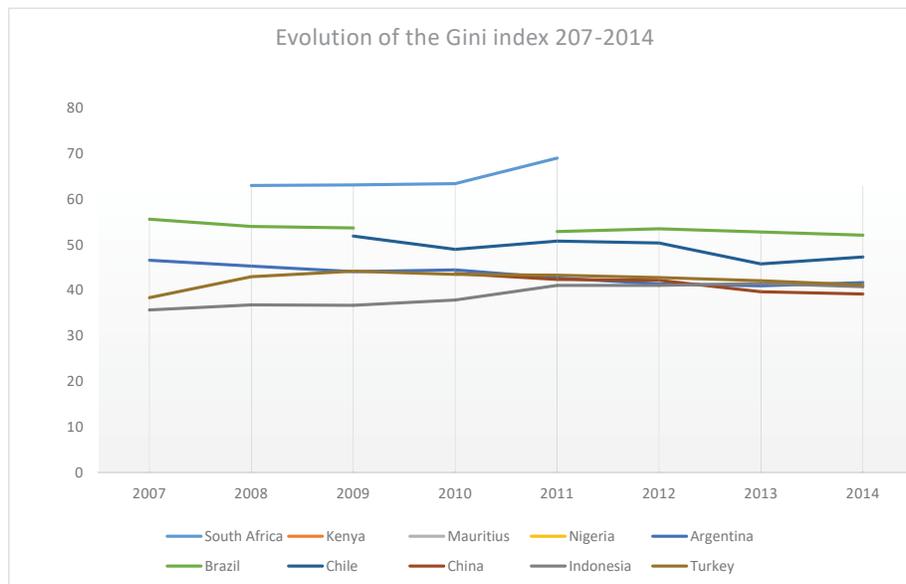
Figure 5: Gini index in percentage points

the bottom decile. Corresponding data on the income share of the top decile also show the same stability (not displayed)

4.7   Dynamics of poverty

To what extent have the stimulus measures contributed to enhancing the effectiveness of poverty and inequality reduction programmes? From their design, most of the stimulus packages only allocated a minute fraction of their funds specifically to poverty alleviation measures. Available data indicate that poverty headcount ratio did not go up as a result of the crisis (except for Nigeria), but remained relatively stable over the period (**Figure** 6). Available data, within the limits of their paucity, did not show any identifiable changes in inequality or poverty rates that can be attributed to the effects of the stimulus packages in the comparison group. In South Africa, the steady decrease in inequality that had gained a momentum before the crisis stabilised in 2010 and remained at that level for the rest of the period under consideration, far above the rates prevailing in the comparison

Table 13: Income distribution: income share held by bottom 10%

Country	2007	2008	2009	2010	2011	2012	2013	2014
South Africa	1	1.17	0.9	n.a	n.a	n.a	0.9	
Kenya		n.a	n.a	n.a	n.a	n.a	n.a	n.a
Mauritius		3.1	3.1	n.a	2.8	2.8	2.8	2.8
Nigeria		n.a	2	1.8	n.a	n.a	n.a	n.a
Argentina		1.3	1.3	1.3	1.7	1.7	1.8	1.8
Brazil		1	1	0	1.1	1.1	1.2	1.2
Chile		0	1.9	0	2.1	0	2.1	0
China		2.1	n.a	2	2.1	2.1	2.5	2.5
Indonesia		3.2	3.3	3.1	2.9	3	3	3
Turkey		2.1	2.2	2.2	2.2	2.2	2.2	2.2

group. The unrecovered job losses coupled with the slow growth rates that followed is certainly not stranger to breaking this momentum in poverty reduction (Toyana and Nqobile, 2020). This implies that the undertaken measures had only limited impact on poverty, both by design and indirectly through the structure of the recovery. Noticeable is equally the high level of poverty head count ratio in South Africa relative to the comparison group.

5 Lessons from the Great Recession stimulus measures

By examining the ways in which the macroeconomic policy measures undertaken during the Great Depression (2007-2009) have affected subsequent economic performance and distribution dynamics, insights may be gained into the impacts produced by such stimulus packages more generally in times of crisis. When the global financial crisis erupted in 2007, most developed economies devised massive fiscal and monetary policy interventions to stabilise their markets and avert the threat of an economic meltdown (Morrison, 2009; Clark, 2011).[24] The intricate nature of the globalised production and trading system propagated the effects of the crisis from developed to developing countries through large financial outflows and a significant drop in demand, which lowered the price of their export commodities. The ensuing impacts on food prices pushed 40 million to 100 million

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[24]Fiscal stimulus packages were deployed in the form of discretionary tax cuts, increased government spending, or a combination of both (Torres, 2011).
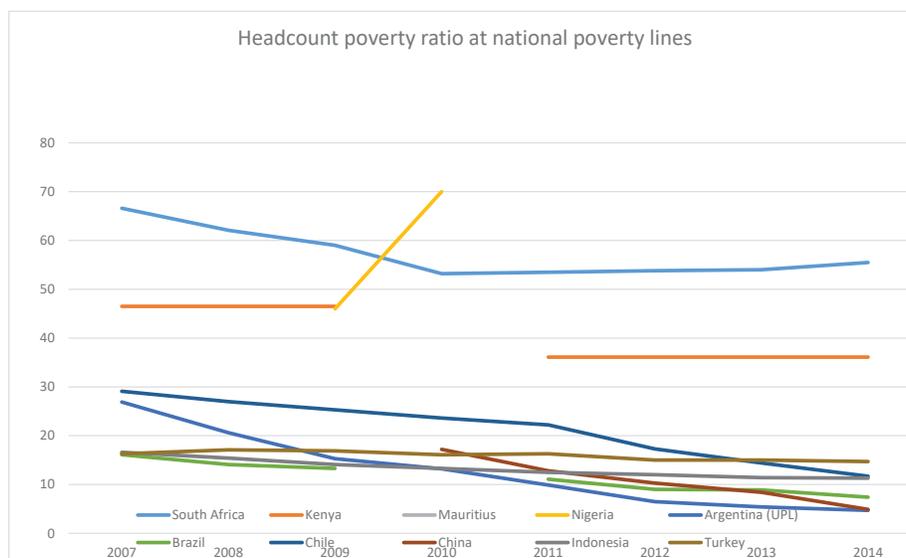
Figure 6: Evolution of poverty head count ratios 2007-2014

people into transient poverty at various points in time, especially in non-oil-producing, low-income countries (World Bank, 2011; Islam and Anwar, 2011; Islam and Verick, 2010). Consequently, many developing countries were left with no choice but to enact national monetary and fiscal policy measures to help shield their economies from the impact of the exogenous shocks.

The stimulus measures undertaken by the countries considered in this study led to a range of economic performance outcomes during the crisis and in the subsequent recovery period (see section 4 above). It is generally agreed that such interventions helped build resilience to external shocks and helped affected economies to recover more rapidly than they would otherwise have been able to do (see Torres, 2011; Blinder and Zandi, 2015; Narayan, 2018, among others). China, for example, responded to the 2007-2009 Great Recession by deploying an expansionary monetary policy, which entailed historically low interest rates and a lowering of capital requirement ratios, as well as by launching a RMB4 trillion fiscal stimulus package for 2009-2010. The package, which amounted to the equivalent

of 13.5 percent of GDP in 2008, aimed to buoy demand by developing public transport infrastructure; affordable public housing; and rural infrastructure (Dullien et al., 2010; Marinakis, 2011; Peterson Institute, 2008). This resulted in a sudden acceleration of the growth rate from 8.8 percent in 2009 to a remarkable 10.1 percent in 2010, although growth performance decreased in subsequent years. The recovery period also saw a gradual decrease in inequality, whereby the Gini coefficient fell from 43 percent in 2008 to 39.2 percent in 2014.[25] Likewise, Brazil invested in infrastructure to stimulate job retention and implemented expansionary monetary policy as well as counter-cyclical fiscal measures focused primarily on stimulating aggregate demand (for example by reducing tax on industrial products and extending the duration of unemployment insurance). As a result of these measures, the Brazilian economy posted a strong GDP growth rate of 7.7 percent for 2010, despite experiencing a recession in the first three quarters of 2009 (Marinakis, 2011; Torres, 2011). More widely, the stimulus measures that were adopted skewed the benefits among different segments of the populations in many countries, most often to the disadvantage of low-income households. For example, the use of tax cuts as a relief measure tended to benefit workers in formal employment or business owners, rather than informally employed workers and the poor, whose incomes were below the taxation threshold (Chatani and Ernst, 2011). In response to external shocks produced by the Covid-19 pandemic and the concomitant national lockdowns, many governments are seeking to implement stimulus packages similar to those forged to manage the Great Recession. A particular goal for government is to shield their economies from shrinking demand. For example, workers who are unable to earn incomes because they have been forced to stay at home run the risk of losing their healthcare insurance and purchasing power. As emphasised by Baldwin and Weder di Mauro (2020), the looming economic recession may be alleviated by ensuring that people have the money to keep spending even when they are not earning. However, governments will need additional borrowing capacity in order to fund such expenditure, which many developing countries cannot readily source. Some scholars, such as Galí (2020) or Gourinchas (2020), have therefore been suggesting to governments to have recourse to so-called "helicopter money" vehicles

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[25]The income share held by the top decile also decreased slightly from 32 to 29.7 percent over the same period, according to data from the Bank of China.

to finance stimulus packages, given the exceptional character of the present crisis.[26]

6 South Africa's Covid-19 response

6.1 Fiscal stimulus: magnitude and targeting

The current Covid-19 crisis hit South Africa at a moment when the country was already facing grave economic and social difficulties. The economy was in recession, households and firms were struggling with the crippling effects of incessant load shedding, while major state-owned enterprises, (including South African Airways (SAA), energy producer Eskom and defense & aerospace equipment producer Denel) were all in financial troubles requiring government intervention. In the 2020 budget speech, the Minister of Finance projected a growth rate of only 0.9 percent with little prospects for improvement in the future as persistent electricity supply problems were expected to hold back economic activities in the next three years. To make the matters worse, when the Covid-19 crisis intensified, Moody's downgraded the South African sovereign debt to below investment grade on March 27, 2020.[27] That had as implication that the country's fiscal space became constrained even further. Growth projections drastically changed with further intensification of the crisis and the ensuing lockdown measures that nearly put a halt to most economic activities for the first three weeks starting in March 26. The South African Reserve Bank projects a 4.0 percent contraction for 2020, with little hope of a rapid rebound in 2021. The ZAR500 billion fiscal response initially proposed for dealing with the impact of COVID-19 pandemic includes intervention to support job retention in SME and an increase in social protection, but is conspicuously lacking in capacity to stimulate aggregate demand (see **Table** 1 supra). In terms of its composition, its most visible characterisation is its extreme skewness towards corporations as it nearly reserves 75 percent of its planned spending (ZAR370 billion out of 500bn) for supporting business enterprises through direct financial assistance or tax cuts (**Table** 1). Support to vulnera-

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[26]According to Galí, the central could create "helicopter money" *ex nihilo* by crediting the government's account for the amount required for the Covid-19 relief transfers. That credit would not be repayable and would not have any impact on the central bank's profit. Alternatively the central bank can perform an equivalent operation by purchasing government debt to the desired amount, followed by its immediate writing-off, thus removing all impact on the government's effective liabilities.

[27]This was the last major rating agency that had not done so earlier

ble households accounts only for 10 percent of the proposed package. That configuration is at odds with the conventional pecking order of multipliers that assigns a higher stimulating effect to infrastructure spending in comparison to tax cuts. Because of their state of precariousness, vulnerable households will generally have a higher propensity to consume than businesses enterprises, which may save part of the tax cut they receive (Lavoie and Stockhammer, 2013; Bhaduri, 2008).[28] By lack of reliable data on budget increases covering enough time span for South Africa, we rely on the rule of thumb suggesting the multiplier to lie between 0.5 and 1 for medium-sized countries (Batini et al., 2014; Spilimbergo et al., 2009). From a comparison of fiscal multipliers pertaining to different components of fiscal packages calculated in different studies, Verick and Islam (2010) suggested that when governments prepare to enact fiscal stimulus packages, they should give priority to spending measures instead of tax cuts. Governments are also advised to focus on employment-intensive capital expenditure, such as investments in infrastructure, because they yield larger impact on output and employment gains for each dollar spent on fiscal expansion. When these recommendations are juxtaposed to the proposed stimulus, it is remarkable that spending on infrastructure is totally absent, but this is not entirely surprising. Given the financial stress imposed by the lockdown restrictions, it may be more reasonable to consider the government measures as merely intended to avoid the distress of businesses and the potential consequences on job losses, rather than a stimulus intended to pull the economy out of the recession it was already in. This means that in order to put the economy on a growth trajectory once the pandemic has been brought under control, a substantial stimulus package will be necessary to boost aggregate demand. Given the stagnation that the country has experienced over the last ten years however, the stimulation of aggregate demand is unlikely to produce growth in the absence of substantive structural reforms that address not only capacity utilisation in production but also the redistribution of the national income between labour and capital (Palley, 2017; Bhaduri, 2008; Bhaduri and Marglin, 1990). As argued by Krugman (2009), the paucity of the stimulus package has negative implication on the speed of re-

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[28]Considering the poverty rate in South Africa together with the rate of unemployment and the wage structure prevailing in the country, it becomes obvious that a the country is still home to a considerable number of "working poor", i.e. people who are employed but whose income puts them blow the poverty line.

covery. The restrictions imposed to contain the health risk mean that the fiscal responses were intended more as a means to prevent their collapse of the existing economic structure and not as a instrument to stimulate demand, because production could obviously not expand while people are locked down. Consequently, as lockdown restrictions were gradually removed to allow economic activities to resume, a real economic stimulus with sufficient magnitude and adequate targeting became necessary to tow the economy from its pre-crisis stagnation.

6.1.1 Financing the fiscal response

On June 18,2020, the Minister of Finance announced that he would be tabling a supplementary budget imposing substantial cuts in government spending to avert a looming debt crisis (Magubane, 2020). This is a strong warning, reflecting the dire budgetary constraints the South African government is currently confronted with. The exiguity of the fiscal space can impede the country's ability to adequately respond to crises and may thus unnecessarily prolong its harmful effects if it prevents the government from mobilising the required resources to finance the countercyclical fiscal measures.[29] For a budget-setting body faced with a narrow fiscal space, a good tool for analysing the available options is the *fiscal space diamond* (Roy et al., 2007; Roy, 2010). It is called fiscal space *diamond* because of the four pillars that sustain it:

1) External funding such as aid and debt relief

2) Domestic revenue mobilisation through improved tax collection

3) Deficit financing through domestic and external borrowing

4) Reprioritisation and improvement in the efficiency of expenditures

as represented in **Figure** 7 Governments can expand their fiscal space by optimizing receipts from each of these sources. The diamond does not include seignorage as a source of additional fiscal space, because it is often considered to be an undesirable option. In the case of South Africa grappling with the recent downgrade of its sovereign debt (which increased the cost of borrowing in international markets), building trust with domestic lenders who have a bigger stake in its long-run economic success is key to securing the

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[29]Fiscal space is defined as "the availability of budgetary room that allows a government to provide resources for a desired purpose without any prejudice to the sustainability of a government's financial position" Heller (2005).
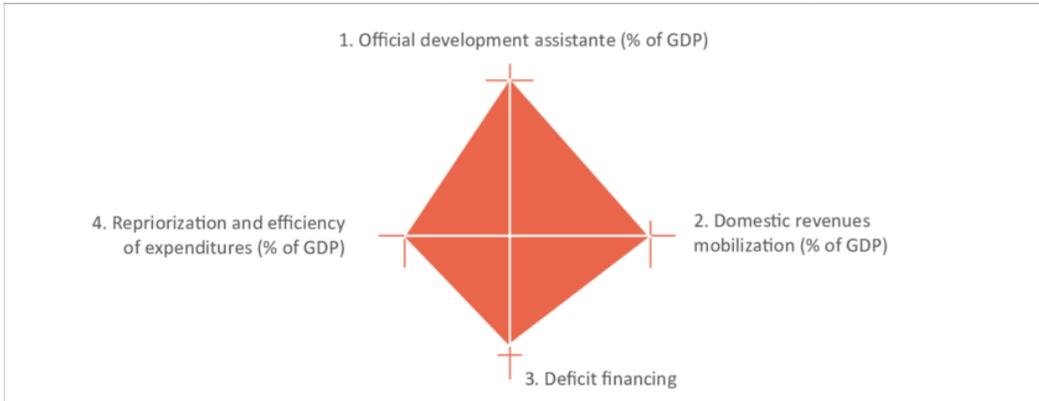
Figure 7: The fiscal space diamond (Roy et al., 2007)

necessary funds to finance the needed reforms. Some scholars consider seignorage as a possible source of fiscal expansion, even though it has almost become taboo in monetary policy circles (Roy et al., 2007). Recognising the role of seignorage and the crowding in effects of public investment is however very important as suggested by Vera (2009) and Galí (2020), but requires doing away with the debt sustainability condition, which rests on the assumption that growth and the variation of interest rates have no bearing on budgetary measures (Vera, 2009). This assumption is often not valid in many developing countries so that recommendations based on it are usually not appropriate to the developing country context.

6.2 Monetary policy: adequacy and credibility

New neoclassical synthesis models have produced a number of key proposals about the role of monetary policy in stimulating the real economy. First, NNS models suggest that monetary policy actions have a persistent effect on real economic activity because of the slow adjustment of prices (Barro, 1976; Goodfriend and King, 1997; Nassif et al., 2020). Second, the models contend that costly price adjustments limit the long-term trade-offs that inflation can produce in terms of real economic activity. Third, the models assert that eliminating inflation produces significant gains in terms of transactional efficiency and reduced price distortions (Goodfriend and King, 1997; Nassif et al., 2020). The so-called new macroeconomic consensus emanating from NNS argues that the role of monetary policy should be to pursue price stability and peg inflation expectations in

order to minimise the output gap and stimulate aggregate demand (Nassif et al., 2020).[30]
Under this argument, a key aspect of any inflation-targeting regime is to minimise any
future expectations of inflation, since economic agents are assumed to be guided by
rational expectations (Lucas, 1976). Because of the important role that credibility plays
for agents guided by rational expectations, so goes the argument, it is preferable that
monetary policy be shaped by rules, rather than discretion, and implemented through
an independent central bank (Chari et al., 1988; Ball, 1995; Goodfriend and King, 1997;
González G and Hamann, 2011). Finally, NNS models tend to dismiss the counter-cyclical
power of expansionary fiscal policy, which was shown by the IMF (2008) to play a key
role in balancing development trajectories. This dismissal is based on the assumption of
Ricardian equivalence, although the conditions for such equivalence are generally absent
in most developing countries (Vera, 2009). Using NNS models, the consensus view is that
monetary instruments, in particular the policy interest rate, represent the main means
for forging macroeconomic policy. Under this view, fiscal policy and its efforts to steer
the economy towards reaching full employment plays only a supporting role, since fiscal
policy is bound to be aligned first and foremost with monetary policy (Nassif et al., 2020).
However, as was remarked by Keynes (1936) in his *General Theory*, efforts to resort
to inflation targeting in a floating exchange-rate regime will eventually constrain the
autonomy of monetary policy in the absence of policy instruments for regulating capital
flows. With money flowing in and out of the country in short-run portfolio investments
and capital flight, an inflation-targeting regime is unable to stabilise inflation or sustain
long-term growth in open, developing economies (Nassif et al., 2020; Mohanty et al.,
2008).[31]. As noted by (Nassif et al., 2020) and Patnaik et al. (2011), the transmission
channels between monetary policy and the real economy need to work efficiently for
inflation targeting to achieve its goal. In the absence of such efficiency, the inflation
target will only be achieved at the expense of higher real interest rates. The response
of the South African Reserve Bank to the Covid-19 crisis, whereby it pledged to lower

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[30]By setting inflation to a target, it is argued, monetary authorities will minimise the output gap to
zero through what Blanchard and Galí (2007) call 'divine coincidence' and stimulate aggregate demand,
thereby sustain long-term growth (Nassif et al., 2020; Vera, 2009).

[31]Nassif et al. (2020) showed that the effectiveness of inflation targeting policy in Brazil has been very
poor because of the inadequacy of the inflation-targeting regime to fight inflation in developing economies
dependent on foreign capital flows.

interest rates and buy government bonds to increase liquidity in the financial market, should be interpreted within the context of these debates. In this regard, the arguments advanced by monetarists and neo-liberal inflationists fail to take account of the long-term dynamic gains that may accrue to the economy from short-run capacity expansion in developing countries, as recalled by Nassif et al. (2020) and Vera (2009).

6.3   Stimulus, inequality and structural reforms

The International Labour Organisation (ILO) considers an unemployment rate of 10 percent to be socially harmful. It therefore recommends that once this level is breached, exceptional measures should be implemented to restructure the economy (Marinakis, 2011). The persistently high levels of unemployment experienced in South Africa since the Global Recession are more than three times higher than this benchmark, indicating that such restructuring is a matter of great importance and urgency. In this context, the issue of producing more equitable wages and thus reducing social polarisation should represent a priority for government, as it seeks to close the widening income inequality (Lavoie and Stockhammer, 2013). Such efforts would require a more judicious alignment of industrial policy with labour-market regulations in order to foster societal structures that can create greater inclusiveness and sustainability in new systems of production. In considering the measures available to them, policymakers may be tempted to listen to the proponents of strict fiscal discipline, who found justification for their arguments in the association between persistent fiscal deficits and major balance-of-payment problems, as well as high inflation, in developing countries in the 1980s and 1990s. During this era, money-supply challenges led to declines in national savings and caused unsustainable debt burdens (Vera, 2009), which, in turn, stifled investment and growth prospects, producing a "lost decade" for many developing countries. In order to avoid choosing fiscal responses that may unnecessarily prolong the crisis and reinforce the present high rate of unemployment, it is important that policy makers attend carefully to the implications of the fiscal interventions, namely in terms of their multiplier effects. They should look to provide social protections and preserve jobs, while also spending on infrastructure to create more jobs and boost long-term productivity. At the same time, policymakers should bear in

mind that the alleged existence of an inverse relationship between capacity-utilisation levels and the real wage rate, as proposed by neo-classical economists, and even Keynes in his General Theory, is only valid in the special case of profit-led expansion (Bhaduri and Marglin, 1990; Bhaduri, 2008). In other cases, increasing workers' wages will tend to foster economic expansion and produce greater utilisation of capacity, leading to a wage-led growth economy. As is argued by Palley (2017), an increase in the workers' share of wage income, which shifts revenue from high-saving capitalist-managers to workers(who generally save less of their extra income), causes aggregate savings to fall. Similarly, a greater share of workers' ownership in firms shifts profit income from capitalist-managers, who save more, to workers, who generally have a higher marginal propensity to consume, which also causes aggregate savings to fall. Such decreases in savings imply that a greater share of national income is being allocated to consumption, which increases aggregate demand and expands capacity utilisation (Lavoie and Stockhammer, 2013; Palley, 2017; Bhaduri, 2008). In other words, the growth–inequality trade-off often advanced by neo-liberal economists may be overcome by reducing the polarisation in wage distribution, thereby increasing capacity utilisation. [32] Even more significantly, if the wage distribution is changed sufficiently, the economy can flip from being profit-led to being wage-led (Palley, 2017; Lavoie and Stockhammer, 2013).[33] Accordingly, policymakers should aim to increase workers' wage share. More income in workers' hands stimulates economic activity without reducing investment spending. In the wake of the Covid-19 health crisis, South Africa, as the most unequal economy on the world and one which is experiencing stagnation, should seek to exploit the growth potential of income redistribution as a means of expanding capacity utilisation and creating employment opportunities. Such an approach would also address the problem of the "working poor", i.e. those people who work full time, yet experience the indignity of living below the poverty line.

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[32]This has long been the ideological tenet of social democracy push for wage increase (Bhaduri and Marglin, 1990).

[33]Income distribution can be modified or influenced by appropriate government policies by securing low real interest rates or by modifying the tax code (Lavoie and Stockhammer, 2013).

7   Concluding discussion

In this paper, we have attempted to build an understanding of the possible repercussions of the Covid-19 fiscal response proposed by the South African Government on growth performance but also on income distribution. We have used the fiscal multiplier framework and the Bhaduri and Marglin (1990) model of distribution-based output expansion as our analytical lenses to dissect the 2007-2009 Great Recession fiscal responses of 9 comparison countries as a source of lessons for how the current fiscal response may work out on South Africa's recovery, poverty and inequality. Despite limitations in the availability of reliable data, the framework we used enabled us to shed light to the positive association between the stimulus structures that emphasised government spending known to have larger fiscal multipliers and corresponding growth performance in the years following the enactment of these measures. Monetary policy measures adopted during the crisis were complementary to the fiscal measures and served primarily to stabilise business operations by facilitating access to liquidity and borrowing. On the other hand, available data did not show any visible connection between the adoption of macroeconomic stimulus measure and subsequent changes in rates of inequality and poverty. The absence of observable changes in the incidence of poverty and inequality is however not an evidence that such measures do not affect poverty and income distribution. It may instead indicate that existing poverty reduction programmes were able to stabilise poverty and avert the potential deterioration as a result of the crisis. The observed relationships between the enacted measures and changes in socio-economic outcomes provide at least three useful lessons for confronting new crises requiring macroeconomic interventions. First, the experience of the Great Depression point to the importance of adopting fiscal and monetary policy measures with the highest expected fiscal multipliers, and preferably enacting them in time to avoid economic downturns rather than having to reverse them after they have impacted the economy. Countries such as China and Mauritius, which timely adopted sizable stimulus packages with emphasis on spending rather than tax cuts, were able to retain positive growth rates during the crisis and stabilise them afterwards. Those that adopted similar measures on a reactive basis saw their growth drop significantly before the adopted measure could yield their effects in subsequent years. Second,

the fear of rising inflation following the lowering of interest rates during the crisis was *a posteriori* not justified as most countries considered in this study managed to keep their inflation levels under control. The generalised surge in growth rates observed in 2009 reflect the output response to the stimulus measures as predicted by NNS models. It therefore suggests that the Ricardian equivalence theorem of crowding out the effect of a deficit-financed stimulus package did not hold.

Third, fiscal interventions tend to produce outcomes that are disproportionately advantageous to the already privileged segments of the population. In the absence of a fiscal stimulus targeting more intensively the credit-constrained group with the highest MPC, compensatory measures are necessary in the existing poverty reduction programmes to avoid a worsening of income polarisation.[34]

As the government debates budgets and the South African Reserve Bank remains pinned on inflation targeting, food insecurity and hunger are still affecting 20 percent of South African households according to the latest data from Statistics South Africa (StatSA, 2019).[35] The skewed income distribution that produces 20 percent of households experiencing hunger on a daily basis in a nominally food-secure country is the outcome of complex social and economic processes, but governments can influence it by changing tax policy and labour market regulations (Lavoie and Stockhammer, 2013). Beyond the immediate dangers and economic hardships of the incipient recession, this crisis is therefore an unexpected opportunity for policy makers to rethink the social relations and the economic structure that must be re-engineered with the aim to shape a more industrious and more prosperous post-Covid-19 society. Because of the extractive profit-led regime that has underpinned its economic doctrine, the South African economy has reached the limits of its orthodox growth possibilities and has been stagnating for more than a

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[34]The response to Covid-19 with fiscal measures has particular context that does not fit the operational conditions of previous crises: the enacted lockdown brought a forced halt to many economic activities on the supply side, so that aggregate demand stimulation during lockdown does not make much sense. The adopted macroeconomic measures should therefore be regarded primarily as a rescue package designed to stabilise the business sector and prevent a widespread bankruptcy due to lost revenue during the period they were not able or allowed to operate. The compromise between health protection and the reopening of the economy means that capacity utilisation will remain suboptimal until the health risk is completely eliminated, at which time the necessary structural reforms would need to be put in place for the additional macroeconomic policy measures to contribute to new capacity expansion.

[35]The survey conducted in 2017 showed that 6.8 million South Africans (1.7 million households) were still experiencing hunger.

decade (Mohamed, 2009; Mazzucato, 2018).[36] Structural reform is therefore not just an optional experimentation, but a necessity to rescue the economy from the middle-income trap in which it is inextricably entangled (Mohamed, 2009; Luiz, 2016; Kruss, 2020). The structural reforms to be envisaged should aim to shift the economy from stagnationist profit-led regime that has governed the country since long towards an exhilarationist regime combining investment-led capacity expansion with wage-led growth. Such a shift will require forging "upgrading coalitions" (Doner and Schneider, 2016) with shared convictions between government, domestic investors and trade unions. With the view to building a fairer, greener and more resilient economy, the coalitions will play a leading role in engineering the long-term growth dynamics aimed to bring about a post-Covid-19 economy that works for all segments of our society. Questions that need to be addressed when designing those reforms include the following:

- Given the current stagnation, which strategic growth areas should South Africa pursue in accordance with its dynamic comparative advantage ?

- What is the bearing of inequality on the stagnation regime and how can growth be achieved through inequality reduction?

- Which growth regime is South African economy likely to experience and how can the stagnation be overcome through an adaptation to a growth enhancing wage-led regime?

- How can the required investments be financed in the context of a narrowing fiscal space, taking long-term gains into account?

- Which role does the inflation targeting regime of the South African Reserve Bank play in the stagnationist dynamics?

- What are the possibilities offered by the country's fiscal diamond to finance its long-term development?

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[36]In The Value of Everything, Mazzucato (2018) stressed the difference between value extraction and value creation and the limitations of the former in the accumulation process. Robinson and Acemoglu (2012) have also argued that an economic system based of extraction rather than creation is ultimately doomed to reach the limits of its possibilities and fail to bring prosperity to its citizens.

- Should South Africa pursue pro-cyclical or counter-cyclical fiscal policy interventions?

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