Macroeconomic Convergence in Southern Africa Development Community

By

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Abstract

This paper examines progress and prospects of macroeconomic convergence in SADC. The study uses descriptive analysis and statistical tools to establish convergence. Under statistical tools, we use gap analysis and box-whisker plots to observe the general behaviour of relevant variables over time, as well as convergence at individual level towards the targets. Empirical analysis indicates that performance of SADC countries against macroeconomic convergence targets has been rather mixed, largely because some targets are overly ambitious. The majority of the countries are not converging to the set macroeconomic convergence criteria, although overall performance is better over the years. Performance of public debt against its target has been the best amongst all of the targets, with 12 of the 14 member states within the target in 2011. The worst performance is with regard to import cover, with inflation, fiscal deficit and real GDP growth somewhere in between. There is a clear tendency of convergence in monetary policy across SADC countries, as reflected in substantial decline in inflation rates over the past two decades. Most countries have made good progress in bringing inflation rates towards single digits. Most importantly, for most SADC member states, public finances are in a much better state than previously, with fiscal deficits at manageable levels in many countries, and public debt at sustainable levels. However, despite evidence of the tendency for macroeconomic convergence, this has not led to sustainable economic growth. The majority of the countries are not converging to the set MEC, although overall performance is better over the years. Countries are progressing towards the criteria at different rates, so convergence per se may not be the most important issue.

Key words: *Macroeconomic convergence, process, progress, SADC*

JEL Classification: *E32, F42, C53*

List of abbreviations and acronyms

CCBG	Committee of Central bank Governors
CMA	Common Monetary Area
CPI	Consumer Price Index
DRC	Democratic Republic of Congo
GDP	Gross Domestic Product
HIPC	Heavily Indebted Poor Countries
IMF	International Monetary Fund
MEC	Macroeconomic Convergence
REC	Regional Economic Community
RISDP	Regional Indicative Strategic Development Plan
SACU	Southern African Customs Union
SADC	Southern Africa Development Community
ZAADS	Zimbabwe Accelerates Arrears Clearance and Debt development Strategy

1. Introduction

Convergence of economic growth and per capita incomes among nations has been a central theme in neoclassical growth theory, and vast economic literature related to it for decades. Thus, traditionally, the analysis of convergence involved an analysis of whether poor countries are set on a convergence path, i.e., whether their real per capita incomes will eventually catch up with those of rich countries. However, since recent decades, increased emphasis on development strategies based on regional economic integration required strengthening of macroeconomic policy credibility, effectiveness and stability, leading to formulation of specific goal of macroeconomic convergence among the regional economic groupings.

The goal of macroeconomic policy convergence is typically defined with reference to price stability and to budget deficit consistent with debt-to-GDP ratios where the price stability allows to limit the distortionary effects of inflation (Tirelli, 2010). SADC has launched a number of initiatives in order to move towards economic integration in the sub-region. The community pursues a linear model of economic integration, commencing with loose cooperation with successive deeper integration at later stages. The first major step in SADC economic integration involved the introduction of Free Trade Area in August 2008. This was to be followed by the Customs Union in 2010, Common Market in 2015, Monetary Union in 2016, and single currency in 2018.

In order to deepen economic integration, in its Regional Indicative Strategic Development Plan (RISDP) launched in August 2004, SADC formulated a macroeconomic convergence framework based on four key macroeconomic indicators—the rate of inflation, the ratio of the budget deficit to GDP, the ratio of public and publicly guaranteed debt to GDP, taking account of the sustainability of such debt, and the balance and the structure of the current account. The macroeconomic convergence indicators were set for 2008, 2012, 2015, and 2018, with more challenging goals established for the later periods.

Economists have put increased emphasis on the analyses of the economic convergence hypotheses since the 1980s for four main reasons (Charles et al, 2009). First, the exercise helps to assess the validity of the alternative economic growth theories. Second and more importantly, the availability of comparable GDP data on large number of countries since mid-1980s allowed empirical economists to compare GDP figures across these countries and look at the evolution of these levels over time, a necessary feature for the study of convergence hypothesis.

This paper re-examines progress and prospects of macroeconomic convergence programme in SADC.

The problem

A number of studies have examined macroeconomic convergence in SADC (Kumo, 2011; Burgess, 2009; Maleleka, 2007; Rossouw, 2006; Jenkins, 2003; McCarthy and du Dupleiss, 2001; SADC-CCBG, 2002). While most of the studies attempt to assess the performance of the overall macroeconomic convergence targets, Kumo (2011), McCarthy and du Plessis (2001), and SADC-CCBG (2002) emphasize three distinct concepts of convergence: the long-run economic convergence or "catch up" growth, reflecting convergence in real income across countries or regions, and convergence in indicators of macroeconomic stability (also referred to as macroeconomic convergence). Results from the studies are mixed. While Rossouw (2006), Maleleka (2007), and Burgess (2009) find progress towards the achievement of the targets, Kumo (2011), Jenkins (2003) and Maleleka (2007). [Maleleka 2007) however, find no convergence in per capita income.

Furthermore, the focus has been on the 2008 targets and none have been done so far under the 2012 targets to the best of our knowledge. The paper by Jefferis (2007) offers a detailed review and critique of the relevance of the SADC convergence criteria and numerical targets. However, it is inclined towards a non-inferential statistical approach. Furthermore, previous papers have not examined the role of institutional issues and domestic policies in the performance of member states towards the achievement of macroeconomic convergence targets. This paper aims at using both the descriptive analysis and the inferential statistical methods in its empirical approach to re-examine the MEC targets.

It is crucial for SADC to, not only take stock of progress made by member states in complying with Annex 2 of the Protocol on Finance and Investment, but to also start addressing technical and institutional challenges faced by member states. The study cites, among others, policy recommendations to accelerate progress in the implementation of the SADC Macroeconomic Convergence Programme. It also makes policy recommendations towards successful implementation of the monetary union in SADC, grounded in a sustainable institutional framework for macroeconomic policy convergence in the sub-region.

The paper is of policy significance. Evidence of macroeconomic convergence in the selected indicators could be a sign that policy coordination in the RECs is achieving the desired macroeconomic outcomes. This would provide the necessary foundation for moving the REC through the various phases of integration towards monetary union, as argued in optimal currency area theories.

Objective of the paper

The objective of the study is to re-examine progress and prospects of macroeconomic convergence programme in SADC. In particular, this study:

- Investigates whether there is macroeconomic policy coordination in SADC.
- Assesses whether macroeconomic policy coordination has led to macroeconomic convergence towards agreed MEC targets. This is to enable us establish which MEC

target is likely to be achieved, and by which country.
- Identifies possible club convergence within SADC free trade area using Southern African Customs Union (SACU) criterion.
- Draws lessons and inform policy to accelerate progress towards macroeconomic convergence in SADC.

The rest of the paper is organized as follows. Section two discusses institutional mechanisms for macroeconomic convergence in SADC. Section three reviews theoretical, empirical and methodological literature. Section four discuss the methodology and data issues. Section five presents empirical results.

2. Macroeconomic convergence in SADC

SADC is the largest economic grouping in sub-Saharan Africa. It accounts for about half of regional GDP at market exchange rates. It is also the richest, with real per capita income about two-thirds above the continental average—but there are huge variations in income across the SADC membership. South Africa, the main contributor to regional GDP, accounts for almost two-thirds of total output, although per capita income is higher in Botswana and Mauritius. It has, as member countries, Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia, Zimbabwe, and Madagascar. The SADC Secretariat is located in Gaborone, Botswana. Within SADC, there is the Common Monetary Area (CMA) comprising South Africa, Lesotho, Namibia and Swaziland (Metzger, 2004). The South African rand serves as an anchor for the currencies of the CMA owing to the dominating role of the South African economy in the CMA, and the South African Reserve Bank serves as de facto (albeit not de jure) central bank of the CMA.

SADC region's economies differ markedly, in terms of both economic structure and income level. Except for South Africa and Mauritius, most have narrow production bases that are dependent on agriculture (Madagascar, Malawi, Tanzania); specific natural resources (diamonds in Botswana and Namibia, copper in Zambia, and oil in Angola); or specific manufacturing industries (e.g., clothing in Mauritius, and soft drink concentrate in Swaziland). As a result, the terms of trade within the region have typically not been well correlated. The size of terms of trade shocks facing SADC, measured by the standard deviation of changes in the terms of trade, also tends to be relatively large compared with other regional blocs, as might be expected given the number of commodity producers in the region. Economic linkages within the region tend to centre on South Africa, with some exceptions where links between neighbouring countries are strong.

SADC's regional economic agenda is outlined in its Regional Indicative Strategic roadmap for deepening regional integration over a 15-year period, outlining a number of targets and milestones to be met along the way. Its stated economic goals include the creation of a free trade area by 2008, a customs union by 2010, a monetary union by 2016, and a single currency by 2018.

One important component of the RISDP is the programme to achieve macroeconomic convergence among member states. The convergence criteria and goals are contained in a memorandum of understanding, agreed to by the ministers of finance of countries in the SADC region. The initial criteria set for 2008 required all countries to attain single digit inflation, a budget deficit of at most 5% of GDP, government debt of less than 60%

of GDP, foreign reserves of at least three months' import cover, central bank credit to government of less than 10% of previous year's tax income, and a GDP growth rate of at least 7%. The convergence criteria for 2012 requires countries to have CPI inflation rates of at most 5%, budget deficits of at most 3% of GDP, foreign reserves of at least six months' import cover, central bank credit to government of less than 5% of previous year's tax income, while the rest of targets are as for 2008. By 2018, all 2012 targets are maintained except CPI inflation is set at no more than 3% (Regional Indicative Strategic Development Plan [RISDP] 2005).

Macroeconomic policy coordination in SADC

At institutional and policy level, a macroeconomic subcommittee comprising officials from ministries of finance and central banks monitor progress towards macroeconomic convergence. This subcommittee reports to the committee of senior treasury officials which then reports to ministers of finance and central bank governors. Annex 2 of the SADC Protocol on Finance and Investment establishes a Peer Review Panel comprising ministers of finance and central bank governors. The Committee of Central Bank Governors (CCBG) also has a macroeconomic subcommittee which reports to governors. As South Africa has been entrusted with sectoral responsibility for finance and investment in SADC, the CCBG is chaired by the Governor of the South African Reserve Bank. The CCBG is mandated by the SADC Council to develop and manage the SADC Macroeconomic Database. This implies loss of policy independence and delegation of authority to a supranational authority. Moreover, effectiveness of remaining policy instruments can be affected by loss of control of other instruments.

Having set the targets, SADC charged its Secretariat with the responsibility of facilitating and coordinating the implementation of the RISDP. The RISDP also sets out a monitoring and evaluation mechanism whose objectives are to: ensure that the correct milestones, as planned, are being achieved; act as an early warning system in cases where targets are unlikely to be achieved; provide regular information to all stakeholders on progress of the RISDP and an informed basis for any reviews; ensure the continuous sharpening and focusing of strategies; and assist in the mobilization of appropriate interventions.

3. Literature review

This section provides theoretical, empirical, and methodological literature on growth and convergence.

Theoretical literature

The issue of convergence has been at the heart of the macroeconomic theory of growth since the groundbreaker article of Solow (1956) and its formal extensions. According to one of the remarkable implications of the neoclassical growth model of Solow (1956), each economy tends to achieve a balanced growth pattern of full employment. Subsequently, this concept was used to describe the process through which the economies of poor countries should catch up the economies of countries with a high standard of living; the latter being assessed by the per capita income. Against this background, the economic growth rates in developing countries should be, in the long run, higher than those of the developed countries. In the long term, this will enable to close the gap between the levels of development of these two categories of countries.

The concept of convergence covers several different phenomena according to the analytical perspective considered. Convergence can be described as absolute or conditional. The argument that poor countries should catch up with rich countries is called absolute convergence. It is based on the assumption of the decrease in the return on capital and the perfect international diffusion of technical progress. In the same background, Elmslie (1995) argues that poor countries can converge towards the level of development of advanced countries through technology transfer. The introduction of the differences in the structural characteristics between countries—infrastructure, human capital, level of integration or international level—leads to the achievement of a process of convergence called conditional.

To assess inequalities between nations or regions, we use the concept of sigma convergence (Mankiw et al, 1992). With this method, there is convergence when the dispersion of per capita income is reduced over time. However, when we look at the economic dynamics, we use the concept of beta convergence (Barro and Sala-i-Martin, 1990). The beta convergence implies the presence of a catching-up mechanism which reduces the gap between the per capita incomes of different countries. The beta coefficient is a speed indicator for the convergence of economies towards their regular steady-state situation. A country's economic growth rate is higher when the economy is far from its regular steady-state situation. Besides, countries are subject to specific shocks which increase the dispersion of per capita incomes.

The theoretical and methodological shortcomings of these different concepts have led to the emergence of new convergence concepts such as the stochastic convergence (Bernard and Durlauf, a rather dynamic concept, which is at the origin of the concept of " convergence clubs" (Galor, 2005) and the spatial convergence.

The convergence clubs are groups of countries with similar structural characteristics and similar initial conditions—accumulated human capital and physical capital, investment rates, financial development—to converge towards the same long-run balanced growth pattern. The spatial convergence is interested in issues on resources and activities locations. It includes, in the analysis of the convergence process of the economies, the phenomena of agglomerations and the scattering of activities throughout territories. It thus enables to highlight the role of geography in the area of growth and development, including the concepts of spatial autocorrelation and heterogeneity. Spatial autocorrelation refers to the coincidence between similar attributes and similar locations (Anselin, 2001): The rich countries tend to be geographically close to other rich countries; it is the same for the poor countries. Spatial heterogeneity refers to the differentiation of variables and behaviours in space (Baumont et al 2002)

Empirical literature

A number of studies have examined macroeconomic convergence in SADC (Kumo, 2011; Burgess, 2009; Maleleka, 2007; Rossouw, 2006; Jenkins, 2003; McCarthy and Du pleiss, 2001; SADC-CCBG, 2002). While most of the studies attempt to assess the performance of the overall macroeconomic convergence targets, Kumo (2011), McCarthy and Du Plessis (2001), and SADC-CCBG (2002) emphasize three distinct concepts of convergence: the long-run economic convergence or "catch up" growth, reflecting convergence in real income across countries or regions, and convergence in indicators of macroeconomic stability (also referred to as macroeconomic convergence). Results from the studies are mixed. While Rossouw (2006), Maleleka (2007), and Burgess (2009) find progress towards the achievement of the targets, Kumo (2011), Jenkins (2003) and Maleleka (2007), however, find no convergence in per capita income.

Using descriptive analysis, Rossouw (2006) finds that SADC countries, not only recorded progress towards the achievement of the targets between 1999 and 2004, but many of the targets for 2008 were already achieved by 2004. Burgess (2009) analyses the initial performance of the Southern African Development Community's Macroeconomic Convergence Programme. Using descriptive statistics and simpler statistical tools, he finds that most SADC member states have recorded solid macroeconomic performance in recent years, in general coming close too, and in many cases surpassing, the convergence targets specified for 2008. A notable exception in this regard is Zimbabwe, which was in the grip of hyperinflation.

On the other hand, Kumo (2011) investigates convergence in real per capita GDP and macroeconomic policy and stability indicators within the Southern African Development Community. Empirical tests for the period 1992-2009 showed no evidence of absolute beta and sigma convergence in real per capita GDP among the SADC economies. Although, absence of convergence does not necessarily imply lack of economic growth, further empirical assessment of possible conditional beta convergence did not reveal any

tendency of convergence to own steady states. On an individual level, however, ADF unit root test indicated that Botswana and South Africa's real per capita GDP converged to a common stochastic trend, while the rest were characterized by a boundless drift. With regard to the SADC macroeconomic convergence goals set for 2012, the findings indicate that most of the economies of the member states had shown a tendency of macroeconomic divergence in 2009 in monetary policy, fiscal policy, and foreign exchange reserve ratios.

Jenkins (2003) examines the progress of macroeconomic convergence in Southern Africa. She finds that no convergence in per capita income have occurred in SADC. She asserts that coordination of supplementary activities, many of which are within existing institutional divisions of SADC, will be of increasing importance as the region becomes more integrated. She further observes that regional cooperation across a wide range of sectors, like transport and communications, macroeconomic policy and extra-regional trade negotiations, could contribute to creating consistent policy frameworks for increasing trade and cross-border investment. Maleleka (2007) assesses macroeconomic convergence in Southern African Development Community. Using statistical tools, she finds that there is still policy divergence in SADC, particularly in output. She concludes that divergence found in the countries is, at best, explained by differences in underlying disturbance factors. This indicates that, while the countries may generally be stable due to the anchor role played by South Africa, the countries may not be highly integrated because of the underlying structural differences.

Methodological literature

As indicated in empirical literature above, different methodologies have been used to test the convergence hypothesis. These include descriptive analysis, and econometric tools (beta, sigma, and stochastic convergence). The descriptive statistics used include graphs or charts (to observe the general behaviour over time); the mean (to plot and observe collective or group behaviour on average—simple arithmetic mean); and the standard deviation (to note and observe dispersion between the countries). The econometric tools include:

(i) Beta convergence (Sala-i-Martin, 1996 Barro and Sala-i-Martin, 1995; Mankiw et al, 1992);

(ii) Sigma convergence testing the dispersion (standard deviation) of the variables over time (ECA-AU, 2008; Sala-i-Martin, 1996);

(iii) Stochastic convergence based on cointegration (ECA-AU, 2008; Mutoti and Kihangire, 2006; Bernard and Darlauf, 1995; Levin and Lin, 1993.

4. Methodology

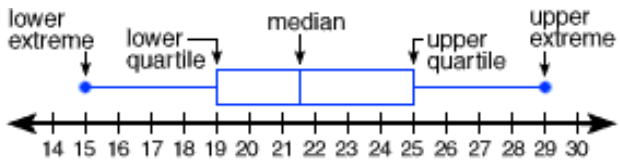
Methods used in testing the degree of convergence

In this paper, we use descriptive analysis and statistical tools to establish macroeconomic convergence. Under descriptive analysis, we examine the compliance of actual values/ outcomes with the macroeconomic convergence targets for 2012.

Under statistical analysis, we use gap analysis and box-whisker plots to observe the general behaviour over time, as well as convergence at individual level towards the targets. The gap methodology examines the differences between actual values of the key variables monitored and their respective targets. The smaller the difference, the greater the degree of convergence.

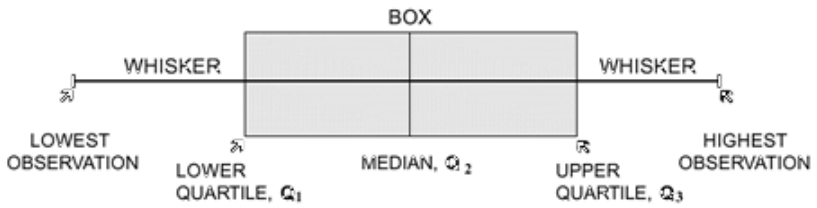
On the other hand, a box and whisker plot is a graphical method used to show the distribution of a dataset (at a glance). A box-whisker plot is developed from five statistics: Minimum value – the smallest value in the data set; Second quartile – the value below which the lower 25% of the data are contained; Median value – the middle number in a range of numbers; Third quartile – the value above which the upper 25% of the data are contained; and Maximum value – the largest value in the data set. The centre represents the middle 50%, or 50th percentile of the data set, and is derived using the lower and upper quartile values. The median value is displayed inside the "box." The maximum and minimum values are displayed with vertical lines ("whiskers") connecting the points to the centre box.

The box and whisker plot uses the median as its centre value, and gives a brief picture of the other important distribution values. In this case, we talk of convergence when we detect a lower standard deviation and a lower interquartile range.



We identify convergence when the standard deviation is low and values are in the middle. The box in the middle of each box-plot describes central tendencies of a distribution: the thin line inside the box locates the median; the top and bottom edges are the 75th and 25th percentiles, respectively.

Figure 1: Box and whisker plot



Source: Purplemath lessons

Data issues

Average annual data is used and is for the period 1985-2012. The choice of the period coincides with the time when most member countries started experiencing a rapid decline in inflation after implementing structural adjustment policies. Data will be used on the following variables: inflation, fiscal balance, public debt, and current account. The data will be obtained from different sources, including International Financial Statistics and Regional Economic Outlook (sub-Saharan Africa region) published by the International Monetary Fund, and World Development Indicators published by the World Bank.

5. Empirical results

Assessment of macroeconomic convergence in SADC region

This section largely covers the comparative statistical analysis of each country's performance in respect of primary and secondary indicators. It compares performance over the years against 2012 targets. It also tracks performance towards meeting the 2012 targets based on each country's performance outcomes. The assessment is important as 2012 represents one of the three "target years" agreed under the MEC programme with specific numerical targets laid out for primary and secondary MEC indicators.

Perfomance against the primary indicator targets Inflation (5% by 2012)

Inflation generally remains the most problematic of the primary indicators, as only two countries (Seychelles and Zimbabwe) have met the inflation target of less the 5% in 2012, down from seven countries in 2010 (see Table 1). This is despite concerted efforts in most member states to bring inflation down through appropriate monetary and fiscal policies, and reflects, in part, the limited power that SADC governments have to control inflation and the strong influence of international developments and other exogenous factors.

For Seychelles, macroeconomic stabilization has been successful and the authorities have made significant strides toward improving financial discipline at the central government level. Monetary tightening was successful in bringing inflation below 6% by end 2012. Similarly, Zimbabwe made considerable progress in stabilizing the economy since the end of the hyperinflation period in 2009. Since then, inflation has remained in the low single digits, thanks largely to the multi-currency system.

In general, most of the countries have made good progress in bringing inflation rates towards single digits, except for Malawi and Tanzania. This has been due to good harvests on account of favourable weather and prudent macroeconomic policies. From Figure 1a, Democratic Republic of Congo (3) and Zambia (12), although above the target, recorded a deceleration in inflation. For the first time in many years, DRC had single digit inflation levels; evidently pointing to the significant progress made by the country over the years. The box-whiskers plot (Figure 1b) confirms that Zambia has made tremendous progress towards achieving the inflation target, largely due to tight

monetary policy coupled with fiscal discipline.

Table 1: Primary MEC indicators performance outcome, 2009-2012

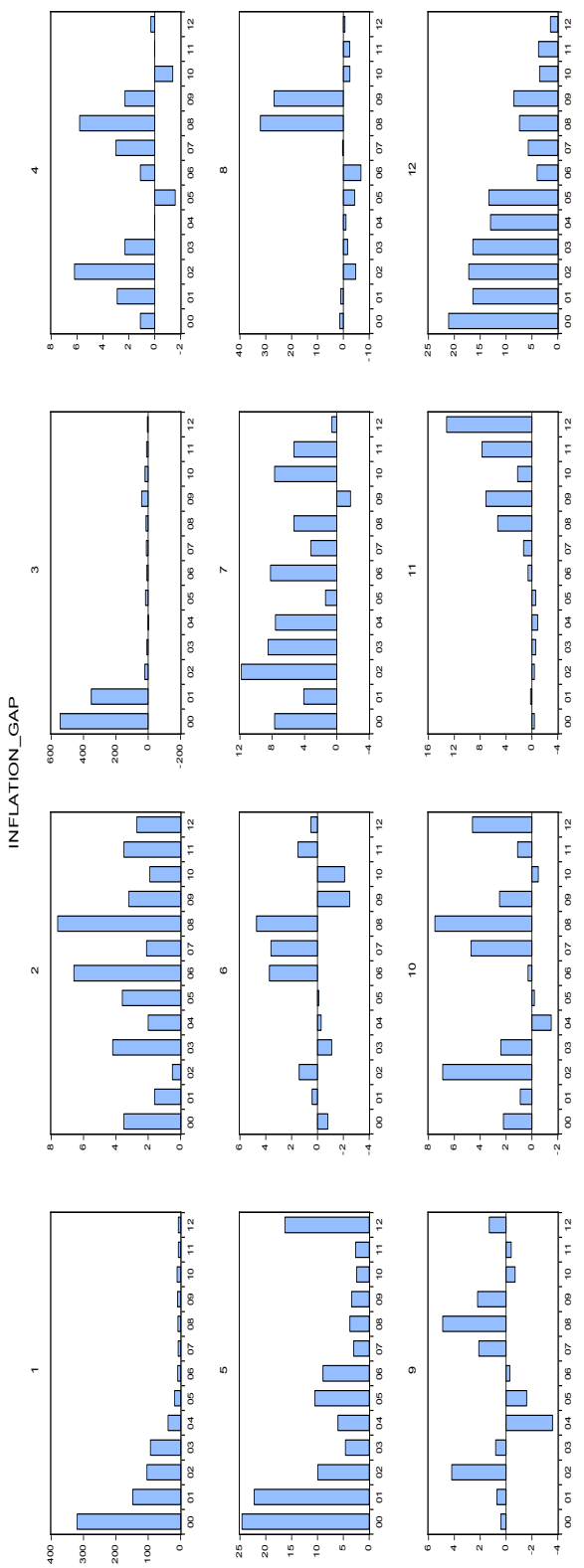
Country	Inflation (Period Average)				Budget Balance as % of GDP				Public debt as percentage of GDP			
	2009	2010	2011	2012	2009	2010	2011	2012*	2009	2010	2011	2012
Angola	13.9	15.3	11.4	11.5	-4.9	6.8	8.9	3.5	22.6	21.7	20.4	na
Botswana	8.2	6.9	8.5	7.7	10.9	-6.2	-3.3	0.9	16.1	17.8	18.5	16.7
DRC	46.1	23.5	15.5	9.8	0.6	1.2	-1.1	1.2	113.5	28.3	24.9	25.9
Lesotho	7.3	3.6	5.0	5.3	-3.8	-5.0	-6.0	-0.9	40.1	36.8	34.8	na
Malawi	8.4	7.4	7.6	21.3	-5.7	1.9	-1.2	-7.3	40.8	34.7	41.2	na
Mauritius	2.5	2.9	6.5	5.5	-3.0	-3.2	-3.2	-3.8	59.6	57.4	57.2	57.7
Mozambique	3.3	12.7	10.3	5.6	-5.4	-3.5	-6.0	-5.0	39.3	47.7	44.8	na
Namibia	8.8	4.5	5.0	6.0	1.9	-7.1	-11.2	-4.8	17.8	15.9	26.8	30.8
Seychelles	31.8	2.4	2.5	4.3	11.1	7.8	0.9	1.5	117.0	84.0	82.0	77.0
South Africa	7.2	4.3	4.6	6.3	-0.7	-5.5	-4.2	-4.9	45.4	54.8	57.2	64.0
Swaziland	7.5	4.5	6.1	9.6	-7.1	-11.0	-7.5	na	12.0	13.9	15.7	na
Tanzania	12.1	7.2	12.7	18.2	-4.5	-6.4	-6.9	-3.3	37.1	43.1	48.2	na
Zambia	13.5	8.5	8.7	6.4	-2.6	-3.1	-2.9	-3.1	26.4	21.3	20.0	na
Zimbabwe	6.5	3.1	3.5	4.0	0.0	-2.9	0.0	0.0	109.8	94.3	90.3	109.0
SADC Average	12.7	7.6	7.7	8.4	-0.9	-2.6	-3.1	-2.0	49.8	40.8	41.6	54.4
Convergence criteria (2004-2008)	Single digit inflation rate by 2008				Deficit smaller than 5% of GDP by 2008				Less than 60% of GDP by 2008			
Convergence criteria (2009-2012)	5% inflation rate by 2012				Deficit 3% as an anchor within a band of 1%				Less than 60% of GDP by 2010			

Source: SADC database.

Progress towards meeting the target was disrupted for Malawi (5) and Tanzania (11). Malawi's inflation rose sharply to average of 21.3% in 2012, largely due to the devaluation of the Malawian kwacha in May 2012 and its subsequent depreciation, which was further exacerbated by increases in food, fuel, and electricity prices. Tanzania's annual average inflation increased from 12.7% recorded in 2011 to 18.2% in 2012, mainly due to food and power supply shortages.

Figure 1b shows box-whiskers plot of inflation for individual SADC member countries. The results show that SADC countries are progressing towards the set targets. Inflation rates in CMA countries (2, 4, 9, and 10) have, not only showed a consistent tendency of convergence towards single digits, but also have consistently remained below the SADC mean rate for nearly three decades. The 2008-2009 global financial crisis tested the resilience of CMA countries. Countercyclical fiscal and monetary policies helped to protect social spending envelop while maintaining stability. This was largely possible thanks to the prudent fiscal policies in the previous years, which provided significant fiscal space. Other countries that managed average inflation rates of single digits during the review period (2000-2012) are Seychelles and Mauritius.

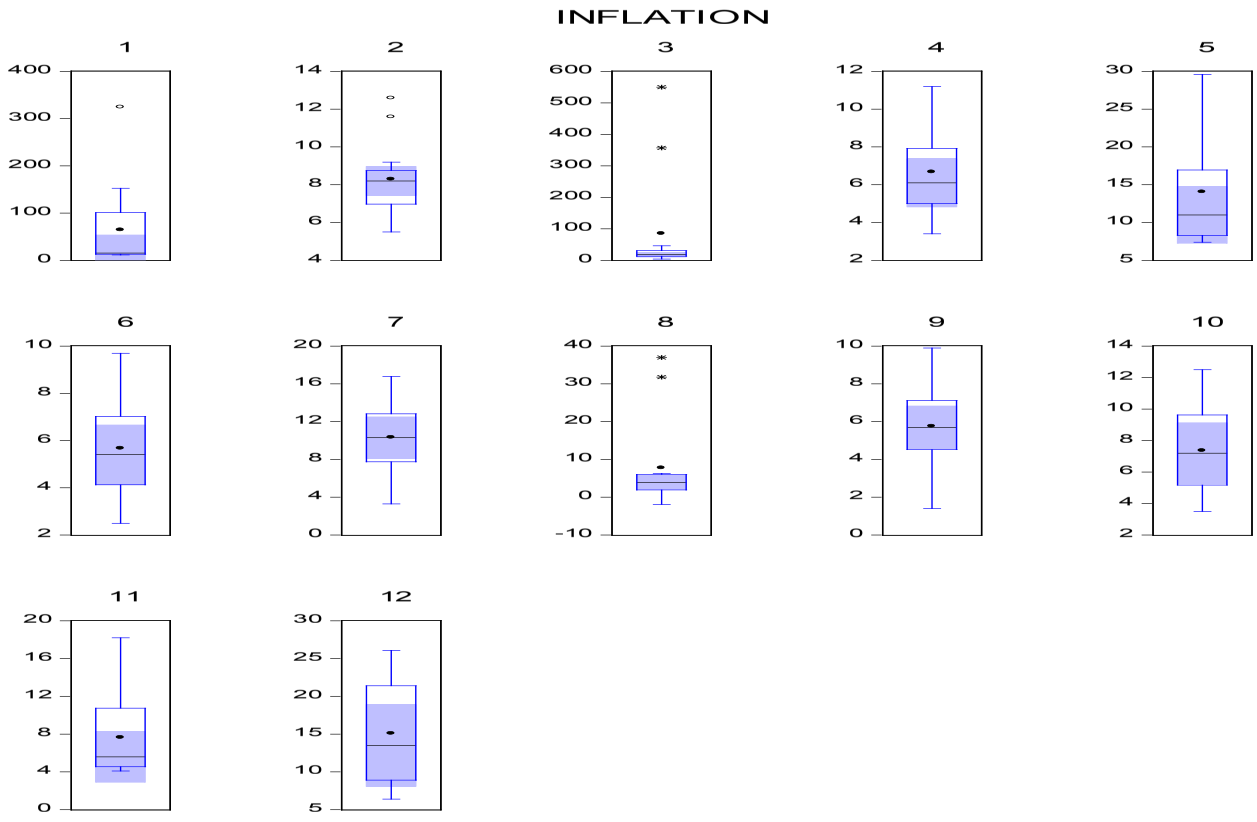
Figure 1a: Inflation gap (2000-2012)



Where 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Authors graphs

Figure 1b: Box-whiskers plot of inflation (target <5%)



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: authors Box-whisker plots

Fiscal balance (<3% of GDP target)

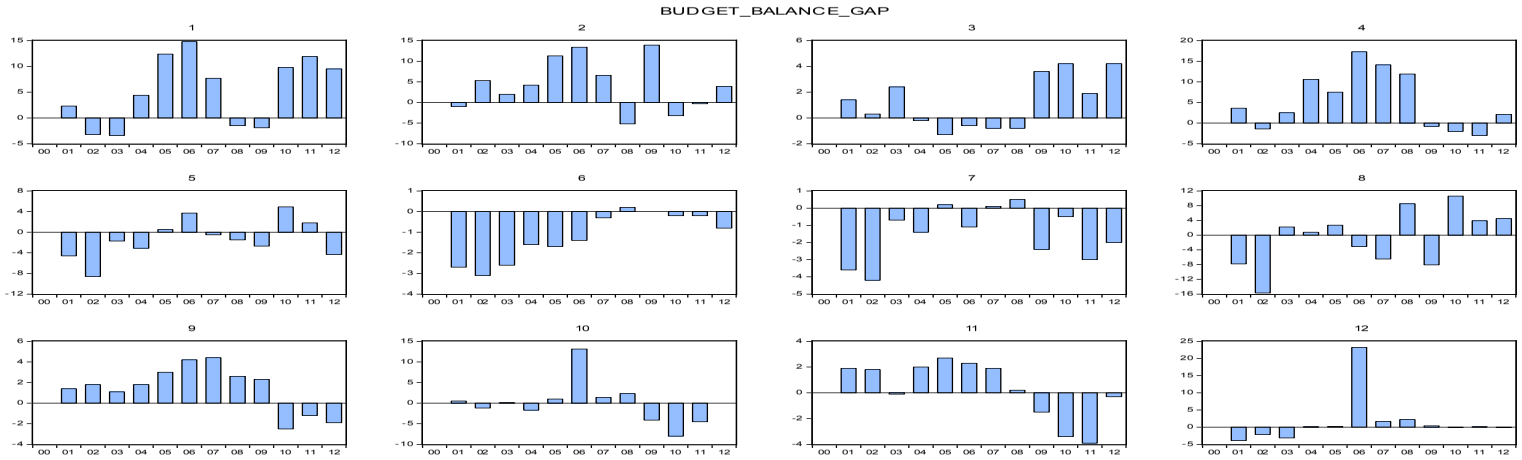
Fiscal balance variable is used to assess fiscal policy convergence. Performance, with regard to budget deficit, has been mixed in terms of the fiscal target. Deficits have been falling since the global financial crisis, but more than half of SADC member states remained higher than the 2012 target of 3% of GDP. Only six countries (Botswana, DRC, Lesotho, Seychelles, Zambia, and Zimbabwe) recorded budget deficits relative to GDP within the set target. This is largely due to favourable domestic policy environment. For the smaller CMA or SACU members (Botswana, Lesotho, Namibia, and Swaziland), 2012 was a reasonably good year in terms of distributions from the common revenue pool. However, the more general problem of high levels of dependence on SACU revenues (in all four countries it is the largest single revenue source) and their volatility, as well as potential long-term declines in SACU distributions, remain a concern. In Seychelles, macroeconomic stabilization has been successful and the authorities have made significant strides toward improving financial discipline at the central government level. In Zimbabwe, the authorities adopted a comprehensive adjustment programme to restore fiscal and external sustainability. Budget revenue increased significantly, which helped finance improved delivery of public services, while the fiscal position was broadly balanced; Angola, Mozambique, and Tanzania recorded some improvements. Malawi, Mauritius, and South Africa's budget deficit to GDP ratio, however, worsened in 2012 from levels recorded in 2011, as expenditure growth continues to exceed growth in revenue collection. The impact of the global financial crisis largely explains the poor performance since 2009 as member countries, particularly the resource-rich countries such as South Africa, Angola, Botswana, and DRC had to run expansionary fiscal policy to mitigate its effect due to decline in their domestic revenue collection as a result.

From the budget balance gap analysis (Figure 2a), generally, there has been some good progress with regard to fiscal consolidation in recent years. Member states that have been doing better in recent years include Angola, DRC, and Seychelles. However, in other countries, positive improvements were held back by the impact of global economic and financial crises and significant impact of exogenous shocks.

The box-whiskers plot (Figure 2b) show that, overall, just under half of the countries (Botswana, Lesotho, DRC, Lesotho, RSA, and Tanzania) recorded an average budget

balance position within the target.

Figure 2a: Budget balance gap (2000-2012)



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Figure 2b: Box-whiskers plot of budget balance (target <3% of GDP)

Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

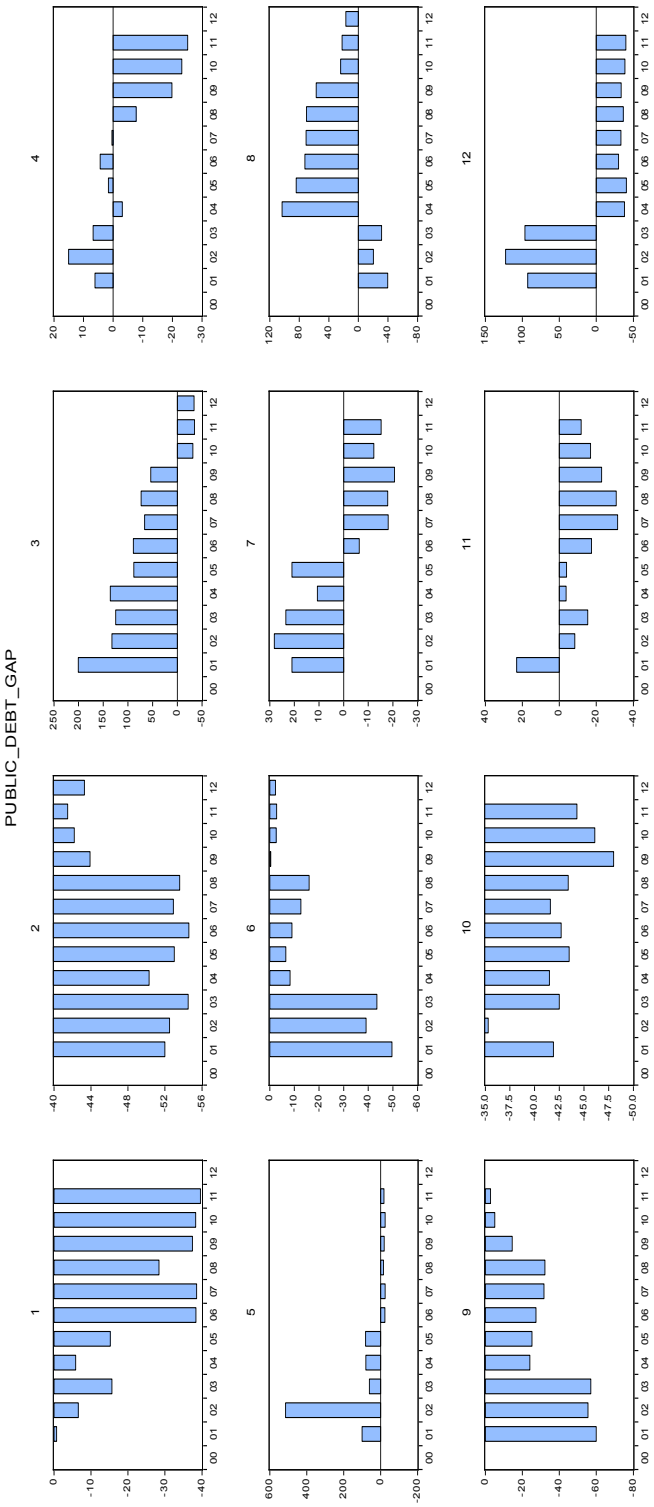
Public debt ratio (<60% of GDP by 2012)

Performance of public debt against its target has been the best amongst all of the primary targets, with 12 of the 14 member states within the target in 2011 (i.e., except for Seychelles and Zimbabwe). Only Seychelles, South Africa, and Zimbabwe recorded public debt levels of over 60% of GDP as of 2012. The increase in external debt for South Africa is on account of widening current account as strengthening growth raised import demand. For Seychelles, the outturn is a result of a series of large government deficits that existed prior to the 2008 IMF reform programme. However, the country's public debt as a percentage of GDP has been declining over the years—from 117% in 2009 to 77% currently. Zimbabwe's situation is rather precarious, with debt has a percent of GDP increasing in 2012; however, it should be noted that, over 80% of the debt is on account of arrears, accumulated during economic hardships faced by the country amid sanctions by the west. Furthermore, the country has adopted a debt resolution framework, within the auspices of the Zimbabwe Accelerates Arrears Clearance and Debt Development Strategy (ZAADS), to reduce public debt to sustainable levels. From Figure 3a, it is clear that countries have been registering declining debt/GDP. This indicates that the countries have been taking measures to reduce their debt and that the countries are converging

Figure 3b depicts average ratio of public debt/GDP from 2000 to 2011. The results show that eight countries registered an average public debt/GDP ratio of below 60%

during the period. All CMA countries attained the SADC public debt target. .

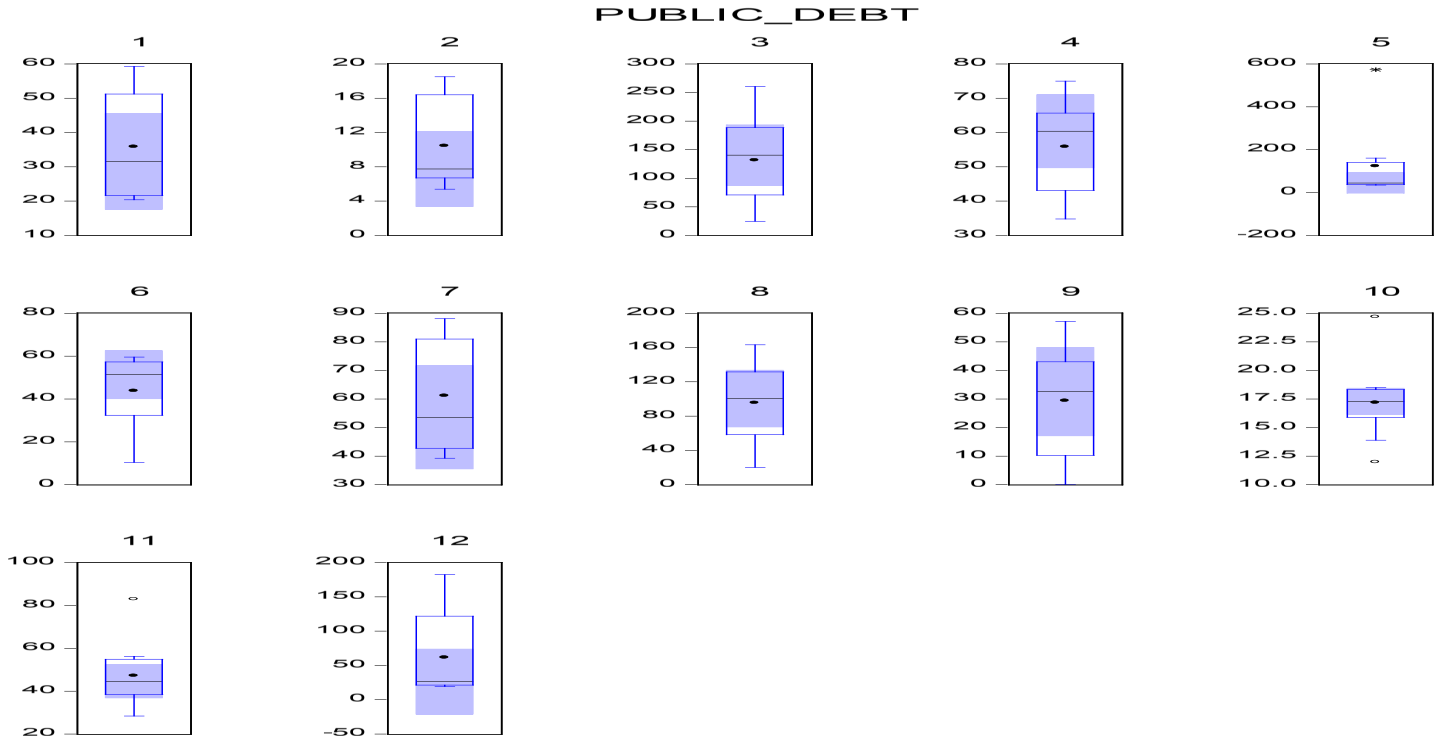
Figure 3a: Public debt gap (2000-2012)



Where 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Figure 3b: Box-whiskers plot of public debt gap (<60% of GDP)



Where 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Perfomance against secondary indicator targets

In terms of secondary indicators, only a few countries were able to achieve the 2012 targets.

Months of import cover (6 months of import)

There has been generally poor performance with regard to international reserves. In 2012, only Angola and Botswana had import cover above the six months prescribed in the SADC RISDP. The slowdown in the growth of the global economy, on account of fiscal consolidation in advanced economies and a fragile financial system, lowered global demand for unprocessed goods from developing countries. Since most SADC countries are outward looking and mostly exporters of raw materials as well as unprocessed goods, the decline in global demand had an adverse effect on the region's export earnings, and, by inference, on SADC's failure to accumulate foreign reserves.

International reserves have continued to rise for Angola on account of strong oil reserves. On the other hand, Botswana's fiscal and external positions remain strong, thanks in large part to the government's prudent macroeconomic management. Furthermore, diamond exports have benefited from higher diamond prices.

While most countries have been steadily increasing their foreign reserves, the situation remains a bit precarious for Malawi, DRC, Seychelles, Swaziland, and Zimbabwe, whose international foreign reserves for 2011 and 2012 were, not only below the SADC target, but were also below the internationally set reserve adequacy threshold of three months of import cover. Malawi's foreign exchange situation was triggered by a fall in tobacco earnings and aid inflows and weak balance of payments position. Over the years, persistent overvaluation of the kwacha has contributed to growth in imports outpacing growth in exports, while official international reserves have remained at very low levels, thus rendering the economy highly vulnerable to external shocks. The new government has moved swiftly and boldly to change the policy environment and begin to address Malawi's chronic imbalance between foreign exchange earnings on the one hand, and the demand for foreign exchange on the other, and reserves have started picking up. Regarding DRC, the external sector has improved somewhat as a result of HIPC debt relief but the country remains at high risk of debt distress because of its vulnerability to the volatile terms of trade, high import dependency on food and capital goods, and a narrow export base. For Zimbabwe, the external position remained precarious, due in part to rapid growth of imports.

Table 2: Secondary MEC indicators performance outcome, 2009-2010

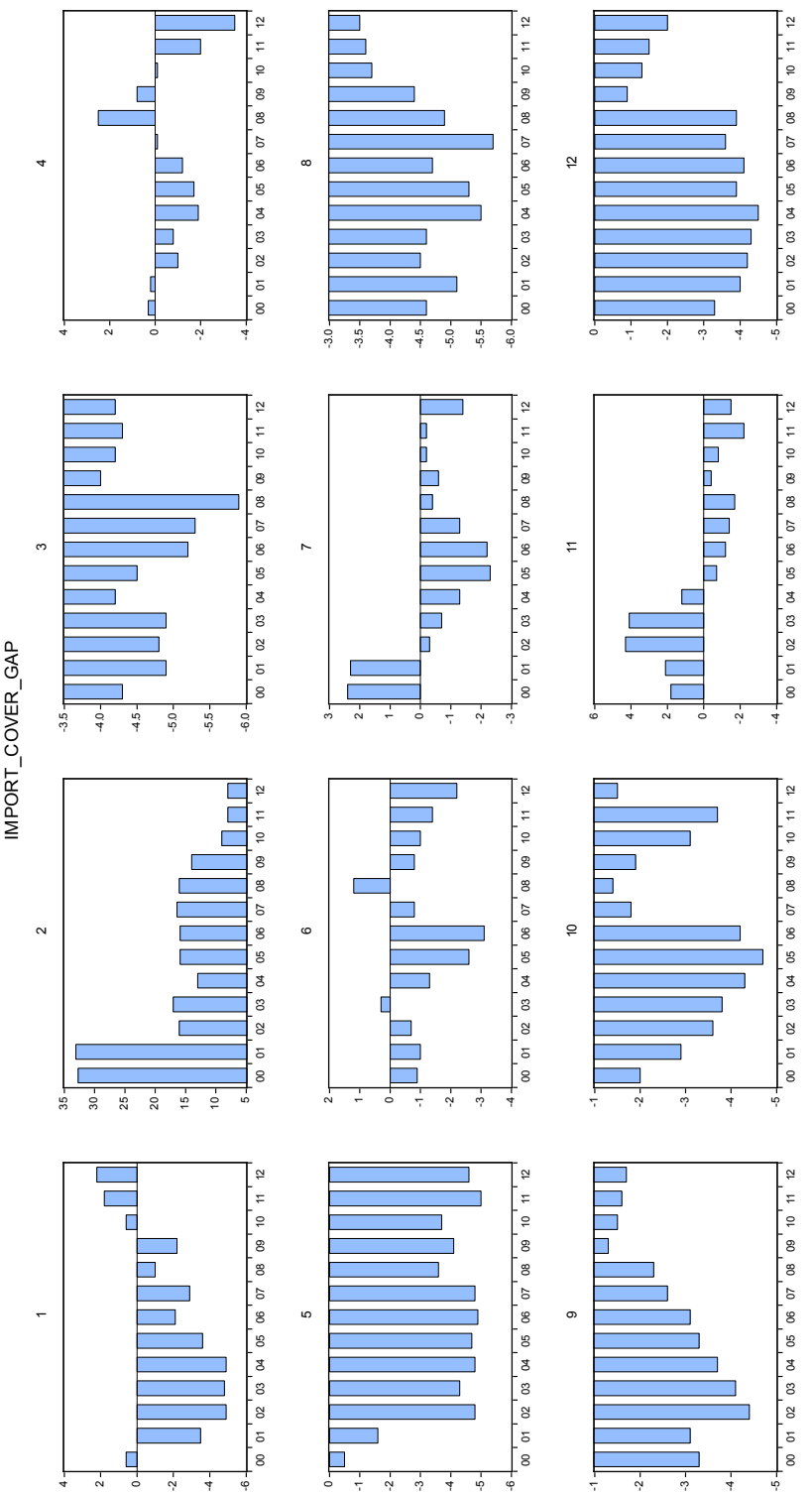
Country	Months of Import Cover				Real Growth Rate			
	2009	2010	2011	2012	2009	2010	2011	2012
Angola	3.8	6.6	7.8	8.2	2.4	3.4	3.9	7.4
Botswana	20.0	15.0	14.0	14.0	-4.8	7.0	5.1	4.4
DRC	2.0	1.8	1.7	1.8	2.8	7.2	6.9	7.4
Lesotho	6.8	5.9	4.7	na	2.4	5.6	4.3	4.0
Malawi	1.9	3.1	2.3	1.0	7.6	7.1	4.3	4.3
Mauritius	5.2	5.0	4.6	na	3.1	4.2	4.0	3.8
Mozambique	5.4	5.8	5.8	4.6	6.3	6.8	7.1	7.5
Namibia	4.0	3.0	3.2	na	-0.7	6.6	3.8	4.2
Seychelles	1.6	2.3	2.4	2.5	0.5	6.7	5.0	4.0
South Africa	4.7	4.5	4.4	na	-1.5	2.9	3.1	3.4
Swaziland	4.1	2.9	2.3	na	1.2	1.9	1.2	-1.5
Tanzania	5.7	5.2	3.8	4.5	6.0	7.0	6.4	6.8
Zambia	5.1	4.7	4.5	4.0	6.4	7.6	6.5	7.7
Zimbabwe	1.2	1.0	0.6	0.2	5.7	9.6	9.4	5.6
SADC Average	5.1	4.8	4.4	4.5	2.7	6.0	5.1	4.9
Convergence criteria (2004-2008)		Not less than 3 months by 2008				Not less than 7%		
Convergence criteria (2009-2012)		Not less than 6 months by 2012				Not less than 7%		

Source: SADC database.

From Figure 4a, the majority of countries, including CMA countries, have been improving their import cover and reducing gap towards the target. The only country that has seen a widening negative gap is Malawi (5), and this is on account of its narrow export base and the impact of loss in terms of trade.

Figure 4b indicates the box-whisker plot of international reserves. Of all the countries, only Botswana (2) managed an import cover average of above six months for the period under review. Nevertheless, Angola, Lesotho, Mauritius, Mozambique, RSA, and Tanzania achieved an average import cover above the internationally accepted minimum of three months of import. Notably, all these countries are rich in natural resources.

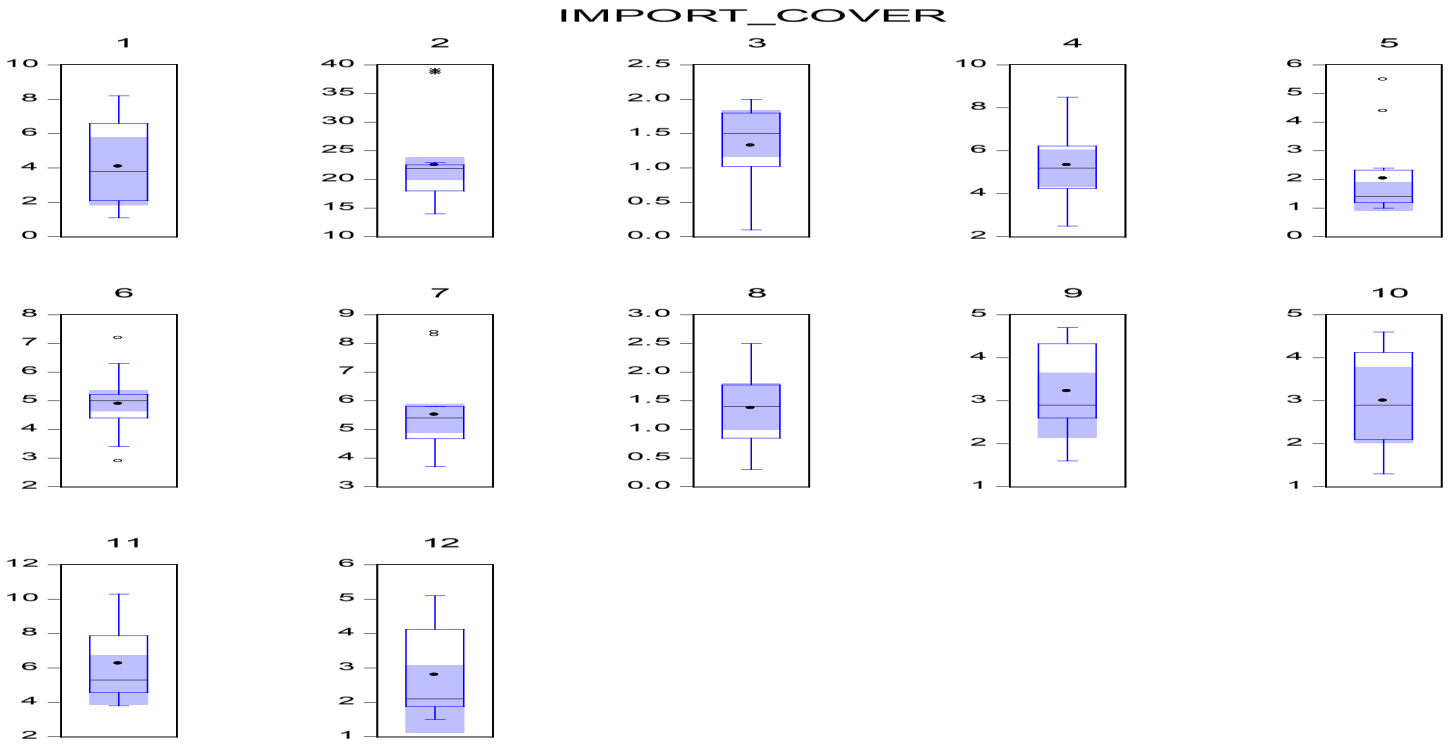
Figure 4a: Import cover gap (2000-2012)



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Figure 4b: Box-whiskers plot of foreign reserves (not less than six months of import)



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

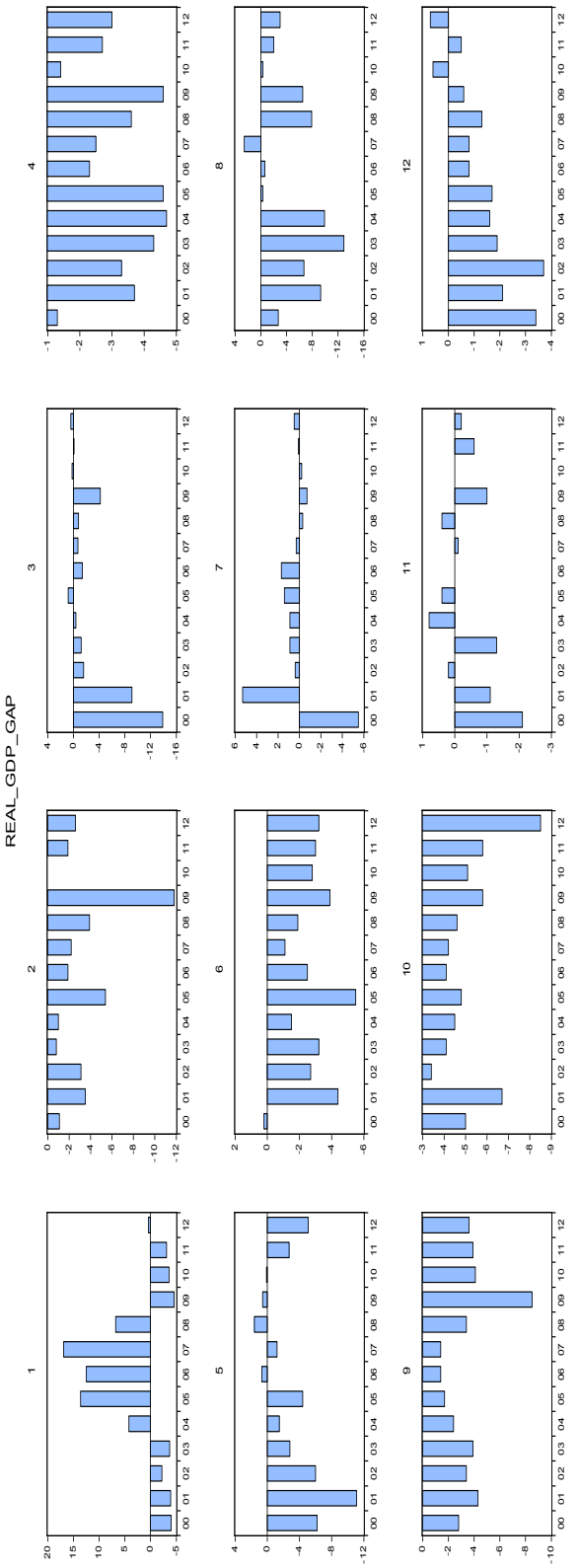
Source: Author's plots

Real GDP growth rate (≥ 7%)

Performance, with regard to real GDP, has generally been below the 7% target; and only four SADC countries are reported to have grown by more than 7% in 2012 (Angola, DRC, Mozambique, and Zambia). This was largely on account of improved performance in the mining, agricultural, construction, and tourism sectors. Angola recorded 7.4% real GDP growth rate in 2012, a significant improvement from 3.9% for 2011. The buoyant performance of the Angolan economy in 2012 was largely driven by improvement in the oil and diamond exports. The Democratic Republic of Congo (DRC) recorded a GDP growth rate of 7.4% in 2012, an improvement from the 6.9% increase in 2011. Mozambique is the only country that attained the SADC's 7% target for the second year running, with a growth rate of 7.5% in 2012, which is also a slight improvement from the 7.1% in 2011. Sectors which supported the growth of the Mozambican economy are agriculture, mining and quarrying, together with transport and communication.

Zambia recorded a growth rate of 7.7% in 2012, 1.2 percentage points above the 6.5% expansion in 2011. Accounting for the improvement in Zambian economy in 2012 was the rise in output—for various sectors including agriculture, forestry and fisheries, manufacturing, tourism, construction, as well as the transport and communication sectors. Regarding trends in real GDP over the review period, there has been improved performance towards the target for DRC, Mozambique, Seychelles, and Zambia. On average, CMA countries attained a growth rate of around 4% percent real GDP growth.

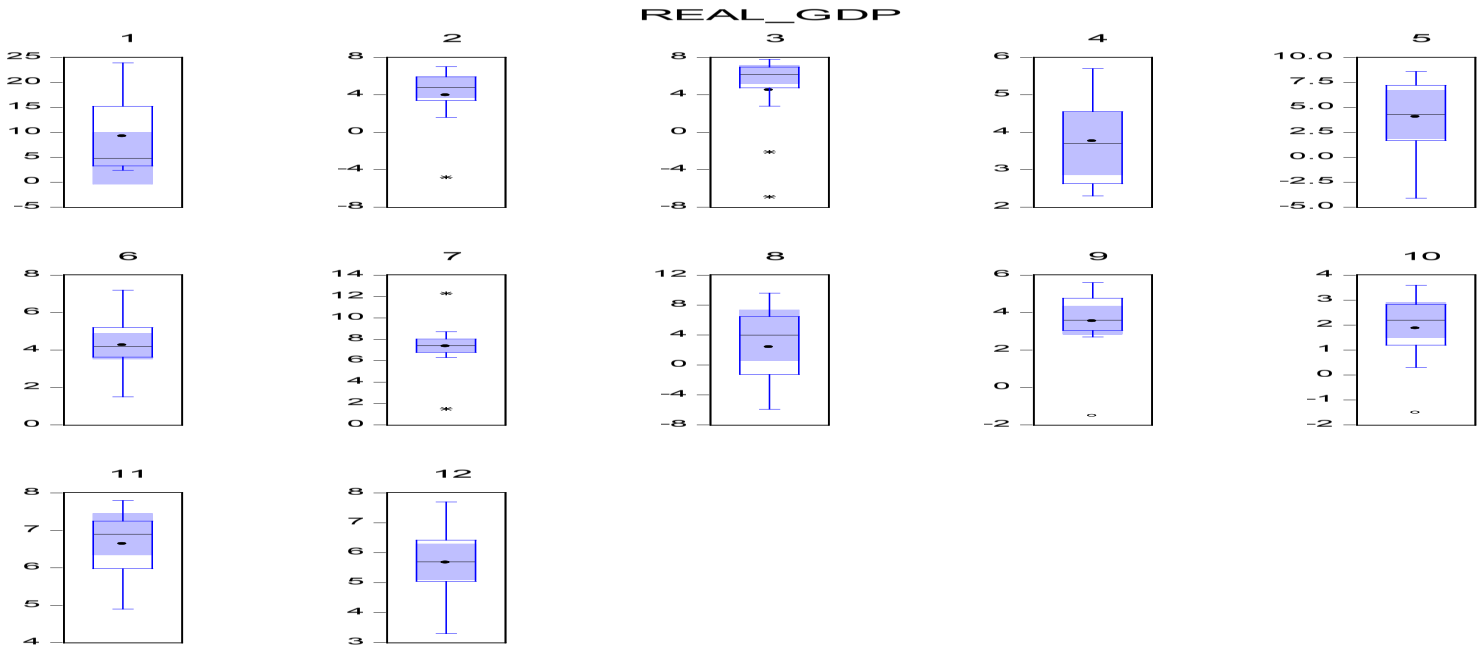
Figure 5a: Real GDP growth (2000-2010)



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Figure 5b: Box-whiskers plot of real GDP



Where, 1=Angola; 2=Botswana; 3=DRC; 4=Lesotho; 5=Malawi; 6=Mauritius; 7=Mozambique; 8=Seychelles; 9=RSA; 10=Swaziland; 11=Tanzania; 12=Zambia.

Source: Author's plots

Although the rest of SADC member states did not manage to attain the 7% growth as stipulated by the SADC Regional Indicative Strategic Development Plan (RISDP), all member states, except Swaziland, recorded positive growth rates in 2012. Results from Common Monetary Area (CMA) member countries, including South Africa, Lesotho, Namibia, and Swaziland, indicate that the real per capita GDP level of only two CMA economies, Botswana and Lesotho, converged to the South African real GDP level.

Summary on perfomance against primary and secondary MEC targets

From the above outcomes, it is evident that the best performance in terms of reaching the MEC targets is likely to be with regard to public debt, while the worst performance is likely to be with regard to import cover and inflation, with the fiscal deficit somewhere in between. The relatively good performance of public debt reflects a number of key developments. First, several SADC member states went through the HIPC initiative over the years and this facilitated the write-down of unsustainable debt burdens. Second, HIPC debt write-offs were typically accompanied by structural and policy reforms that aimed to prevent the build-up of excessive and unsustainable debt positions. Having been through one debt crisis, these member states were clearly determined to avoid another. Several other countries, notably SACU members, have generally had responsible fiscal policies and have avoided running up large public debts. The only two countries that have exceeded the MEC debt threshold for 2012 are the Seychelles and South Africa. In both cases, the high levels of debt reflect the legacy of unsustainable economic and fiscal policies adopted in past years. Although the HIPC initiative has now been wound up, it may be possible for a similar programme to be negotiated for Zimbabwe (given its status as a low income country). Under the IMF-supported programme of 2008 to maintain stability in the major macroeconomic fundamentals, Seychelles will grow its way out of debt and paying down debt through running budget surpluses. Most importantly, public finances are in a much better state than previously, with fiscal deficits at manageable levels in many countries and public debt at sustainable levels (albeit increasing).

The worst performance is with regard to international reserves; only Angola and Botswana had import cover above the months the months of import cover. Performance with regard to real GDP has also been generally poor with only four SADC countries reported to have grown by more than 7% in 2011 (Angola, DRC, Mozambique, and Zambia). It should be noted these MEC targets are quite ambitious for the majority of the countries. As a result, member states may not converge, i.e., countries could be progressing towards the criteria at different pace. Furthermore, inflation remains another key macroeconomic problem with regard to achievement of the MEC targets.

What has been observed is that the majority of the countries are not converging to the set MEC, although overall performance is better over the years. Countries are progressing towards the criteria at different rates, so convergence per se may not be the most important issue.

6. Conclusion and recommendations

SADC has a clear "framework" for macroeconomic policy coordination in that the RISDP outlines "a set of supranational rules or norms", which are agreed by all member states with set limits on the direction. The commitments are to be monitored by the SADC Peer Review Panel, which comprises governors and ministers responsible for finance and development matters.

Empirical analysis indicates that performance of SADC countries against macroeconomic convergence targets has been rather mixed, largely because some targets are overly ambitious. The majority of the countries are not converging to the set macroeconomic convergence criteria, although overall performance is better over the years. Performance of public debt against its target has been the best amongst all of the targets, with 12 of the 14 member states within the target in 2011. Only Seychelles, South Africa, and Zimbabwe recorded public debt levels of over 60% of GDP as of 2012. The worst performance is with regard to import cover, with inflation, fiscal deficit, and real GDP growth somewhere in between. There is a clear tendency of convergence in monetary policy across SADC countries, as reflected in substantial decline in inflation rates over the past two decades. Most countries have made good progress in bringing inflation rates towards single digits. The 2012 SADC MEC target (5%) is a reasonable but demanding one that can be maintained as a general objective. However, it should be for individual countries to decide whether the 2018 MEC target of 3% is achievable and should be pursued as a national target. This is especially the case for many countries (those with inflation at moderate levels) where the level of inflation is to a large extent determined by exogenous factors (global inflation, commodities prices and harvests), with domestic monetary policy often only able to have a marginal impact on inflation. It has also been identified that there are economic benefits in bringing inflation down to single figures, i.e., below 10%, and keeping it there. However, below this figure, the evidence for further net benefits from lower inflation is scanty—and especially there is little or no empirical evidence of gains from bringing inflation down from say 5% to 3%. So it is important to consider whether the target is reasonable and useful.

Most importantly, for most SADC member states, public finances are in a much better state than previously, with fiscal deficits at manageable levels in many countries and public debt at sustainable level, an indication of policy convergence. However, despite evidence of the tendency for macroeconomic convergence, this has not led to sustainable economic growth. The majority of the countries are not converging to the set MEC, although overall performance is better over the years. Countries are progressing towards the criteria at different rates, so convergence per se may not be the most important issue.

We made further attempt to identify possible club convergence within SADC free trade area using Southern African Customs Union (SACU) criterion, including South Africa, Lesotho, Namibia, and Swaziland. The results from Common Monetary Area (CMA) member countries indicate that the real per capita GDP level of only two CMA economies, Botswana and Lesotho converged to the South African real GDP level. Furthermore, CMA members have generally had responsible fiscal policies and have avoided running up large public debts.

In general, SADC countries are progressing towards the macroeconomic convergence criteria at different rates, so convergence per se may not be the most important issue. Admittedly, the macroeconomic convergence criteria have been made tighter over time to encourage better and improving macroeconomic policies, and monetary policy coordination. There is no real political will for a currency union. This suggests a political economy story, such as keep tightening the criteria so countries don't meet them (while improving performance) and currency union discussions can be postponed. In other words, the purpose may be to encourage coordination and credibility rather than convergence. Monetary union may not be feasible for the majority of countries, because the countries have different economic structures and are exposed to different types of shocks. Hence, their business cycles are not well synchronized, and will not be, but making progress towards the targets is nonetheless beneficial in supporting macroeconomic stability.

The crucial implications of the above results are that the establishment of a regional trading bloc has not enhanced economic performance in the poorer member states in SADC during the past 18 years. Poor member states failed to catch up with the more developed countries within the region. The same countries that were richer 18 years ago are richer today and the poorer countries remained largely poorer. This is not to suggest that regional trade agreements and economic blocks do not promote economic performance and help poor countries to catch up. It is rather the way member countries implement those agreements that matter most. First of all, there is duplication of membership among the several African Regional Economic Communities. Most of SADC states are members of one or more of other RECs in the continent. Multiplicity of membership to a number of trade agreements hampers deepening trade and financial relations between the economies and hence reduces the benefits of regional economic cooperation. It is clear from the reviewed literature that SADC has a framework for macroeconomic policy coordination, implementation and monitoring. It is also clear, however, that such framework is lacking with respect to policy coordination.

There is no evidence that macroeconomic policy coordination exists in SADC. Currently, countries set their national policies (monetary and fiscal) without evidence that they refer to, or have regard to the agreed regional targets. A survey of monetary policy targets/objectives by SADC countries revealed that most countries set their inflation targets in line and in response to their broad national development issues and not necessary with regard to SADC target levels (e.g., objectives of 7% or ranges of 6-9% which are outside the range). It is not evident that SADC members take into account, to any perceptible extent, the macroeconomic conditions and policy initiatives other members may be adopting in their annual budget exercises, their medium-term expenditure frameworks and their national development planning.

In general, macroeconomic performance in the SADC region has improved in recent years. Most countries are making progress towards, and in some cases exceeding, the convergence criteria. Growth has accelerated steadily across much of the region over the past decade. Furthermore, most countries have made considerable headway in establishing price stability. There has been a gradual improvement in the fiscal positions of most SADC members as they mobilize more domestic revenue and, in the case of low-income countries, more grants.

Finally, the process of setting up and putting into operation the SADC Peer Review Panel, as envisaged in the RISDP should be expedited. It is an important missing link for coordinating progress in SADC milestones. The peer review panel will enhance information sharing, collective monitoring of economic performance against the settargetsand joint surveillance.

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Appendix

Variable definitions

Inflation:	Sustained increase in general level of prices for goods and services. It is measured as an annual percentage increase
Fiscal deficit:	When a government's total expenditures exceed the revenue that it generates (excluding money from borrowings)
Public debt:	The debt owed by government
Real GDP growth:	Annual percentage growth of GDP at market prices based on constant currency value
Import cover:	The number of months of import foreign reserves can pay
Inflation gap:	The difference between actual inflation for a member country and SADC target inflation
Budget balance /deficit gap:	The difference between actual budget balance for a member country and SADC budget balance target
Public debt gap:	The difference between actual debt for a member country and SADC public debt target
Import cover gap:	The difference between actual import cover for a member country and SADC import cover target