

Policy Brief Prepared for TIPS

Macroeconomic Policy in Times of Slow Growth and Crisis

Stephanie Seguino

Professor, Department of Economics
University of Vermont, USA, and SOAS, University of London

September 28, 2015

I. Introduction

South Africa faces a series of macroeconomic challenges in the coming months that will strain its ability to address its most pressing need—more jobs. The macroeconomic policy approach taken in the recent time period largely adheres to mainstream tenets, emphasizing low inflation and fiscal restraint. Since the Great Recession of 2008, however, those tenets have come under scrutiny, even by organizations such as the IMF.

High global levels of unemployment persist seven years after the onset of the crisis, underscoring the relevance of an alternative macroeconomic framework for both developed and developing countries in which the jobs deficit is the utmost priority. Among policymakers and scholars, the urgent need to stimulate employment coupled with multiple additional macro-level challenges has resuscitated attention to the importance of identifying a wider array of macroeconomic tools beyond the standard ones used in the past 25 years.

This policy brief discusses the recent macroeconomic approaches employed by the South African government with an emphasis on examination of the monetary policies adopted by the South African Reserve Bank. Their impact on the goals of employment creation and growth will be discussed. This will be followed by a review of alternative strategies potentially available to the South African government to address these challenges.

II. South Africa's Structural Macroeconomic Challenges

South Africa's economy faces a number of near-term challenges. The growth slowdown in China as well as the ongoing stagnation in South Africa's major trading partner—the European Union—have and will continue to affect export demand, contributing to downward pressure on job creation. Infrastructure constraints, especially in the area of electricity, pose a significant challenge on the production side of the economy, raising the costs of doing business and creating uncertainty in production (Lawisso, *et al* 2015).

The rand has depreciated in response to domestic and global developments, and this has fuelled the SARB's inflation fears. Those fears appear to be related to the prospect of exchange rate pass-through to import prices as a result of currency depreciation, with the potential to drive up domestic prices (Parsley 2010). Despite these concerns, it should be

noted that core inflation is stable at 5.3 percent and is predicted to fall to 4.7 percent in the near term (South African Reserve Bank 2015).

The most pressing challenge South African policymakers face, however, is the extremely high rate of unemployment, with more than a quarter of the adult population unable to provide for themselves and their families through work. The problem is not transitory; indeed, the unemployment rate has risen over the last twenty years. This is one, though not the only factor, that contributes to South Africa's extremely high income inequality, matched by few countries in the world.

Beyond the critical obligation of governments to provide the economic conditions in which adults can provide for themselves and their families, negative economy-wide effects result from persistent high unemployment rates. First, of course, unemployment results in output losses. But second, of great concern is that long-term unemployment contributes to skills erosion. As a person's skills deteriorate due to lack of use, the probability of being hired in the future declines. Employers instead will prefer to hire younger workers whose skills have not atrophied from inactivity. High rates of unemployment then are a severe hindrance to South Africa's ability to meet its development goals. This is because, as South African government analysts report, a major challenge in stimulating growth is the shortage of skilled workers. High unemployment rates and income inequality exacerbate and indeed make it very difficult to overcome skills shortages.

Long-term unemployment also has negative psychological effects and, as a result, harms worker productivity (Darity and Goldsmith 1996). Joblessness is linked to higher incidence of mental anxiety, depression, poorer cognitive performance, and loss of self-esteem—all affecting worker productivity (Flatau, *et al* 2000). Women's unemployment, higher than men's in South Africa, has additional negative macroeconomic effects. A number of studies document the impact of a mother's poverty and depression on early childhood development, with evidence of negative effects of children's cognitive development, even *in utero*, with lifelong impacts on productivity, earnings, and well-being (Agénor, *et al* 2010).

The racial disparities in unemployment are a particularly concerning aspect of the unemployment problem, with black South Africans more than four times as likely to be unemployed as white South Africans, a roadblock to overcoming the yawning racial income and wealth gaps. Inequality is not solely an individual or group problem. Inequality by race, class, and gender has been shown to have significant negative effects on economic growth. Among the transmission mechanisms is the impact of poverty on long-run productivity growth through the effects on adults' ability to care for themselves. Poor health and stress are correlated with poverty, affecting worker productivity (Ranis and Stewart 2007). With wide income gaps, the positive feedback loop between higher incomes for low- and middle-income groups, on the one hand, and investments in children's education, on the other, is cannot be achieved. Further, inequality depresses aggregate demand, placing more pressure on countries to rely on external demand (exports) to create sufficient employment (Seguino 2012).

At the macroeconomic level, then, sustained unemployment leads to *hysteresis*. Put differently, cyclical unemployment, if prolonged, can raise the structural rate of unemployment. This

underscores that unemployment is not a transitory problem if it persists for so long that it reduces labor productivity.

In a globalized economy, labor productivity is key to competitiveness. Improvements in labor productivity have the potential to attract high quality investments that create high-paying jobs. Some policymakers indicate concerns solely about wage growth, but these concerns are often misplaced insofar as that which matters for competitiveness is unit labor costs (wages relative to labor productivity). Little attention has been given to the impact of sustained unemployment on labor productivity and unit labor costs and the resulting loss of competitiveness.

An additional effect of high rates of unemployment is that it depresses government revenues from income taxes. This can become a vicious cycle, with fiscal constraints inhibiting the government's ability to invest in education and health, and thus needed improvements in labor productivity cannot be realized. South Africa's goal of promoting development and poverty reduction through industrialization are difficult to realize under such conditions. In contrast, the most successful late industrializers in recent history (South Korea, Taiwan, China, and Vietnam) have achieved rapid growth, declining unemployment, and wage growth on a foundation of a well-educated work force (Amsden 2001).

Finally, there is a growing consensus amongst economists that economic inequality can produce political and economic instability, and undercut the social consensus required to adjust in the face of major shocks, and thus it tends to reduce the rate and sustainability of growth (Berg, *et al* 2012).

III. Monetary Policy in Economic Hard Times

South Africa's tool kit to promote development and growth since 1995 has included an inflation-targeting monetary policy framework, capital account liberalization, and fiscal austerity. These policies have not, however, achieved the anticipated gains. Growth rates continue to be low, industrialization goals ephemeral, and unemployment rates persistently high. In this section, I discuss in particular the inflation targeting (IT) policy stance of the South African Reserve Bank (SARB) and alternatives to that approach that may more successfully move South Africa towards the achievement of its development goals.

Since about 2002, the SARB has followed an inflation-targeting regime for monetary policy. The policy is directed at keeping the annual inflation rate within a target range of 3 – 6 percent. Inflation-targeting central banks, including South Africa's, use the monetary policy tool of policy interest rates to keep inflation within the targeted zone. In response to inflation nearing the target, central banks respond with higher interest rates. Their effect is to reduce demand for lending, thus investment and spending, slowing GDP growth.

The short-term effect then is to reduce aggregate demand, and, as noted, to slow growth. Adherents to IT argue that while the short-term effects are painful—higher unemployment and income losses—inflation is worse. This view is based on the premise that workers, observing price increases, accentuate their demands for higher pay, triggering an inflationary spiral. Inflation targeting is meant to harness inflationary expectations (inertial inflation) and

avoid such a spiral. IT adherents theorize that although there are short-run output losses resulting from higher interest rates, low inflation will stimulate investment and output growth in the medium- to long-term. Thus, it is assumed that unemployment costs as a result of higher interest rates and slower growth are only temporary.

Three key issues merit investigation. First, *does* inflation in the low single digits promote development and growth? If not, raising interest rates at low rates of inflation may not be the optimal policy stance. Second, is inflation in South Africa a demand-side problem? If not, then raising interest rates may not be the most efficient and targeted policy tool to address the source of inflationary pressures (and may cultivate higher inflation in the future). Third, will reliance on a single monetary tool, the policy interest rate, successfully lower inflation and promote employment growth and development? If not, other tools should be sought.

We begin with an exploration of the first issue. With more than 25 years of inflation targeting experience globally, enough evidence has accumulated to evaluate the effects of this policy stance. Some research shows that countries that have adopted IT have experienced reductions in inflation and reduced exchange rate pass-through, although the results are sensitive to the controls used in the econometric analyses (Mishkin and Schmidt-Hebbel 2007).

Of course, inflation itself is not the end goal; employment and growth are. There, the record suggests IT has not achieved its goals. A number of studies indicate that IT central banks do not reduce inflation at any lower cost than other countries' central banks in terms of job and output losses (Bernanke *et al* 1999; Ball and Sheridan 2005; Epstein and Yeldan 2009). This is not to suggest that inflation should be ignored. Rather, the question is what the appropriate target should be. A common argument from IT adherents is that in order to prevent the harmful effects of inflation on long-rung growth, inflation should be in the low single digits. Research on the relationship between inflation and growth, shows, however, that much higher levels of inflation are consistent with growth.

An early study by World Bank economist Michael Bruno (1995) found that growth increased as inflation rose up to 15 – 20 percent range in a sample of 127 countries. A subsequent paper co-authored by Bruno and William Easterly (1998) yielded empirical evidence that growth rates only declined when inflation exceeded 40 percent. The threshold at which inflation negatively affects growth appears to vary between developed and developing economies, however. According to one study, while the threshold is quite low for developed economies (between 1 to 3 percent), it is 11 – 12 percent for developing economies (Khan and Senhadji 2001).

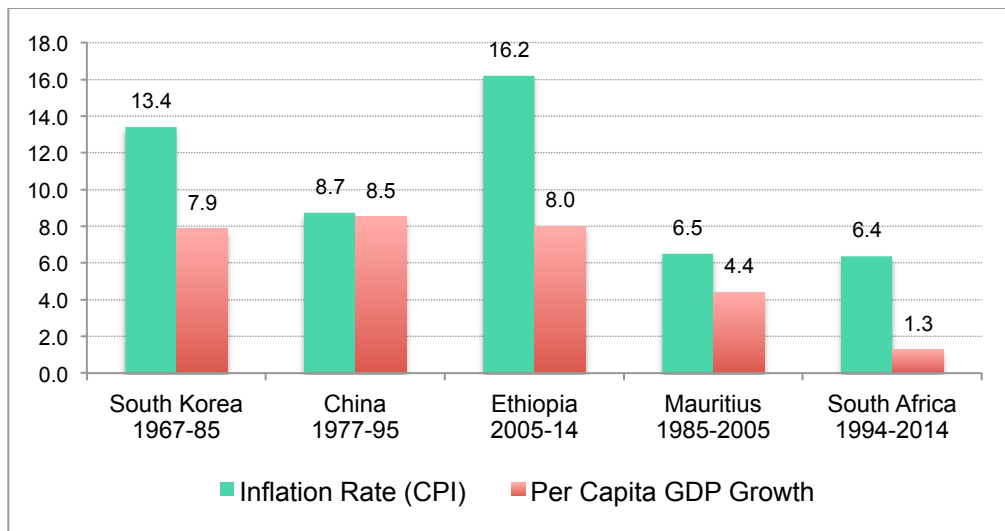
More recent studies find that the turning point at which inflation harms growth is much higher than the inflation targets in most developing countries, including South Africa.¹ Pollin and Zhu (2006), for example, found that an inflation rate up to 15 – 18 percent is associated with moderate growth gains, after which growth declines. Anwar and Islam (2011) explore

¹ Some studies have found a negative effect of inflation on growth in South Africa, but their models do not account for non-linearities, and thus are unable to identify thresholds at which the relationship between inflation and growth changes (Heintz and Ndikumana 2011).

the inflation-growth trade-off for developing economies and obtain similar ranges of acceptable inflation rates that are growth-stimulating rather than growth-inhibiting. These rates are substantially different than the inflation target set in South Africa of 3 – 6 percent.

The data in Figure 1 are consistent with these findings. Inflation rates (based on the CPI) and per capita GDP growth rates are compared for a set of countries during their years of rapid growth relative to South Africa’s performance since 1994. South Korea and China stand out as having had very high average inflation rates during their rapid growth years. In South Korea, inflation rates exceeded 10 percent in 14 of those years, and reached a high of 28 percent. Inflation rates have come down in recent years as the economy has matured into an industrialized economy. In China and Ethiopia, too, inflation rates exceeded 10 percent in several years of their rapid growth phases.²

Figure 1. Inflation and Growth in Rapidly Growing Economies and South Africa



Source: Author’s calculations from *World Development Indicators*.

Apart from the negligible impact of low inflation on growth, excessively restrictive monetary policy exacerbates inequality. This is because it produces negative effects on employment at significant cost to human well-being, especially among the most vulnerable, that is, those with the lowest incomes and most limited skills. As noted above, the effect on long-run productivity growth is also negative, as human capacities erode in the absence of work. It generates other problems as well. Lower inflation rates means higher real interest rates that can a) discourage private sector investment need to create jobs and b) attract capital inflows due to the higher rate of return on financial assets, leading to currency appreciation and downward pressure on exports.

² Ethiopia’s high average inflation rate in this period is influenced by a single year in which inflation exceeded 40 percent.

To the extent there is an inverse relationship between inflation and lower growth, some studies may be capturing supply-side pressures that simultaneously raise inflation *and* slow growth—underscoring the fact that inflation may in fact not be the causal factor that slows growth. Rather, external shocks may be the most proximate cause. This is particularly germane to South Africa, where inflationary pressures are largely linked to supply-side factors—food prices, external energy price shocks, and poor health and skills of workers (Anwar and Islam 2011; Heintz and Ndikumana 2011).³

Again, external shocks made lead to price spirals that are not transitory and therefore they should not be ignored. But this also suggests that the approach to holding inflation in check should lie primarily on the supply side, rather than suppressing inflation through higher interest rates that reduce demand. Metaphorically, relying on IT to suppress demand is akin to treating the superficial symptoms of a disease without addressing the underlying causes.

Moreover, IT in response to supply-side shocks is pro-cyclical, exacerbating the downturns rather than “leaning against the wind” as monetary and fiscal policy are meant to do. That is, responding to inflation coming from the supply-side with higher interest rates further depresses aggregate demand in an economy that is already experiencing slower growth due to impact of higher prices on output. In sum, using contractionary monetary policy—higher interest rates—to address what are largely supply-side problems may impose more costs than benefits on the economy, highlighting the importance of a search for more targeted and appropriate macro policy tools.

With regard to the current economic environment in South Africa, the SARB fears the inflation target may be breached in the coming months as a result of exchange rate pass-through from currency depreciation and higher agricultural crop and food prices. This has led the SARB to signal a possible hike in the policy rate so as to avoid exceeding the upper target inflation rate of 6 percent. The SARB’s (2015) statement reflects its primary focus on inflation rather than other goals such as jobs, investment promotion, or economic growth. The SARB’s inflation fears occur in the context of a probable decline in growth due to a variety of factors, however. Declines in capacity utilization in the manufacturing sector, evidence of weak and declining business and consumer confidence, and of course, the downturn in China and ongoing stagnation in Europe signal weak aggregate demand, and the likelihood that employment growth will come to a halt if not worsen in absolute terms. The SARB recognizes this, and reduced its growth forecast by 0.5 percentage points.

Given these demand-side pressures, it would be a mistake to raise interest rates at this juncture. Raising interest rates will result in unaffordable costs of credit to the industrial sector, whose pessimism about growth and profitability are already undermining their willingness to invest. Tracing through the effect of higher interest rates at this time, business spending will further decrease, and consumption will decline as demand falls, leading to greater excess capacity. As capacity utilization falls, so does firm productivity (sunk costs must be spread over reduced sales), thus raising the cost of production and contributing to more inflation. Inflation risks are modest if not outright negligible because of high unemployment and excess capacity.

³ The South African Reserve Bank (2015) in a recently released statement acknowledge this point, noting that domestic inflation is not driven by demand factors.

It is notable that recent announcements by the US Federal Reserve recognized the potentially negative effects of raising interest rates in the context of declining global demand, largely due to China's economic malaise. Perhaps even more significant is that the IMF has warned that a hike in US interest rates will lead to corporate failures as highly-leveraged firms struggle to meet higher borrowing costs (IMF 2015).

Instead of contractionary monetary policy, stimulating an economy that is operating well below full employment (therefore with excess capacity) is the appropriate path. Expansion of output tends to raise economy-wide productivity since it stimulates capacity utilization, helping to keep inflation low in the coming months. Given the evidence that inflation targets in the single digits are unnecessarily low, the SARB is in a position to maintain or lower interest rates to "lean against the wind" of a decline in aggregate demand that threaten to worsen growth and employment prospects. This might entail inflation reaching a higher level, but by supporting growth and employment, as well as inhibiting an increased in poverty, the SARB is helping to moderate future increases in inflation from hysteresis and excess industrial capacity.

IV. Enlarging the Tool Kit of Central Banks

A major challenge then is that the rigidity of the IT framework minimizes the flexibility of central banks in responding to inflationary pressures, and most importantly, the employment problem. In this regard, the South African Reserve Bank differs somewhat from other IT central banks. Evidence from the two inflationary periods (in 2003 and again in 2008) since IT was adopted did not result in significant increases in the policy interest rate, indicative of the high degree of discretion the SARB enjoys with regard to managing inflation (Heintz and Ndikumana 2011).

Nevertheless, the policy rate (the repo rate) has remained high, and was recently raised to 6%, leading to high lending costs and a drag on investment. The SARB in a recent statement indicated its intention of keeping the repo rate unchanged, although it emphasized its core mandate of meeting its inflation target.

The SARB's discretion should instead be more fully exploited. At a minimum, IT-driven monetary policy should be flexible enough to respond differently, depending on the source of inflation. And it should be able to take into consideration not only short-run effects of the policy, but also the long-run impacts on employment, development, as well as inflation. It is worth underscoring that ignoring the human capital costs of IT in terms of unemployment risks missing an important inflationary pressure in the future—higher unit labor costs in the absence of improvements in labor productivity (and possible decline in productivity) as wages rise.

As noted above, inflation targets can reasonably be set higher than they now are, without harming growth prospects. While that may seem to be a heretical statement in the context of the widespread adoption of IT, important policy makers such as IMF Chief Economist Olivier Blanchard, have argued that it is time to rethink the macroeconomic policy principles

that have dominated for the last two decades: low and stable inflation, utilizing a single policy instrument (the short-term interest rate), and a limited role for government.⁴

Moreover, there has been insufficient investigation into the question as to whether low inflation targets that slow growth contribute to higher inflation in the future. Were inflation were purely a demand-side phenomenon, the answer might be no. But inflation that derives primarily from supply-side factors can only temporarily be addressed by higher interest rates that suppress demand. The structural problems that contribute to at least some of the important supply-side cause of inflation in South Africa—poor health and education, agricultural shortages, poor infrastructure—require investment. Higher interest rates and the resulting slow growth reduce the resources available to invest in these supply-side bottlenecks.

If IT is not improving development objectives in South Africa, what policy tools and framework are up to this challenge? Historically, a much wider range of tools have been used by central banks to support the development process. Central banks, which act as agents of development and employment growth use multiple tools to meet multiple goals (Epstein 2007a and 2007b). Indeed, a basic precept of macroeconomic policy management is that policy makers need as many instruments as there are targets, following the Tinbergen rule.

Alice Amsden (2001) has identified the importance of central bank mechanisms that promote medium- and long-term investment in late industrializing countries, supported by central bank policy tools to achieve this goal. Tools that have been used are related to credit allocation policies, including selective credit targeted to strategic sectors and support for specialized credit institutions to meet diverse credit needs. The central bank's role in enabling long-term productive investment, coupled with targeting subsidized credit to strategic sectors, is credited with the rapid growth of manufacturing and overall economic growth in these economies.

Epstein (2015) identifies a number of broader tools adopted in recent years by developing country central banks with an expanded focus beyond inflation to economic development. The Central Bank of Bangladesh, for example, has developed policies to provide subsidized credit to small business, improve renewable energy use in agriculture, and increase assets for small farmers. In 2012, Argentina's parliament approved a new charter for the central bank that allows it to provide funds for domestic banks and other institutions involved in long-term financing of productive investment. The central bank mandates adopted in Bangladesh and Argentina indicate a shift from central bank independence to a reformulation of the role of the central bank as one that is, in the words of Gerald Epstein, an agent of economic development. This approach strongly mirrors not only that of late industrializers but also of the early history of central banking in the US and UK, as well as the more recent innovation

⁴ Blanchard commented on the pre-crisis convergence on the “beautiful construction” of a single monetary policy target—low and stable inflation—and a single policy instrument—the central bank's policy rate: “Beauty is not synonymous with truth” (IMF Survey Online 2011).

in policy tools utilized by developed country banks in the wake of the 2008 crisis (IMF 2013).

Capital management techniques have also been adopted as tools of monetary policy, serving to control destabilizing flows of “hot money” and maintaining more stable, competitive exchange rates that then permit more space to adopt expansionary monetary policies.

These experiences highlight that one size does not fit all and that policy must adapt to domestic conditions related to overarching development goals, the structure of production, as well as supply-side constraints, and financial sector development that affects the credit allocation process.

Several other lessons emerge. Emphasis on low inflation via the policy interest rate is a mismatched tool to address inflationary pressures. Those are best dealt with through targeted fiscal policies in education, health care, targeted investment in strategic sectors, such as agriculture and infrastructure investment (Calderon and Serven 2004; Fay, *et al* 2005; Agénor 2008; Bayraktar and Moreno-Dodson 2010).

Monetary policy can instead be used to address South Africa’s most serious challenge—high unemployment. Focusing on this problem can also help to address the problem of future inflationary pressures by avoiding the hysteresis problem—the erosion of worker skills due to extended periods of joblessness that drive up the cost of production. How would this be done?

Pollin, Epstein, Heintz and Ndikumana (2006) propose an alternative framework for South Africa that targets employment. This real economy approach recognizes the priority of reducing unemployment and the complementary goal of stimulating business investment. The adoption of this framework rests on use of a wider array of policy tools than interest rates. It would require the central bank to intensify research into the relationship between monetary policy tools and employment, a linkage that has been ignored largely because employment has been seen as a secondary and residual target to the primary one of low inflation. It also would require government and the central bank to coordinate policies.

While the Pollin, *et al* (2006) proposal may no longer be the right fit (although the employment target continues to be) for South Africa’s current challenges, it is worth underscoring aspects of the program that illustrate the wide array of tools that are available to policymakers. The approach rests upon identification of priority sectors or groups. These may include small farmers or the agricultural sector more generally, and small-sized and medium-sized businesses that are labor-intensive and disproportionately employ targeted groups. Credit could also be directed to large-scale businesses that can demonstrate their ability to promote significant increases in employment relative to their total spending.

In this framework, the private sector would still provide the bulk of credit, but it would be characterized by low interest rates leveraged with government loan guarantees. Governments would guarantee a certain percentage of loans extended to priority areas, thereby reducing a bank’s risk exposure and lowering the cost of lending to borrowers. These loan guarantees substitute for collateral, leveraging access to credit and potentially bringing informal sector businesses into the formal sector. In addition, the central bank could use asset reserve

requirements to stimulate investment in key sectors in ways that would promote industrialization and/or lead to large employment increases. Using this strategy, the SARB would incentive financial institutions to hold a loan portfolio that included targeted industries or sectors. Banks could extend loans to these industries based on their own priorities. Additional features of an inclusive monetary policy would include, for example, forms of capital controls to stabilize financial flows and reduce the risk of economic crisis.

This discussion highlights that monetary policy's strength lies in its employment generation possibilities, as well as its ability to overcome asset inequality, whether in the form of land title or other forms of wealth that serves as collateral. Inclusive monetary policy cannot be unanchored, however. To be effective and well targeted, it must be coordinated with public investment goals. To the extent that public investment reduces inflationary pressures, central banks can afford to lower interest rates, in turn making it less costly for governments to finance public investment.

It is worth emphasizing more explicitly that what is being proposed here is a partial role-reversal between fiscal and monetary policy in developing countries that face problems of poor infrastructure, volatility of agricultural output and prices, and a population that is poor and in ill-health. Those problems, which can raise costs of production and thus contribute to inflation, can be remedied by the judicious use of fiscal policy that emphasizes the goal of reducing long-run supply constraints through public investment. Lowering inflationary pressures through public investment leaves more space for expansionary monetary policy and targeted credit allocation that can stimulate employment generation.

VI. Conclusions

South Africa's major challenge is its extraordinarily high rate of unemployment and as a result, poverty. The human costs of unemployment are felt not only by the individual but also by society as a whole. Unemployment contributes to inflationary pressures in the future because of its effects on human capacity development and thus labor productivity.

South Africa's inflation targeting monetary policy is ill-suited to address these challenges. Evidence shows that inflation rates between 11-18 percent are not harmful to growth. There is therefore much more space to practice expansionary monetary policy than is allowed under the current IT regime. Given this, it is highly problematic to raise the policy rate in the context of a global economic slowdown that also portends to have a negative effect on South Africa's growth.

This is not to suggest that inflation does not matter. The distinction to be made is the weight to put on inflation in determining a monetary policy response to current challenges as compared to other goals, especially employment, poverty reduction, and investment promotion. Moreover, a single policy tool is insufficient to meet multiple goals. A much broader array of tools is available to promote stable growth and development (IMF 2013; Epstein 2015) than are currently utilized in South Africa. In addition to capital management techniques to help maintain a stable exchange rate and making credit available to strategic sectors, fiscal policy itself could be oriented toward addressing supply-side causes of inflation in South Africa.

REFERENCES

- Agénor, P.-R. 2008. "Fiscal Policy and Endogenous Growth with Public Infrastructure." *Oxford Economic Papers* 60: 57-88.
- Agénor, P.-R., O. Canuto, and L. P. da Silva. 2010. "On Gender and Growth: The Role of Intergenerational Health Externalities and Women's Occupational Constraints." World Bank Policy Research Working Paper No. 5492.
- Amsden, A. H. 2001. *The Rise of "The Rest": Challenges to the West from Late-Industrializing Economies*. Oxford: Oxford University Press.
- Anwar, S. and I. Islam. 2011. "Should Developing Countries Target Low, Single Digit Inflation to Promote Growth and Employment?" ILO Employment Sector Employment Working Paper No. 87
- Ball, L. and N. Sheridan. 2005. "Does inflation targeting matter?" In B.S. Bernanke and M. Woodford (eds), *The Inflation Targeting Debate*. Chicago: University of Chicago Press, pp. 249-76.
- Bayraktar, N. and Moreno-Dodson, B. 2010. "How can public spending help you grow? An empirical analysis for developing countries." Policy Research Working Paper 5367, World Bank, Washington, D.C.
- Berg, A., J.D. Ostry, and J. Zettelmeyer. 2012, "What Makes Growth Sustained?" *Journal of Development Economics* 98(2): 149–66.
- Bernanke, B., T. Lauback, F. S. Mishkin, and A. Posen. 1999. *Inflation Targeting: Lessons from the International Experience*. Princeton, NJ: Princeton University Press.
- Blanchard, O. 2011. "Rewriting the Macroeconomists' Playbook in the Wake of the Crisis." <http://blog-imfdirect.imf.org/2011/03/04/2662/>
- Bruno, M. 1995. "Does Inflation Really Lower Growth?" *Finance and Development* 32(3): 35–38.
- Bruno, M. and W. Easterly 1998. "Inflation crises and long-run growth." *Journal of Monetary Economics* 41: 3-26.
- Calderon, C. and L. Servén. 2004. "The effects of infrastructure development on growth and income distribution." Working Paper N8 270, Central Bank of Chile, Santiago, Chile.
- Darity, W. and A. Goldsmith. 1996. "Social Psychology, Unemployment and Macroeconomics." *Journal of Economic Perspectives*, 10(1): 121-140.
- Epstein, G. 2007a. "Central banks as agents of employment creation." DESA Working Paper No. 38.
- Epstein, G. 2007b. "Central Banks as Agents of Economic Development." In Ha-Joon Chang (ed), *Institutional Change and Economic Development*, United Nations University and Anthem Press, pp. 95 - 113.
- Epstein, G. 2015. "Development central banking: A review of issues and experiences." ILO Employment Working Paper No. 182.
- Epstein, G. and E. Yeldan (eds). 2009. *Beyond Inflation Targeting: Monetary Policy For Employment Generation and Poverty Reduction*. Northampton, MA: Edward Elgar.
- Fay, M., D. Leipziger, Q. Wodon, and T. Yepes. 2005. "Achieving child-health-related millennium development goals: The role of infrastructure." *World Development* 33(8): 1267–1284.
- Flatau, P., J. Galea, and R. Petridis. 2000. "Mental Health and Wellbeing and Unemployment." *The Australian Economic Review* 33: 161-81.

- Gallagher, K. and J. A. Ocampo. 2013. "The IMF's New View of Capital Controls." *Economic and Political Weekly*, 12 March.
- Heintz, J. and L. Ndikumana. 2011. "Is there a case for formal inflation targeting in sub-Saharan Africa?" *Journal of African Economies* 20 (AERC Suppl. 2): ii67–ii103.
- IMF. 2013. "Unconventional Monetary Policies—Recent Experience and Prospects." <https://www.imf.org/external/np/pp/eng/2013/041813a.pdf>
- IMF. 2015. *Global Financial and Stability Report: Vulnerabilities, Legacies, and Policy Challenges*. Washington, DC: IMF.
- IMF Survey Online. 2011. "IMF Triggers Debate on Crisis Lessons." <http://www.imf.org/external/pubs/ft/survey/so/2011/RES030811A.htm>
- Khan, M. S. and A. S. Senhadji. 2001). "Threshold Effects in the Relationship between Inflation and Growth." *International Monetary Fund Staff Papers*, 1: 1–21.
- Lawisso, W., B. Omilola, and A. Minsat. 2015. *South Africa 2015*. African Economic Outlook.
- Lumo, W. 2015. "Inflation Targeting Monetary Policy, Inflation Volatility and Economic Growth in South Africa." African Development Bank Working Paper No. 215.
- Mishkin, F. S. and K. Schmidt-Hebbel. 2007. "Does Inflation Targeting Make a Difference?" NBER Working Paper 12876. Cambridge, MA: National Bureau of Economic Research.
- Parsley, D. 2010. "Exchange Rate Pass-through in South Africa: Panel Evidence from Individual Goods and Services." South African Reserve Bank WP/10/03.
- Pollin, R., G. Epstein, J. Heintz, and L. Ndikumana. 2006. *An employment-targeted economic program for South Africa*. UNDP and Political Economy Research Institute.
- Pollin, R. and A. Zhu. 2009. "Inflation and economic growth: A cross-country nonlinear analysis." In G. Epstein and E. Yeldan (eds), *Beyond Inflation Targeting*, Edward Elgar.
- Ranis, G. and F. Stewart. 2007. "Dynamic Links Between the Economy and Human Development." In J. A. Ocampo, Komo, K.S., and S. Khan (eds), *Policy Matters: Economic and Social Policies To Sustain Equitable Development*, pp. 37-53. Zed Books, London; Third World Network, Malaysia and Singapore; Orient Longman Private Limited, Hyderabad, India.
- Seguino, S. 2012. "Macroeconomics, Human Development, and Distribution." *Journal of Human Development and Capabilities* 13(1): 59–83.
- South African Reserve Bank. 2015. "Statement of the Monetary Policy Committee." September 23.