

CAPITAL MOBILITY IN SADC COUNTRIES: EMPIRICAL EVIDENCE AND IMPLICATIONS FOR REGIONAL INTEGRATION

FABIEN NGENDAKURIYO*
& JOSEPH BARICAKO**

INTRODUCTION

Economic integration is often defined as removal of economic barriers between two or more partnering economies. The ultimate goal of regional integration is to merge some or all aspects (depending on the stage of evolution) of the economies concerned, removing any demarcation over which actual and potential movement of services, goods and production factors are relatively low (Pelkmans, 2006). In fact, the rationale for economic integration in Africa is clear. Integration is one of the best ways to harness resources collectively, to pen-

etrate efficiently world markets and attract foreign direct investment. However, the process faces several constraints and obstacles. Furthermore, it should be recognized that a regional integration process involves not only benefits but also costs.

Economic integration is to some extent political. The interrelations between the two differ from case to case. Several times and in the real world, a bi-directional relationship exists. This leads to the institutional aspects of regional integration since the speed and success of economic integration depend heavily to the quality of institutions and their level of commitment.

The objectives of regional integration are numerous and have been changing over time. (i) The initial focus was political decolonisation; at least for Africa; the idea is evident on the SADC

* IRES/UCL/Economics School of Louvain, Place Montesquieu, 3; 1348 Louvain-la-Neuve, Belgium.
E-mail : fabien.ngendakuriyo@uclouvain.be.

** United Nations Economic Commission for Africa, Sub Regional Office for Eastern Africa.

case which was formed of the Frontline States whose objective was political liberation of Southern Africa; (ii) In the post independence era, the objective became socio- economic; SADC countries shifted their objective after South Africa independence and included economic integration; (iii) Nowadays, one of the objectives is bargaining power in international negotiations; and (iv) Mutual benefits in terms of accelerated growth and development. For this clear objective, the African Union has set up objectives and guidelines on a dedicated timeline.

Regional Trade Agreements (RTAs) have proliferated in the last decades. The economic integration is one of the channels through which national economies are integrated in the global economy, especially for developing economies. These different steps are crucial for improving the trade between nations and boosting their economic development. The Abuja Treaty, which calls for the creation of a continent-wide African Economic Community (AEC), has laid out six stages for the implementation of the integration agenda on the continent. A regular regional integration process has to implement different phases: Free Trade Area (no tariff barriers among members), Customs Union (common tariffs for non-members), Common Market (Free movement of labor and capital), Economic Union (harmonized monetary and fiscal policies) and Monetary Union (unified currency) and as ultimate stage, political union for particular cases. The Regional Economic Communities (RECs) are the building blocks towards the AEC and have a key responsibility to realize Africa's integration aspirations.

In fact, multiple regional organizations overlap in Africa. Among them, we find the Common Market of the Southern and Eastern Africa (COMESA), The East African Community (EAC), The Southern African Development Community (SADC) of which the paper deals with, etc.

Whither Southern Africa integration ?

With a population size of 257,726,000 Million inhabitants and a combined Gross Domestic Product of 471,118 US\$ billion in 2010, the SADC is formed of 15 countries of different size and characteristics. South Africa alone counts for 61 per cent of the total GDP for 19,3 per cent of population. Combined with Angola, they had 76 per cent of the SADC regional GDP for 26,2 per cent of the total population in 2009. On capital inflows¹, the SADC region is a preferred destination. At least four countries, namely Malawi, South Africa, Tanzania and Zimbabwe have more than 50 per cent of their GDP coming from FDI.

The SADC is a transformation of the Southern African Development Coordination Conference (SADCC) in 1992. The SADCC had been created in 1980 by 9 front-line countries which were Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. The issue of the creation of SADCC was to promote economic development. However, the main objective was a politically oriented goal to liberate South Africa. After the collapse of the apartheid regime in 1990's, the SADCC reorient its objec-

1. For full reference on these key indicators, the reader should refer to the table in annex.

tives to include development dimension. SADCC was transformed in SADC to deepen economic cooperation and integration. Currently, 15 countries are members of SADC. Indeed, Namibia joined the group in 1992, South Africa in 1994, Mauritius in 1995, Republic Democratic of Congo and Seychelles in 1998, and Madagascar in 2005.

The SADC integration path can be summarized as follows.¹ The SADC became a Free Trade Area on the 17th August 2008. Building upon the Regional Indicative Strategic Plan, SADC was to form a Customs Union in 2010, a Common Market in 2015, a Monetary Union in 2016 and a unified currency in 2018. The paper is not intended to develop all the transformations, challenges and perspectives of SADC. Our aim is to assess the capital mobility in this regional integration group using annual data from 1980–2008. In fact, free movement of factors of production is one of the main goals of the regional economic integration. In this paper, we focus on the international capital mobility within SADC. Finding any evidence of this will turn out to be a promising insight in favor of intra-SADC capital mobility. In fact, the paper aims to provide valuable information on whether SADC economies are open to capital mobility or not. If so, policymakers will have to tackle institutional barriers to allow this mobility be actual from and to SADC's country members. The paper will also provide direction of further research on the subject.

The rest of the paper is organized as follows. Section 2 provides a review of selected literature on empirical analysis of international capital mobility. Section

3 is devoted to the empirical evidence on capital mobility in SADC area. It also discusses to a some extent the implications of the results for policymakers. Finally, section 4 concludes.

1. SELECTED LITERATURE REVIEW

There is a huge literature on international capital mobility. Without being exhaustive, we should mention the pioneer's paper by Feldstein and Horioka (1980), among others. It assesses the international capital mobility, linking saving and investment. These authors estimate the following equation for the OECD countries using cross-section data:

$$(I/Y)_i = a + b (S/Y)_i + u_i$$

where the ratio (I/Y) is the rate of investment and (S/Y) is the rate of saving in the economy i . I is the gross domestic investment, S the gross domestic saving and Y the gross domestic product. The parameters to be estimated are a and b , and u_i is the well-known error term. Under the null hypothesis of perfectly mobile capital, b is too low ($b \rightarrow 0$) meaning a low correlation between domestic saving and investment. High b means that the capital is immobile and the extreme case of perfectly immobile capital ($b = 1$) would mean that all the amount of national saving finances the domestic investments. Feldstein and Horioka (1980) surprisingly found that the estimate coefficient b equals 0.89 suggesting that capital is immobile within OECD countries over the period 1960–1974. In fact, almost 90 percent of domestic saving finances domestic in-

1. See Saurombe (2009) for more details.

vestment. Goldon and Bevenberg (1996) attempted to answer the question “why capital is so immobile”. They pointed out that several factors may explain the empirical evidences of capital immobility. Among these factors, they mention the existence of asymmetric information between investors in different countries leading to high transactions costs. As a consequence, they state that poorly informed investors are vulnerable to being overcharged when they acquire shares in a firm or purchase inputs and services. Furthermore, these authors noticed that less efficient investment may result in poor knowledge of domestic markets by investors. Krol (1996) shows that using the time-averaged data in cross-sectional saving-investment regressions, like in Feldstein and Horioka (1980), biases results against capital mobility. This author re-estimated the investment-saving regression by using a panel data approach and controlling with country-size and international real business effects. He found small estimated slope coefficient b indicating that capital is mobile across countries. Accurately, Krol (1996) considered a sample of 21 OECD countries and found that only 20 percent of domestic saving remains within country to finance domestic investment on the period 1962-1990. The marginal-saving retention decreases to 16 percent on the period 1975-1990. Bilas (2007) analyzed whether capital is perfectly mobile in member countries of EU-15, ASEAN, MERCOSUR and NAFTA; testing Feldstein & Horioka’s generic equation on the period 1960-2003. Empirical findings show an average b coefficient of 0.51 for EU-15; 0.65 for ASEAN; 0.27 for MERCOSUR and 0.50 for NAFTA implying that there exist differences among

regional integration Communities and continents. Rocha (2007) highlighted that using panel data mitigates the Feldstein & Horioka puzzle. Indeed, the use of panel data takes into account specific effects (such as country size) and avoids bias toward low capital mobility resulting in the use of time-averaged data. Extending the saving-investment regression to country and time fixed effects, Rocha (2007) analyzes the capital mobility in 29 developing countries on the period spanning over 37 years, from 1960 to 1996. She found an estimated coefficient of 0.40 and rejected the hypothesis of imperfect mobility of capital. Comparing this result to existing literature, Rocha (2007) suggested that the high coefficient correlation in cross-section studies is not due to imperfect capital mobility but to the existence of specific individual country effects.

The above selected literature review shows how the question of international or regional capital mobility is still relevant. Indeed, the main results in the existing literature are not clear cut. Some of them find that capital is mobile while for others, it is immobile or indifferent between perfect and imperfect mobility of capital. Therefore, we wanted to analyze this issue in the SADC region.

2. CAPITAL MOBILITY WITHIN SADC AREA

Despite the fact that the common market in SADC is expected for 2015, we can assess how capital is mobile within this area. First, we test the Feldstein & Horioka puzzle as benchmark. Second, we use a panel data approach as in Rocha (2007) in order to control for both country and time fixed effects.

Indeed, controlling for these unobserved heterogeneity (institutional factors, preferences, etc) remove fixed differences among countries such as the size and time-related factors common to all countries of the sample.

2. 1. Specification

As in Rocha (2007), we specify the following linear panel data model:

$$(1) Y_{i,t} = \alpha_0 + \alpha_i + \alpha_t + \beta X_{i,t} + \varepsilon_{i,t}$$

where the dependent variable

$$(Y_{i,t} \equiv \frac{I_{i,t}}{GDP_{i,t}})$$

is the ratio of gross domestic investment to gross domestic product.

$$X_{i,t} \equiv \frac{S_{i,t}}{GDP_{i,t}}$$

is the ratio of gross domestic saving to gross domestic product in country *i* at time *t*. $\varepsilon_{i,t}$ is the error term. Our coefficient of interest β measures the correlation between domestic saving and domestic product. We control for country fixed effects, α_i and for time fixed effects, α_t . We estimate the fixed effect panel data model using the Least Square Dummy Variable (LSDV) approach. Our data set is a one year unbalanced panel running from 1980-2008. The data are from the World development Indicators of the World Bank. We run all regressions with STATA 10.

2. 2. Empirical results

Table 1 below shows how the correlation coefficient between investment

and saving is relatively low in SADC area. In fact, for the 15 sample countries during the whole sample period, our results show that domestic investment is financed by less than 8 percent of the domestic saving. The slope coefficient is statistically significant at 10 percent level. For sake of good presentation, country and time dummies are not reported to save space. The fixed effects OLS model are tested with Least Square Dummy Variable technique.

If we consider the period 1992-2008, only 5.3 percent of the domestic saving remains within the economy. However, the estimated coefficient is not statically significant. This non significance may result in the fact that truncating the whole period, we loose 40 % of observations.

We conducted the same empirical exercise when considering only the sample of 9 front-line countries of SADC in 1980 and the sample of 10 SADC-Front-line States afterwards, in 1992. Again, we loose at least 30 % of our original sample. We found that the correlation coefficient is respectively equal to 6.3 percent and 8.4 percent. Our findings suggest that capital is mobile within SADC area since the slope coefficient β is low; contrasting with the Feldstein & Horioka puzzle and with Rocha (2007). Furthermore, the proportion of the domestic investment explained by the model is 65.9; 68.8; 64.3; 67.4 percent respectively in the four above regressions.

2. 3. Discussion

Building upon our previous results, we may say that SADC area, at least when all the 15 members are considered together, has a high degree of interna-

Table 1: Investment (% of GDP)

	SADC-15 countries		SADCC-9 Front-Line countries	SADC-10 Front-Line countries
	(1)	(2)	(3)	(4)
	1980-2008	1992-2008	1980-2008	1992-2008
Saving (% of GDP)	0.078* (0.0457)	0.053 (0.076)	0.063 (0.057)	0.084 (0.101)
Constant	17.395*** (3.152)	17.976*** (4.175)	16.925*** (4.403)	19.242*** (5.017)
Time dummies	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes
R-squared	0.659	0.643	0.688	0.674
Observations	410	246	239	163
Number of countries	15	15	9	10

Notes: *** p<0.01; ** p<0.05 and * p<0.1. Robust standard errors are in parenthesis.

tional capital mobility before being a common market. Of course, this doesn't mean that capital mobility is high inside the region. This stylized fact is just a good signal in favor of financial integration in the region. Policymakers could plan to harmonize national financial systems to allow greater capital mobility among the country members. However, the general context of SADC countries has to be considered in order to strengthen this empirical evidence. We shall take into account the institutional quality aspects (corruption, rent seeking, bureaucratic red tape, etc) when analyzing the capital movements within a regional integration (Enowbi and Fabro, 2009). Indeed, a regional integration with better insti-

tutions will favor the free movements of factors of production in the sense that good institutions create an efficient economic environment. Weak or poor institutions do the opposite. The region has been confronted to a lot of political disturbances since the creation of SADCC (Apartheid in South Africa; liberation struggle in Angola, Mozambique and RDC, etc). Another concern refers to the existence of multiple and overlapping RTAs. Currently, some countries belong to two, three or four regional integration Groups. The fixed-effects panel data model has the implicit merit to control for all these unobserved heterogeneity. The further issue should be to explicitly account for them. In terms

of policy designing, the issue of solving this overlapping memberships in a somewhat short term in order to allow for deeper financial integration.

CONCLUSION

Several studies focus on the saving-investment nexus to assess the issue of international capital mobility. Their results diverge in their conclusions. Some of them find perfect mobility of capital, others conclude to perfect immobility while the last group has no clear cut findings between the two contradictory alternatives. Accordingly the debate remains fully relevant; hence our contribution on the SADC case using the saving-investment estimation. We controlled for country and time fixed effects as in Rocha (2007). We found a low correlation coefficient between domestic saving and investment. This indicates that only a small fraction of domestic saving finances the domestic investment. Accordingly, capital is mobile in the SADC region as country members are destination of foreign capital flows. One can then expect that policies designed to encourage intra-SADC capital mobility be successful. The issue should be more interesting if one investigates further it including additional factors influencing the business climate such as institutional ones.

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Table 2:
SADC key indicators
of 2009, unless

Country name	GDP total in USD	GDP/capita in USD	GDP (% of tot SADC)	Inflation rate (Consumer Prices)	Trade Balance in USD**	Trade Balance in % of GDP**	Population	Pop (% of SADC pop)	Gross savings in % of GDP	Gross capital formation in % of GDP	FDI, net inflows, % GDP
Angola	75492890278	1,85€-06	16,13	8,1	51680501760	68,46	18497632	6,86	10	15	34,23
Botswana	11822741858	6063,63	2,53	8	-427127381	-3,61	1949780	0,72	16	24	47,00
DRC*	10575489480	160,19	2,26	17,3	-1260201386	-11,92	66020365	24,49	NA	30	11,12
Lesotho	1578614711	763,75	0,34	7,2	-1180883968	-74,81	2066919	0,77	28	31	25,09
Madagascar	9051686680	461,23	1,93	9	3010891221	33,26	19625030	7,28	NA	34	6,54
Malawi	4974856180	325,93	1,06	8,4	-1329993280	-26,73	15263417	5,66	NA	22	82,30
Mauritius	8588729727	6734,55	1,83	2,5	-855841664	-9,96	1275323	0,47	17	21	33,46
Mozambique	9790246565	427,63	2,09	3,3	-1205896960	-12,32	22894294	8,49	9	21	11,11
Namibia	9264803489	4267,26	1,98	8,8	-1304533354	-14,08	2171137	0,81	27	27	18,90
Seychelles	764296578	8687,95	0,16	31,8	NA	NA	87972	0,03	9	24	3,07
South Africa	2,85366€+11	5785,99	60,97	7,1	-12121996970	-4,25	49320150	18,30	15	19	50,70
Swaziland	3000995335	2532,62	0,64	7,3	37952736	1,26	1184936	0,44	2	17	45,67
Tanzania	21623014292	494,36	4,62	12,1	-908862933	-4,20	43739051	16,23	NA	NA	52,16
Zambia	12747657530	985,49	2,72	13,4	121722005	0,95	12935368	4,80	12	20	18,23
Zimbabwe***	3418649314	272,99	0,73	NA	-809218069	-23,67	12522784	4,65	NA	NA	56,98
Total SADC	4,68061€+11		100		33446511757		2,7€+08	100			34,26

* Inflation = 2008 data / ** Estimates for 2009 from «Perspective Monde» (Stetrotrooke University) / *** Trade balance is an estimates for 2008 – NA stands for not available
Source: World Bank