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FEASIBILITY OF MONETARY UNION IN THE SADC AND THE EAC: ANALYSIS OF MACROECONOMIC CONVERGENCE CRITERIA

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─Abstract ─

In August 2003, the Association of African Central Bank Governors announced that it would strive to establish a single currency and common central bank by 2021. Many regional trading blocs and economic communities in Africa are working towards this objective. For example, the Southern African Development Community (SADC) and the East African Community (EAC) are in the process of introducing monetary union in their respective regions which will be implemented in the near future. Such a decision is set to have wide-ranging economic ramifications if a favourable economic environment does not exist on the ground. The purpose of this paper is to analyse and assess the progress towards monetary union in the SADC and EAC, using the macroeconomic convergence criteria of the two economic regions in the envisaged time frame. This study used annual data, from 1995 to 2015, to analyse the economic feasibility of monetary union in the two African economic regions. Descriptive statistical analysis was employed to assess the attainment of the macroeconomic convergence criteria. Based on the finding, it is concluded that monetary union in both SADC and EAC is not feasible, at least in the envisaged timeframe. There is lot to be done in a more consistent and convincing fashion for a sustained period of time before the implementation of monetary union.

Key Words: *Monetary union, single currency, macroeconomic convergence criteria, SADC, EAC*

JEL Classification: F15, F36

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1. INTRODUCTION

In August 2003, the Association of African Central Bank Governors announced that it would work for a single currency and common central bank by 2021 (Mboweni, 2003; Masson & Pattillo, 2004; Guma, 2007). This declaration is in line with Article 44 of the Abuja Treaty, which calls for the harmonisation of economic policies across the African continent. The Treaty emphasises two important pillars of economic integration across the African continent, namely the promotion of intra-Africa trade and the enhancement of monetary co-operation amongst African economic communities (Mboweni, 2003).

Many regional trading blocs and economic communities in Africa are working towards this objective. For example, the Southern African Development Community (SADC) is set to have monetary union by 2016 and a single currency by 2018 (McCarthy, 2008; Kowlessur et al., 2013). Similarly, the East African Community (EAC), having established a customs union in 2005 and a common market in 2010, had planned to implement a monetary union which will culminate in a political federation in the future (Buigut & Valev, 2005; Sheikh et al., 2013). In 2013 the EAC member countries signed a Protocol on the establishment, by 2024, of the East African Community Monetary Union, which sets a framework for the introduction of a single currency and the establishment of the East African Central Bank, whose mandate will be price stability, (Drummond et al., 2015). Other regional blocs such as the Arab Monetary Union (AMA), the Economic Community of Central African States (ECCAS), the Common Market for Eastern and Southern Africa (COMESA) and the Economic Community of West African States (ECOWAS) are also in the process of integrating their economies for this purpose (Masson & Pattillo, 2004:10).

The focus of this paper is on the SADC and the EAC. The SADC is the largest trading block in Africa and consists of 15 Member Countries, namely Angola, Botswana, Congo (DR), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, the Seychelles (the Seychelles are still in the process of ratifying the SADC Treaty), South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The EAC, a much smaller grouping than the SADC, includes Kenya, Rwanda, Tanzania, Uganda and Burundi.

Feasibility studies are conducted before embarking on monetary union initiatives. Optimum currency area (OCA) theory and the setting of certain macroeconomic convergence criteria dominate the literature on monetary unions and single currency systems. Mundell (1961:657-659) describes an OCA as an “optimum geographic area” in which a group of countries share a common currency or maintain their own currencies which have permanently fixed exchange rates with full convertibility. The optimality of a single currency and monetary union using OCA theory falls outside the scope of this paper. Hence, focus is placed on macroeconomic convergence criteria.

Buti et al. (2010) indicate that the Maastricht criteria (macroeconomic convergence criteria) were used as conditions to be fulfilled for entry into the European Monetary System (EMS) and the launching of the Euro in 1999. Furthermore, Buti et al. (2010) add that the introduction of the Euro was a remarkable feat in the history of European monetary, financial, economic and political integration. Hartzenberg (2011), reflecting on the records of history, indicates that the ambition of African leaders to integrate Africa, and to develop the continent through import-substitution industrialisation, was a key feature of the immediate post-colonial period, and provided the rationale for the Lagos Plan of Action (LPA). The move of the African Union and indeed, the regional economic communities, towards monetary union is motivated primarily by the desire to counteract the perceived economic and political weaknesses of the continent, and the successful launching of the Euro (Masson & Pattillo, 2004). This is because the European Monetary Union (EMU) is largely viewed as the prime case of how monetary union developed through the various stages of economic integration (Van Der Merwe & Mollentze, 2010). The commitment by most of the African countries towards macroeconomic convergence criteria are important preconditions for long-term stability (Rossouw, 2006). However, commitments alone are not sufficient. The economic conditions on the ground are crucial.

Following the experience of the European Monetary Union, the two African economic regions, namely the SADC and the EAC, have set certain macroeconomic convergence criteria for their member countries to be achieved ahead of the said economic union (Rossouw, 2006; East African Community, 2013). The SADC member countries have signed a Protocol on Finance and Investment for the region (*SADC Protocol on Finance and Investment,* 2006). Similarly, in 2013, the East African Community member countries also signed a Protocol on the establishment of the East African Monetary Union,, in which a commitment is made to attain macroeconomic convergence ahead of the monetary union (East African Community, 2013; Drummond et al., 2015). Rossouw (2006) is of the view that the achievement of these criteria is a key challenge for the African countries, and that the governments need to apply sound macroeconomic management and policy principles for the various convergence criteria to be achieved (Van Der Merwe & Mollentze, 2010:426. Kowlessur et al. (2013:6) concur, and recognise that the process towards monetary union will be long and painful, and thus member countries would not only have to exercise patience but, more importantly, need to adopt a step-by-step approach in achieving the envisaged monetary union.

The Protocol on Finance and Investment for the SADC defines "macroeconomic convergence" as the convergence by State Parties towards low and stable levels of inflation, sustainable budget deficits, public and publicly guaranteed debt, and current account balances (*SADC Protocol on Finance and Investment*, 2006; Van Der Merwe & Mollentze, 2010). Furthermore, the Protocol on Finance and Investment adds that the macroeconomic convergence in the region shall be measured and monitored by these indicators: the rate of inflation in a State Party; the ratio of the budget deficit to GDP in a State Party; the ratio of public and publicly guaranteed debt to GDP, taking account of the sustainability of such debt, in a State Party; and the balance and structure of the current account in a State Party.

Table 1 shows the macroeconomic convergence criteria goals set for the year 2008, 2012, 2015 and 2018 for the SADC region.

Table 1: Macroeconomic convergence criteria and goals for SADC

Criterion	2008	2012	2015	2018
Inflation rate	Single digits	5%	5%	3%
Budget deficit	5% or less of GDP	3% of GDP as anchor, with a range of 1%	3% of GDP as anchor, with a range of 1%	3% of GDP as anchor, with a range of 1%
Foreign reserves	3 months' import cover	More than 6 months' import cover	More than 6 months' import cover	More than 6 months' import cover
Government debt	Less than 60% of GDP	Less than 60% of GDP	Less than 60% of GDP	Less than 60% of GDP

Source: Rossouw (2006:384)

The Protocol on the establishment of the East African Community Monetary Union, which sets a framework for the introduction of a single currency and the establishment of the East African Central Bank, sets similar criteria, classified as primary and secondary criteria for the formation of the union. The signing of the protocol is believed to represent a further step toward regional economic integration (Drummond et al., 2015). The primary criteria include maintenance of an overall budget deficit to a GDP ratio of not more than 6 percent, excluding grants and of not more than 3 percent including grants. Annual average inflation rates should not exceed 5 percent, while external reserves are expected to cover more than four months' imports of goods and non-factor services. The secondary criteria include achievement of sustainable real GDP growth rate of not less than 7 percent and a national savings to GDP ratio of not less than 20 percent. Countries are expected to ensure that their total domestic and foreign debt as a percentage of GDP and the balance of payments deficit on current account (excluding grants) as a percentage of GDP are sustainable.

The Maastricht criteria for the EMU are slightly different. There are five criteria set out in the Treaty of Maastricht that must be fulfilled by member countries if they wish to adopt the Euro currency. These are: inflation of no more than 1.5 percentage points above the average rate of the three European Union member states with the lowest inflation over the previous year; a national budget deficit at or below three percent of gross domestic product (GDP); national public debt not exceeding 60 percent of gross domestic product, although a country with a higher level of debt can still adopt the euro provided its debt level is falling steadily; long-term interest rates no more than two percentage points above the rate in the three EU countries with the lowest inflation over the previous year; and participation by the national currency in the European Exchange Rate Mechanism (ERM) two years prior to entry (Buti et al. 2010).

Establishing a monetary union implies that member states have to abandon their independent monetary policies in place of a single monetary policy which is appropriate to the wider economic conditions of the economic union rather than national priorities. In the case of the European Union, a limited loss of political and potential fiscal autonomy has been observed over the past few years (Ngo, 2012). The British exit (Brexit) referendum to leave the European Union is viewed as a reaction to the erosion of the political autonomy and sovereignty of member countries. A decision of this magnitude deserves careful examination (Masson & Pattillo, 2004). A proper appraisal of the economic conditions should be conducted. This is particularly important as we witness economic crises in the Euro zone, which is largely hailed for its successful launch of the Euro and the establishment of the European Central Bank (ECB). As the year of implementation of the monetary union of the two economic communities draws closer; this study attempts to provide an economic analysis of the feasibility of the said monetary union so that informed economic decisions may be made by policy makers. Thus, the purpose of this paper is to analyse and assess the progress towards monetary union in the SADC and the EAC, using the macroeconomic convergence criteria.

3. RESEARCH METHODOLOGY

This study adopted a quantitative approach in analysing and assessing the progress towards monetary union in the SADC and the EAC. Descriptive statistical analysis was employed in analysing the attainment of the macroeconomic convergence criteria.

3.1 Data and selection of variables

Secondary data for the macroeconomic variables, including inflation rate, budget deficit, government debt, foreign reserves and GDP growth rate for each country of the two economic regions, were used to assess the progress towards macroeconomic convergence. The selection of the variables is by no means exhaustive; other variables could be included. The selection of the variables was informed by their importance as indicated in the respective Protocols signed by the economic regions and by the need to have common variables so that comparison could also be made between the two economic regions. Data were gathered from the World Databank and International Monetary Fund (IMF) from 1995 to 2015 (21 years), where sufficient data were available for most of the countries involved during the period under study. Zimbabwe was excluded from the analysis owing to data limitations.

4. RESULTS AND DISCUSSION

As alluded to earlier, member countries in both economic communities are expected to attain certain macroeconomic convergence criteria in a sustainable manner before the commencement of monetary union in their respective regions. The macroeconomic variables considered in this study are inflation rate, budget deficit, foreign reserves, government debt and GDP growth.

4.1 Inflation rate

In respect of inflation, the countries in the economic regions are expected to attain an inflation rate of five percent or less by the year 2015. Measure of central tendency (mean) and measures of variability (standard deviation) were computed to assess the progress made with respect to inflationary conditions in the two economic regions. Table 2 shows statistical information for the past 21 years

(1995-2015) and 10 years (2006-2015) for both economic regions. It also highlights the 2015 achievement against the macroeconomic convergence criteria set out for this particular year.

Angola experienced hyperinflation in 1996 owing to political crises. Similarly, there was civil war in the DRC (formerly Zaire) in 1995 when it recorded hyperinflation. It is evident from the statistical analysis that significant progress has been made in the last 10 years, with the majority of the countries in the SADC region attaining an average of single-digit inflation rates, with the exception of Angola and Malawi with 11.63 percent and 14.83 percent respectively. Mauritius, Lesotho and Namibia are among the countries that maintained lower inflation rates of 5.13 percent, 6.04 percent and 6.10 percent respectively over the last 10 years. However, none of the countries in the SADC region could achieve an average of five percent over the last 10 years. One issue that needs highlighting is the fluctuation of the inflation rates over the years. The standard deviation indicates that indeed there have been significant fluctuations and a lack of consistency in the achievement of the said inflation rates by member countries. The highest variability (fluctuation) of inflation was observed in the Seychelles, with a standard deviation of 13.66.

Table 2: Inflation rate

SADC										
Country	**21yrs (1995-2015)**				**10yrs (2006-2015)**				**2015**	**Progress**
	High	**Low**	**Mean**	**St.Dv**	**Mean**	**St.Dv**	**Skew**	**Kurt**		
Angola	4145.11	7.28	393.29	1033.14	11.63	2.37	-0.7	-0.6	10.28	X
Botswana	12.7	3.06	7.97	2.21	7.57	2.93	0.4	0	3.06	✓
DRC	541.91	1.3	122.72	192.07	8.66	6.68	0.1	-1.9	1.4	✓
Lesotho	33.81	-9.62	6.87	7.34	6.04	2.22	0.9	1.1	3.18	✓
Madagascar	49.08	-1.22	11.34	9.88	8.28	1.87	-0.2	-1.8	6.6	X
Malawi	83.33	7.41	21.73	17.67	14.83	7.91	0.5	-1.7	21.25	X
Mauritius	9.73	1.29	5.43	2.23	5.13	3.08	0.5	-1.5	1.29	✓
Mozambique	54.43	1.48	12.26	13.8	7.11	4.3	0.3	-1.9	3.55	✓
Namibia	9.45	2.28	5.74	1.59	6.1	1.91	0.8	0	3.41	✓
Seychelles	36.96	-2.4	5.69	9.94	9.07	13.66	1.6	1.3	4.04	✓
South Africa	11.54	1.39	6.16	2.2	6.17	2.14	2	4.6	4.59	✓
Swaziland	12.66	3.45	7.4	2.75	6.97	2.43	1.6	2.6	5.4	X
Tanzania	27.43	4.74	9.9	6.03	9.12	3.5	0.9	-0.2	5.59	X
Zambia	43.07	6.43	17.76	10.02	9.19	2.43	0.6	-0.8	10.1	X

Note: Aggregate for SDAC for 2015: Mean=5.98; St.Dv=5.17; Highest=21.25; Lowest=1.29

EAC

Country	21yrs (1995-2015)				10yrs (2006-2015)				2015	Progress
	High	Low	Mean		Mean	St.Dv	skew	kurt		
Burundi	31.1	-1.4	12.15	8.64	9.82	6.55	1.39	1.55	5.53	X
Kenya	26.2	1.6	9.05	5.22	10.63	6.42	1.75	3.62	6.6	X
Rwanda	15.4	-2.4	6.39	4.22	6.66	4.33	0.79	0.24	2.5	✓
Tanzania	27.4	4.7	9.89	6.04	9.12	3.49	0.93	-0.19	5.6	X
Uganda	18.7	-0.3	6.85	4.63	9.02	5.05	0.82	-0.55	5.2	X

Note: Aggregate for EAC for 2015: Mean=5.08; St.Dv=1.54; Highest=6.6; Lowest=2.5

Focusing on the year of assessment (2015), the majority (11 out of 14 countries) of the SADC countries attained single digit inflation rates save Angola, Malawi and Zambia. The countries that met the macroeconomic convergence criteria in terms of inflation rate are Botswana, DRC, Lesotho, Mauritius, Mozambique, Namibia, the Seychelles and South Africa. The DRC recorded the lowest inflation rate (1.4%), while Malawi`s inflation rate was as high as 21.25 percent. The average inflation for the whole SADC region was 5.98 percent, which fell outside of the target (criteria). Once again the standard deviation of 5.17 indicates that there is significant variation in the attainment of inflation rates by member countries in the region; and careful examination of the statistics reveal that countries are meeting macroeconomic convergence criteria on an ad hoc basis and lack consistency. Thus, countries in the SADC region have significant challenges in addressing the issue of inflationary conditions in their economies, and hence fail to adequately meet the macroeconomic convergence criteria set out for the region. As in the SADC region, countries in the EAC have achieved significant progress over the last 10 years, with each country achieving an average inflation rate in the single-digit range with the exception of Kenya (10.63%). Rwanda recorded the lowest inflation rate in the region in the last 10 years. The standard deviation indicates that there have been some variations (fluctuations) in the attainment of the inflation rates by each of the countries. The highest fluctuation was observed in Burundi, with a standard deviation of 6.55. Overall, the standard deviations obtained by all member countries were close to each other, indicating similarities in inflationary conditions in those countries.

With regard to the year of assessment (2015), virtually all member countries of the EAC achieved single-digit inflation rates. However, Rwanda (with an inflation rate of 2.5%) was the only country that met the macroeconomic convergence criteria. The other four countries, namely Burundi, Kenya, Tanzania and Uganda, were very close to meeting the macroeconomic convergence criteria. The average inflation rate for the EAC region was 5.08 percent, which fell outside of the target (criteria) by a small margin (0.08%). One significant achievement of this economic region is that there were very few variations (differences) in the attainment of inflation rates among member countries, as evidenced by the low standard deviation (1.54). The countries in this economic region seem to be consistently moving in the right direction to attain the macroeconomic convergence criteria in the near future. While the EAC region does not meet the macroeconomic convergence criteria as yet, it seems it is in a much better position than the SADC region to meet the inflation criteria in the near future. This is because the EAC region seems to achieve the inflation rates in a more consistent manner, and there are fewer variations in the attainment of these inflation rates. This could be attributed to the similarities of the economies involved, which is a subject that needs further investigation, or simply because the number of countries involved in this region is much smaller than that of the SADC region.

4.2 Budget deficit

In terms of budget deficit, the macroeconomic convergence criterion requires member countries to keep a budget deficit of three percent of GDP or less with a range of one percent by 2015. Budget deficit is calculated as the difference between general government revenue and general government expenditure, both expressed as percentages of GDP. Table 3 shows measure of central tendency (mean) and measures of variability (standard deviation) computed to assess the progress made with respect to the budget deficit over 14 years (2002-2015) for both economic regions. Sufficient data were available only for this period for all the countries. Table 3 also highlights the 2015 achievement against the macroeconomic convergence criteria set out for this particular year.

Most of the countries in the SADC region maintained an average budget deficit well within the target over the past 14 years, save Mozambique. In fact, many of the countries (Angola, Botswana, DRC, Lesotho and the Seychelles) were able to record an average of surplus budgets over the same period. However, the achievement of this criterion in many of the countries, especially those with surplus budgets (Angola, Botswana, Lesotho and the Seychelles), was inconsistent, as evidenced by the very high standard deviation during the 14-year period. The DRC was the only country that met the criterion consistently over the period under study.

When it comes to the year of assessment (2015), the picture is a mixed bag. Of the 14 countries in the SADC region, six countries achieved the budget deficit of three percent of GDP or less with a range of one percent as required by the macroeconomic convergence criteria, with the DRC, Lesotho and the Seychelles achieving a budget surplus. The countries that need to work seriously on their fiscal discipline are Zambia, Mozambique and Namibia, which have budget deficits of 8.06 percent, 5.97 percent and 5.89 percent respectively. The average budget deficit for the whole SADC region was 3.42 percent, suggesting the achievement of macroeconomic convergence.

Table 3: Budget deficit as percentages of GDP

SADC						
Country	**14yrs (2002-2015)**				**2015**	**Progress**
	Highest	**Lowest**	**Mean**	**St.Dv**		
Angola	11.81	-7.36	0.87	6.37	-4.09	X
Botswana	12.96	-13.34	0.31	7.05	-1.55	✓
DRC	3.02	-5.04	0.33	2.10	1.91	✓
Lesotho	13.93	-10.58	1.98	6.73	0.07	✓
Madagascar	-0.46	-4.98	-2.87	1.33	-3.69	X
Malawi	1.83	-6.42	-3.29	2.41	-5.94	X
Mauritius	-1.84	-5.48	-3.74	0.99	-3.42	✓
Mozambique	-2.13	-10.70	-4.16	2.17	-5.97	X
Namibia	6.17	-6.98	-1.69	3.92	-5.89	X
Seychelles	7.88	-16.26	0.08	6.23	1.98	✓
South Africa	1.24	-4.79	-2.30	2.11	-4.05	X
Swaziland	8.58	-8.85	-1.18	4.29	-5.42	X
Tanzania	-0.72	-4.77	-3.05	1.21	-3.69	✓
Zambia	16.91	-8.06	-2.06	5.88	-8.06	X
Note: Aggregate for SDAC for 2015: Mean=-3.42; St.Dv=3.02; Surplus=1.91; Deficit=-8.06						
EAC						
Country	**14yrs (2002-2015)**				**2015**	**Progress**
	Highest	**Lowest**	**Mean**	**St.Dv**		
Burundi	-1.01	-6.91	-3.45	1.60	-6.913	X
Kenya	-0.05	-8.38	-3.79	2.34	-8.381	X
Rwanda	0.93	-3.90	-1.07	1.71	-2.832	✓
Tanzania	-0.72	-4.77	-3.05	1.21	-3.694	✓
Uganda	0.39	-5.67	-2.23	1.62	-2.942	✓

Note: Aggregate for EAC for 2014: Mean=-4.95 St.Dv=2.54; Surplus= none; Deficit=-8.381

All member countries in the EAC were able to achieve an average budget deficit of three percent of GDP or less with a range of one percent as required by the macroeconomic convergence criteria over the past 14 years. The low standard deviations obtained during the 14-year period indicate that there were fewer fluctuations in attaining the target. With regard to the year of assessment (2015), three of the five countries, namely Rwanda, Tanzania and Uganda, achieved the budget deficit convergence criteria. Burundi and Kenya did not achieve the required target. The average budget deficit for the whole EAC region was 4.95 percent, falling outside of the macroeconomic convergence criteria.

With respect to budget deficit, both economic regions are in a similar situation in that not all member countries met this macroeconomic convergence criterion for the year of assessment (2015) although a significant number of member countries did. At a regional level, the SADC seems to be in a better position than the EAC. These results suggest that serious fiscal discipline needs to be followed by all member countries of the two economic regions.

4.3 Government debt

In respect of government debt, the macroeconomic convergence criterion requires member countries to keep government debt to 60 percent of GDP or less by 2015. Table 4 shows measure of central tendency (mean) and measures of variability (standard deviation) computed to assess the progress made with respect to the budget deficit over 14 years (2002-2015) in both economic regions for those countries for which data were available. Table 4 also highlights the record of government debt for the year of assessment (2015). Most of the countries in the SADC region have maintained an average government debt well within the target over the past 14 years, with the exception of the DRC (71.77%), Malawi (82.33%) and the Seychelles (117.63%), incurring exorbitant debt. The countries that did not meet the criteria had huge standard deviations, indicating inconsistency in the management of their finances and a lack of fiscal discipline. The countries that showed that they were serious about fiscal discipline, in terms of government debts, were Botswana, Namibia, South Africa, Swaziland, Tanzania, and Zambia.

Table 4: General government gross debt as percentages of GDP

SADC						
Country	**14yrs (2002-2015)**				**2015**	**Progress**
	Highest	**Lowest**	**Mean**	**St.Dv**		

Angola	70.95	16.066	38.92	18.63	62.33	X
Botswana	20.32	6.23	13.42	5.44	17.78	✓
DRC	141.76	16.80	71.76	46.78	18.81	✓
Lesotho	93.36	35.25	53.40	15.18	59.97	✓
Madagascar	105.05	31.49	51.70	29.73	35.56	✓
Malawi	157.43	39.16	82.33	41.80	83.43	X
Mauritius	59.10	44.03	52.52	3.86	58.11	✓
Mozambique	75.79	35.99	53.22	15.35	74.82	X
Namibia	28.05	15.86	23.14	3.97	27.16	✓
Seychelles	202.05	68.09	117.63	44.04	68.09	X
South Africa	50.06	26.51	36.33	7.09	50.06	✓
Swaziland	18.55	10.32	14.82	2.16	17.39	✓
Tanzania	47.04	21.52	33.86	9.26	40.55	✓
Zambia	52.95	16.72	24.82	9.27	52.95	✓
Note: Aggregate for SDAC for 2015: Mean=47.64; St.Dv=21.84; Highest=83.43; Lowest=17.39						

EAC

Country	**14yrs (2002-2015)**				**2015**	**Progress**
	Highest	**Lowest**	**Mean**	**St.Dv**		
Burundi	172.74	25.69	89.72	58.42	38.38	✓
Kenya	61.84	38.37	47.11	7.35	52.69	✓
Rwanda	107.9	20.14	44.45	32.68	34.63	✓
Tanzania	47.04	21.52	33.86	9.26	40.55	✓
Uganda	62.42	19.19	34.48	15.86	35.36	✓
Note: Aggregate for EAC for 2014: Mean=40.32; St.Dv=7.311; Highest=52.693; Lowest=34.63						

When it comes to the year of assessment (2015), ten of the fourteen countries in the SADC region met the macroeconomic convergence criteria, with Malawi and the Seychelles consistently missing the target, and Angola and Mauritius joining this group. The DRC showed significant improvement by recording 18.81 percent of government debt in 2015 from an average of 71.77 percent. The average government debt for the whole SDAC region was 47.64 percent, which fell within target (criteria). With the exception of Burundi (89.72%), four of the EAC countries achieved an average of government debt less than 60 percent of GDP as required by the macroeconomic convergence criteria over a 14-year period. Burundi is an exception in this group in as far as this criterion is concerned, with huge fluctuations over this period, indicated by a standard deviation of 58.42. This is highlighted particularly by its significant improvement to 38.38 percent of government debt in 2015 (year of assessment). The other four countries also achieved this criterion in the year of assessment. The average government debt for the whole EAC region was 40.32 percent, which fell within target (criteria).

With respect to the management of government debt, the EAC region shows better fiscal discipline than the SADC region as a whole. For example, all the countries in the EAC achieved the 60 percent target, with only Burundi's track record being questionable. Furthermore, the whole EAC is in a much better position than the SADC region as regards average government debt.

4.4 Foreign reserves

The macroeconomic convergence criteria require member countries to maintain a foreign reserve cover of at least six months of import cover. Table 5 reports on the foreign reserves held by member countries to cover imports of goods and services. The analysis includes a 10-year period for which sufficient data were available from 2005 to 2014 for all the countries. The data for the year 2015 were not available at the time of writing this paper. Therefore, the fiscal year of 2014 is considered as the year of assessment for this particular economic variable. It is evident that most countries in the SADC region are having serious challenges in meeting this criterion. On average, the SADC member countries have less than four months` foreign reserves for import cover. The only country that consistently and sufficiently met this criterion was Botswana. The Democratic Republic of Congo (DRC), Madagascar, Malawi and Namibia had less than three months` import cover. Angola, Lesotho and South Africa seem to show some progress in this regard.

Table 5: Total reserves in months of imports

SADC						
Country	10 years (2005-2014)				2014	Progress
	Highest	Lowest	Mean	St.Dv		
Angola	7.09	2.00	4.84	1.62	5.36	X
Botswana	20.61	9.52	14.42	4.06	10.69	✓
DRC	1.64	0.11	0.93	0.56	1.03	X
Lesotho	6.62	3.66	5.05	0.97	5.48	X
Madagascar	3.39	1.85	2.72	0.51	1.85	X
Malawi	2.24	0.80	1.37	0.42	2.24	X
Mauritius	5.04	2.76	3.62	0.65	3.47	X
Mozambique	5.34	2.82	3.89	0.83	3.24	X
Namibia	4.56	1.23	2.57	0.96	1.61	X
Seychelles	3.29	0.48	1.96	1.07	3.29	X

South Africa	5.11	3.16	4.01	0.67	4.44	X
Swaziland	4.31	1.29	2.84	0.89	2.79	X
Tanzania	5.30	3.48	4.41	0.78	3.68	X
Zambia	5.04	1.93	2.97	1.00	3.14	X
Note: Aggregate for SADC for 2014: Mean=3.74; St.Dv=2.39; Highest=10.69; Lowest=1.03						

EAC						
Country	10 years (2005-2014)				2014	Progress
	Highest	Lowest	Mean	St.Dv		
Burundi	7.21	2.40	4.56	1.44	2.40	X
Kenya	4.43	2.70	3.64	0.54	4.43	X
Rwanda	7.03	3.96	5.37	1.05	4.00	X
Tanzania	5.30	3.48	4.41	0.78	3.68	X
Uganda	7.21	4.00	5.41	1.07	4.60	X
Note: Aggregate for EAC for 2014: Mean=3.82; St.Dv=0.88; Highest=4.60; Lowest=2.4						

The countries in the EAC region also face challenges similar to those in the SADC region; no country could meet this criterion. Three countries, namely Kenya, Rwanda and Uganda had more than four months` foreign reserves import cover, which can be described as showing some progress, while Burundi and Tanzania had 2.40 and 3.68 months` import cover respectively. Member countries in the EAC therefore need to seriously evaluate their position in as far as foreign reserves are concerned. The analysis on foreign reserves in both of the economic regions suggests that maintaining sufficient foreign reserves (at least six months' cover) is a serious challenge, except for Botswana. The countries in both regions need to work towards import substitution and to enhance intra-Africa trade while promoting exports to improve their foreign reserve levels.

4.5 GDP growth rate

Table 6 shows statistical information for the past 21 years (1995-2015) and 10 years (2006-2015) for both economic regions. It also highlights the 2015 achievement against the macroeconomic convergence criteria set out for this particular year.

Table 6: GDP growth rate

SADC								
Country	21yrs (1995-2015)		21yrs (1995-2015)		10yrs (2006-2015)		2015	Progress
	Highest	Lowest	Mean	St.Dv	Mean	St.Dv		
Angola	22.59	2.18	8.79	6.43	8.67	7.59	3.00	X
Botswana	9.86	-7.65	4.69	4.14	4.70	5.29	-0.34	X

DRC	9.17	-8.14	3.03	5.39	6.71	1.76	7.75	X
Lesotho	6.88	1.40	3.75	1.41	4.52	1.20	2.47	X
Madagascar	9.79	-12.41	2.93	4.55	2.77	3.41	3.03	X
Malawi	13.83	-4.08	5.03	3.84	5.77	2.39	2.95	X
Mauritius	8.19	1.45	4.26	1.64	4.04	0.99	3.37	X
Mozambique	26.85	1.68	8.53	4.93	7.32	1.05	6.30	X
Namibia	6.68	0.30	4.23	1.57	4.33	1.82	4.50	X
Seychelles	12.19	-5.89	3.70	4.92	4.72	3.96	4.37	X
South Africa	5.60	-1.54	2.97	1.69	2.61	2.05	1.28	X
Swaziland	4.84	1.24	3.10	1.12	2.73	1.20	1.66	X
Tanzania	8.46	3.53	5.84	1.42	6.47	1.26	6.97	X
Zambia	10.30	-0.39	5.84	2.43	7.05	2.11	3.64	X

Note: Aggregate for SDAC for 2015: Mean=3.64; St.Dv=2.22; Highest=7.75; Lowest= -0.34

EAC

Country	21yrs (1995-2015)		21yrs (1995-2015)		10yrs (2006-2015)		2015	Progress
	Highest	Lowest	Mean	St.Dv	Mean	St.Dv		
Burundi	5.41	-8.00	2.05	3.96	3.62	2.78	-4.11	X
Kenya	8.40	0.23	4.00	2.29	5.19	2.19	5.59	X
Rwanda	24.54	2.20	8.98	4.62	7.69	1.75	6.94	X
Tanzania	8.46	3.53	5.84	1.42	6.47	1.26	6.97	X
Uganda	11.29	2.63	6.94	2.28	6.47	2.30	5.04	X

Note: Aggregate for EAC: Mean=4.09 St.Dv=4.66; Highest=6.97 Lowest= -4.11

The SADC`s Protocol on Finance and Investment does not explicitly mention the seven percent GDP growth; the EAC’s does. The secondary criteria in the EAC include the achievement of sustainable real GDP growth rate of not less than seven percent. The assessment of this economic variable is conducted in both of the economic regions so that comparison could be made. Many of the countries in both economic regions are struggling to achieve high economic growth to absorb the high levels of unemployment and improve the standard of living in their respective countries. From both regions, Angola, Mozambique and Rwanda were the only countries that achieved this target in the past 21 years. However, Angola`s GDP growth is characterised by huge fluctuations, as indicated by the high standard deviation (7.59) during the same period. With respect to the year of assessment (2015), none of the countries were able achieve this macroeconomic convergence criterion. Botswana and Burundi recorded negative economic growth of 0.34 percent and 4.11 percent respectively. Burundi`s devastating economic performance could be attributed to the constitutional crisis which developed in 2015 as a result of the president seeking a third term in office.

5. CONCLUSION AND RECOMMENDATIONS

Achieving the macroeconomic convergence criteria is posing a serious challenge for most of the countries in the two economic regions. Of the fourteen countries in the SADC region, only eight countries were able to meet the inflation rate criterion, six countries the budget deficit, ten countries the government debt, only one country the foreign reserve requirement, and none of the countries achieved the GDP growth criterion during the assessment period (year 2015). The situation in the EAC region is not much better except that their performance is similar, showing less deviation from each other. Thus, they are showing some kind of convergence in economic performance without meeting the required criteria. The only criterion that all five member countries were able to achieve was the government debt expressed as a percentage of GDP (less than 60%). Of the five countries in the EAC region, only one country achieved the inflation rate criterion, three countries the budget deficit and none of the countries were able to meet the foreign reserve and GDP growth requirement.

The analyses of the five macroeconomic variables of both economic regions over the past twenty years and in some cases, fourteen years (due to data limitations), suggest that member countries have serious challenges in meeting the macroeconomic convergence criteria. Furthermore, the analyses indicate that member countries are not on a par with each other with regard to macroeconomic convergence criteria. There were big differences in economic performances, indicated by the high standard deviation. This issue was more prevalent in the SADC region than the EAC region. The study, therefore, concludes that the said monetary unions in both the SADC and the EAC are not feasible, at least in the envisaged timeframe. There is a lot to be done in a more consistent and convincing fashion for a sustained period of time (at least 15 years) before the implementation of monetary union can be considered. This is all the more so in light of the fragile nature of monetary unions as observed over the past few years in the Euro Zone, highlighted by Greece`s crises and the recent Brexit move from the European Union. Appropriate steps need to be taken for a workable and effective monetary union. Member countries need to show serious fiscal discipline with regard to budget deficit, the management of government debt and foreign reserves. In addition, member countries need to work on growing their economies at the required level so they create employment while maintaining acceptable inflationary conditions. The importance of political stability in all of these endeavours cannot be overemphasised. Further investigation needs to be conducted to assess whether the economies concerned interact both in the short term and the long term.

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