Web Appendix of **Cape Verde and Mozambique as Development Successes in West and Southern Africa**

Jorge Braga de Macedo and Luís Brites Pereira[1]

Abstract: *This paper applies an interpretation of how globalization and governance (G&G) interact with convergence given Cape Verde and Mozambique's particular geographical and historical contexts. We hold that development success under globalization entails, necessarily but not exclusively, positive market perceptions regarding the orientation and predictability of policies as well as the accompanying institutional arrangements. As such, a positive G&G interaction with respect to a comparator group can usefully be defined as success notwithstanding the inexistence of a universally applicable development model. In practical terms, we first identify macro-level policy and institutional combinations underpinning successful trade diversification (an indicator of globalization) and income convergence (an indicator of governance) in the sub-regions of West and Southern Africa. We then assess to what extent these combinations apply to both countries using an empirical analysis. We find that trade openness drives convergence and export diversification in Western Africa (which is becoming more diversified) while convergence is instead driven by economic and political freedoms in Southern Africa (which is becoming more specialized). Our empirical analysis is complemented by a case-study narrative of Cape Verde and Mozambique's long-term development, which allows us to also identify the following common drivers: moving towards a market economy; opening up to regional and global trade; increasing economic and political freedom; pursing macroeconomic stability and financial reputation; ensuring policy continuity (especially in the industrial and trade sectors) and focusing on human development (especially education and poverty reduction). Moreover, both countries reveal convergence compared to their sub-regional peers when looking at average GDP per capita and indicators of financial reputation and good governance. While these findings are insufficient to conclude that convergence will be sustained, the positive interaction between trade and financial globalization, on the one hand, and good governance and democracy, on the other, may help explain the observed diversity of the Portuguese-speaking African community, which includes three other countries (Angola, Guinea-Bissau and São Tomé e Príncipe).*

Outline: Interpreting how globalization and governance interact with convergence; History and Geography; Analyzing the "economic convergence-trade diversification" relationship; Comparing Cape Verde and Mozambique.

JEL Classification: F12; F13; F15; O11

Keywords: Export diversification, Convergence, Governance, Africa, Cape Verde, Mozambique, Portuguese-speaking African Countries (PALOP)

Contacts:

Address:	Center for Globalization & Governance (CG&G)
	Faculdade de Economia, Universidade Nova de Lisboa - Campus de Campolide
	1099-032 Lisboa - Portugal
E-mails	jbmacedo@fe.unl.pt; lpereira@fe.unl.pt
Phone/Fax:	(+351) 21 380 1600 / (+351) 21 388 6073
Website:	http://cgg.fe.unl.pt

List of Tables

List of Figures

Appendix 1

Data description

Table A1.1 Summary statistics

Table A1.2 Correlations

Figure A1a, b, 1 through 8: Description of ECOWAS and SADC

1 Income Gap to Frontier, Country and U.S. GDP per capita, constant 2000 USD;

2 Number Equivalent Index at 1,2,3,4,5 digit SITC;

3 Inflation in consumer prices;

4 Government Surplus/Deficit % GDP;

5 Degree of openness, Exports plus Import % GDP;

6 Political Freedom;

7 Economic Freedom;

8 Life expectancy at birth.

Appendix 2

Figure A2.1a, b (panels 1 GDP growth, 2 and 7 as above): Comparison of High and Low Regimes in ECOWAS, SADC.

Tables A2.2a, b: Determinants of Diversification in ECOWAS, SADC OLS and 2SLS

Tables A2.3a, b: Determinants of Convergence in ECOWAS, SADC OLS and 2SLS

TABLES

Table 3.1: Statistics capacity index

Angola	**34**
Cape Verde	**63**
Egypt	**83**
Ethiopia	**78**
Guinea Bissau	**39**
Mauritius	**74**
Mozambique	**62**
Sao Tome e Principe	**55**
South Africa	**78**
Tunisia	**71**

Source: AEO (2010, p. 47)

Table 3.2: Relative sizes in 2003

	GDP	POP	YCAP
CPV/ECOW	0,3%	0,2%	168%
ECOW/SSA	32%	31%	105%
MOZ/SADC	9%	11%	88%
SADC/SSA	41%	25%	166%
SSA/AFR	64%	86%	74%
AFR/WORLD	3%	14%	24%
CPLP/WORLD	3%	4%	82%
PALOP/CPLP	4%	14%	25%

Source: Maddison database

Table 3.3: Diversification index in PALOP

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVG
ANG	1	1	1	1	1	1	1	1	1	1	1	1	1
CV	15	10	6	8	9	6	15	14	9	11	15	6	10
GB	2	4	3	2	2	3	2	2	1	2	1	1	2
MZ	7	8	8	9	7	4	3	3	3	3	4	6	5
STP	3	3	5	4	7	3	3	6	4	5	5	2	4

Source: from 2004 AEO (2010); latest from previous issues

Table 3.4: Economic Freedom Index in PALOP

	2010	2009	2008	2007	2006	2005	2004	2003
CV	62	61	58	57	59	58	58	56
MZ	56	56	57	56	53	56	57	59
A	48	47	47	45	44	-	-	-
GB	44	45	45	45	47	47	42	43

Source: AEO (2010, p.75, from Heritage Foundation)

Table 3.5: Corruption Perception Index in PALOP

	RANK	INDEX	RANK	INDEX	RANK	INDEX		INDEX
	2009	2009	2008	2008	2007	2007	YEAR	
CV	46	5,1	47	5,5	53	4,7	-	-
STP	111	2,8	121	2,7	118	2,7	-	-
M	130	2,5	126	2,6	111	2,8	2003	2,7
GB	162	1,9	158	1,9	143	2,3	-	-
A	192	1,9	158	1,9	147	2,2	2002	1,7

Source: AEO from Transparency International (2010, pp. 73, 274-275), previous issues

Table 3.6. Annual change in number equivalent Herfindahl Index
Cape Verde vs. ECOWAS, Mozambique vs SADC

	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	*1976-2005*
ECOWAS	0,11	-0,02	-0,02	0,05	0,04	**-0,01**	-0,12	0,21	**-0,03**	0,02
Cape Verde				**0,77**	**0,48**	-0,47	**0,19**	**0,27**	-0,16	**0,18**
SADC	-0,87	-0,32	-0,04	**0,29**	-0,11	**0,04**	**0,02**	-0,05	**-0,01**	-0,1
Mozambique	**0,75**	**0,1**	**0,14**	-0,17	**0,21**	-0,34	-0,62	-0,05	-0,48	**-0,07**

Source: calculated from Cabral and Veiga (2010, graphs 7-8)

Table 3.7: World Bank Governance Indicators (1996-2007)

	CV	**ECOWAS**	**MOZ**	**SADC**
Rule of Law	**0.48**	-0.75	-0.74	-0.44
Voice and Accountability	**0.65**	-0.51	**-0.08**	-0.30
Political Stability, Absence of Violence/Terrorism	**0.96**	-0.49	**0.05**	-0.24
Government Effectiveness	**0.11**	-0.77	**-0.33**	-0.38
Regulatory Quality	**-0.25**	-0.65	-0.47	-0.45
Control of Corruption	**0.33**	-0.66	-0.65	-0.39

Source: updated from IICT (2007), same as Lopes and Santos (2010, tables 1a, b);
note data are fitted to a normal distribution centered on zero

Table 4.1a. ECOWAS – 3SLS Estimation Results

Variable Type	Variable	LOW-Regime Sub-sample		FULL Sample		HIGH-Regime Sub-sample	
		lnygap	lnneq5	lnygap	lnneq5	lnygap	lnneq5
Policy	lnygap		-0.569***		-0.398***		-0.751***
			(-3.326)		(-3.812)		(-4.000)
	lnneq5	-0.0972		0.189**		-0.646***	
		(-1.139)		(2.409)		(-3.798)	
	inflation1	-0.0344**	0.0530*	-0.0368***			
		(-2.491)	(1.799)	(-3.400)			
	govdef	0.000174	0.0457***			-0.00618	-0.0153**
		(0.0435)	(4.744)			(-1.407)	(-2.291)
	lnopen1					-0.185**	-0.229**
						(-2.112)	(-2.156)
Institutional	lnprcl	-0.0147	-0.157	-0.172***	0.0620	-0.0477	0.299**
		(-0.339)	(-1.646)	(-2.723)	(0.579)	(-0.395)	(2.157)
	lnef	0.114	0.399*	-0.497***	0.840***	0.201	1.610***
		(1.487)	(1.888)	(-2.606)	(2.710)	(0.456)	(2.923)
	demage	-0.0319***		-0.0312***	-0.0444*		
		(-3.498)		(-2.963)	(-1.879)		
	demtot			0.00804***			
				(11.12)			
	dictrans		-0.179**				
			(-2.459)				
Control	lnk	-0.107***		-0.0879***			
		(-4.441)		(-3.290)			
	lnltotal					0.961***	
						(4.396)	
	lnpopdens				0.191***		
					(3.293)		
Dummies	capcont		0.666***		0.552***		
			(5.132)		(3.193)		
	landlock	0.345***		0.322***	0.322***		
		(7.128)		(4.163)	(4.163)		
	oil			-0.427***	-0.427***	-3.601***	
				(-7.158)	(-7.158)	(-4.657)	
	cpv			-0.299***	0.438**		
				(-3.267)	(2.346)		
	sen			-0.370***	0.504***	-2.827***	0.473***
				(-6.040)	(4.982)	(-3.871)	(6.759)
	legaleng			-0.108**		-2.418***	
				(-2.347)		(-4.918)	
	Constant	6.254***	2.790***	5.469***	0.904	-5.875**	2.334*
		(14.00)	(3.268)	(11.34)	(1.426)	(-2.359)	(1.828)
Model Diagnostics	Observations	40	40	99	99	32	32
	R-squared	0.860	0.703	0.876	0.604	0.866	0.688
	F test	30.87	13.95	62.61	18.63	44.60	14.27
	Prob > F	0	0	0	0	0	0

t-statistics in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4.1b. SADC – 3SLS Estimation Results

Variable Type	Variable	LOW-Regime Sub-sample		FULL Sample		HIGH-Regime Sub-sample	
		lnygap	lnneq5	lnygap	lnneq5	lnygap	lnneq5
	lnygap		1.340***		-0.782***		-1.067***
			(6.654)		(-9.407)		(-6.012)
	lnneq5	0.617***		-0.276**		-0.659***	
		(6.624)		(-2.571)		(-5.961)	
Policy	inflation1	0.0533***	-0.0765**				
		(2.662)	(-2.532)				
	govdef			-0.0399***	-0.0517***	0.0259	0.0649***
				(-6.492)	(-4.202)	(1.322)	(2.836)
	lnopen1	0.779***	-1.160***	-0.276	-0.691***		
		(6.829)	(-7.293)	(-1.622)	(-2.813)		
Institutional	lnprcl	-0.812***	1.070***	-0.147**	-0.182**	-0.396***	-0.323**
		(-10.64)	(5.112)	(-2.458)	(-1.969)	(-4.609)	(-2.028)
	lnef	-1.171***	1.751***	0.766***	1.526***	-2.386***	-2.306***
		(-6.261)	(6.795)	(4.175)	(6.154)	(-6.059)	(-2.991)
	constage				0.00610**		
					(2.537)		
	demage	0.121***	-0.169***		-0.0179*		
		(5.235)	(-4.294)		(-1.686)		
	demtot	0.0127***	-0.0160***				
		(8.015)	(-3.998)				
Control	lnk			-0.412***			
				(-9.979)			
	lnltotal			0.379***	0.419***		
				(6.551)	(4.502)		
Dummies	landlock			0.152*	0.859***		
				(1.806)	(4.352)		
	mus			-0.833***		-0.972***	-1.578***
				(-5.429)		(-4.263)	(-9.644)
	moz			-0.728***	-1.313***		
				(-4.403)	(-4.507)		
	legaleng				-0.750***		
					(-3.485)		
	Constant	1.856***	-2.137**	6.939***	-1.130	9.409***	10.55***
		(3.672)	(-2.285)	(5.027)	(-0.488)	(12.76)	(5.822)
Model Diagnostics	Observations	39	39	156	156	51	51
	R-squared	0.850	0.645	0.893	0.530	0.847	0.745
	F test	48.47	19.68	150.1	30.28	76.55	38.08
	Prob > F	0	0	0	0	0	0

t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 5.1 Nominal and Real Effective Exchange Rates based on Consumer Prices

	CVP NEX	CVP R CPI	MOZ NEX	MOZ R CPI
1990	85	100	8	70
1991	86	95	13	84
1992	83	93	23	107
1993	94	103	33	114
1994	96	104	52	113
1995	95	98	81	117
1996	100	100	100	100
1997	107	100	97	92
1998	112	102	99	94
1999	115	102	104	97
2000	124	116	115	99
2001	125	117	154	124
2002	122	114	181	127
2003	112	105	199	126
2004	106	104	198	114
2005	106	107	202	112
2006	106	104	224	112
2007	101	97	238	113
2008	98	91	232	103
2009	100	91	244	105
2010	91	81	243	96
2011	91	80	243	94

Table 5. 2: MDGs in PALOP before and after crisis

# Indic	1 pov	2 schl	3 rat	4 <5m	5 mm	6 dis	7 wat	# sat
A	S	R	S	R	R	R	C	1
CV	A	R	A	A	A		A	5
GB	R	S	S	R	R	R	A	1
M	S	C	S	S	S	R	S	1
STP	R	A	A	S	R		A	3
#% sat	1	2	2	1	1	0	4	31%
2007								
A	C							1
CV		C	C	C				3
GB								0
M	C							1
STP	C	C		C		C		4
#% sat	3	2	1	2	0	1	0	26%
2009								
A	R	S	S	S	S	R	S	0
CV	R	A	A	S	A		C	4
GB	S	A	A	S	S	S	A	3
M	S	C	C	S	S		S	2
STP	R	R	S	S	R	S		0
#% sat	0	3	3	0	1	0	2	26%
2010								
A	S	S	R	S	R	S	S	0
CV	A	R	S	A	S	S	A	3
GB	R	S	S	S	R	S	S	0
M	S	C	S	C	A	R	S	3
STP	R	A	A	S	R		C	3
#% sat	1	2	1	2	1	0	2	26%

Source: 1st Panel Macedo et al (2007); others AEO of year indicated
Note: A achieved/early achiever; C on course/on track; S slow progress/off track;
R regress satisfactory=A+C

Table 5.3: Millennium Development Goals

1 Share of poorest quintile in national consumption (%)

Cape Verde	4.4	1990-2003
ECOWAS	5.3	
Mozambique	5.5	1991-2004
SADC	5.0	

2 Net enrolment ratio in primary education

	1991-2006	1991-1999	2000-2006	90's-00's
Cape Verde	942	953	938	-1,5%
ECOWAS*	575	508	602	9,5%
Mozambique	614	470	663	19,3%
SADC**	808	720	835	11,5%

* except Sierra Leone

**excluding Angola and DR Congo due to insufficient data

3 Ratio of girls to boys in primary education

Cape Verde	95	95	96	0,6%
ECOWAS	80	75	81	7,8%
Mozambique	79	74	81	9,0%
SADC	91	92	91	-1,4%

4 Children under five mortality rate per 1,000 live births

	1990	1995	2000	2005	2006
Cape Verde	60	50	42	35	34
ECOWAS	213	207	190	181	179
		90's	00's	90's-00's	
Mozambique		224	154	-7,0%	
SADC		155	143	-1,2%	

5 Maternal mortality ratio per 100,000 live births 2005

Cape Verde	210
ECOWAS	1027
Mozambique	520
SADC	819

6 Tuberculosis incidence rate per year per 100,000 population

	90's	00's	90's-00's
Cape Verde	1642	1672	0,0%
ECOWAS	2076	2817	0,7%
Mozambique	2854	4330	1,5%
SADC	3066	4708	1,6%

7 Proportion of population using an improved drinking water source

	90's	00's	90's-00's
Cape Verde	79	80	1,0%
ECOWAS	52	57	4,2%
	1995	2000	2006
Mozambique	39	41	42
SADC	57	60	63

8 Debt service as a %age of exports of goods and services

	1990-1994	1995-1999	2000-2006
Cape Verde	136	118	82
ECOWAS	171	179	102
Mozambique	238	252	33
SADC*	132	121	71

*Except Zimbabwe, Zambia and DR Congo

Source: same as Table 3.7

Table 5.3: World Bank Enterprise Survey

1. International Trade (=5, best/worst)

country/ comparator	CV	MZ	SSA	SAD	ECW	LOP	code
Exporting Firms	**4**	6	13	16	11	5	%
Time Imports	11	11	11	10	10	**17**	Day
Import License Days	6	13	18	**21**	16	15	Day
Foreign Technology	**2**	33	11	16	8	12	%
Foreign Shareholder	**10**	20	19	25	12	14	%

2. Infrastructure (=5, best/worst)

country/ comparator	CV	MZ	SSA	SAD	ECW	LOP	code
# Electricity Outages	**21**	3	14	12	16	10	#/mo
# Internet Outages	4	3	46	32	**86**	3	#/mo
# Water Outages	**13**	4	8	6	9	7	#/mo
Transportation	36	37	44	35	**49**	40	%bad
Access to Land	19	26	34	31	**36**	28	%bad

3. Finance, Competition, Education (best/worst)

country/ comparator	CV	MZ	SSA	SAD	ECW	LOP	code
Credit Line	47	**13**	24	24	20	17	%good
Investment Own Funds	**51**	88	77	74	80	78	%good
Access to Finance	48	62	60	51	**68**	64	%bad
Number Competitors	4	3	4	4	4	4	#
Education Workers	**43**	33	34	37	28	32	%bad

4. Institutions - stability, corruption, rule of law (best/worst)

country/ comparator	CV	MZ	SSA	SAD	ECW	LOP	code
STAB Crime theft and disorder	47	**50**	41	49	35	45	%bad
CORR Corruption	25	37	46	43	**48**	42	%bad
CORR Informal Payments	0	2	**5**	3	5	2	%bad
JUST Sales on Credit	30	19	29	**36**	25	19	%bad
JUST Government Predictability	**59**	21	49	50	47	29	%good
JUST Court Impartiality	**62**	15	44	46	44	30	%good
JUST Legal conflict resolution	**29**	14	23	21	25	27	%bad

5. Quality of regulation (best/worst)

country/ comparator	CV	MZ	SSA	SAD	ECW	LOP	code
Time Senior Mgt Regulations	**14**	4	7	8	8	7	%bad
Tax administration	41	31	46	36	**48**	36	%bad
Tax rates	**74**	53	59	51	61	57	%bad
Licensing Permits	29	30	33	29	33	**37**	%bad
Labor Regulations	**28**	17	20	21	16	18	%bad
Customs & Trade Regulations	**38**	26	33	28	30	33	%bad

Source: World Bank Enterprise Survey, courtesy of Francisco Queiró

**Figure 3.1 PALOP vs SSA - GDP per capita 1990 international K$**
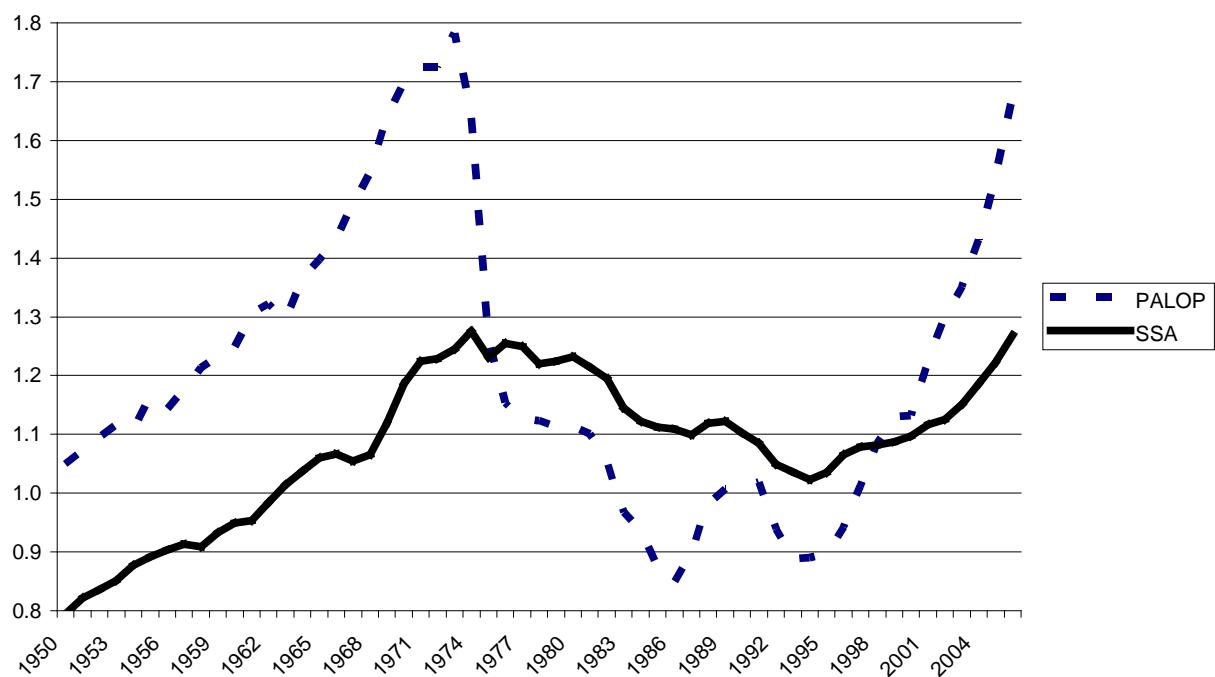
Figure 3.2a Cape Verde and ECOWAS GDP per capita in international $
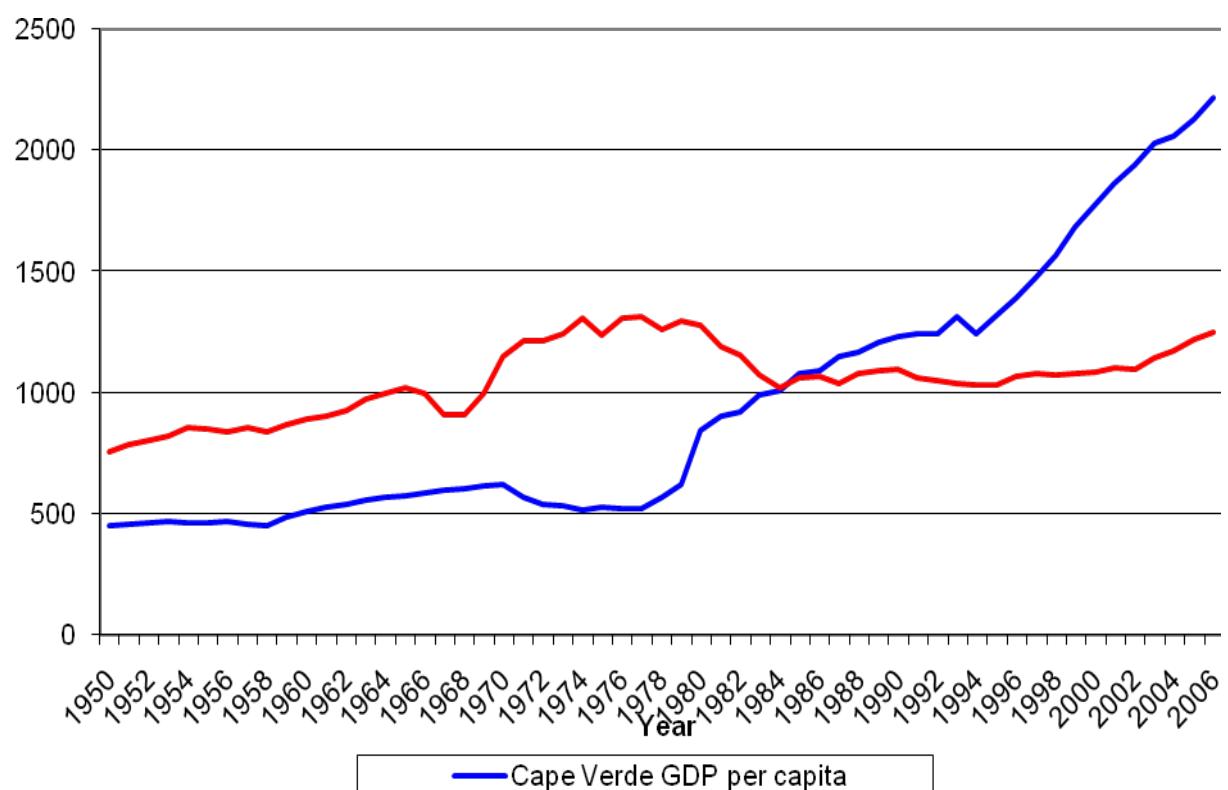
Figure 3.2b Mozambique and SADC GDP per capita in international $
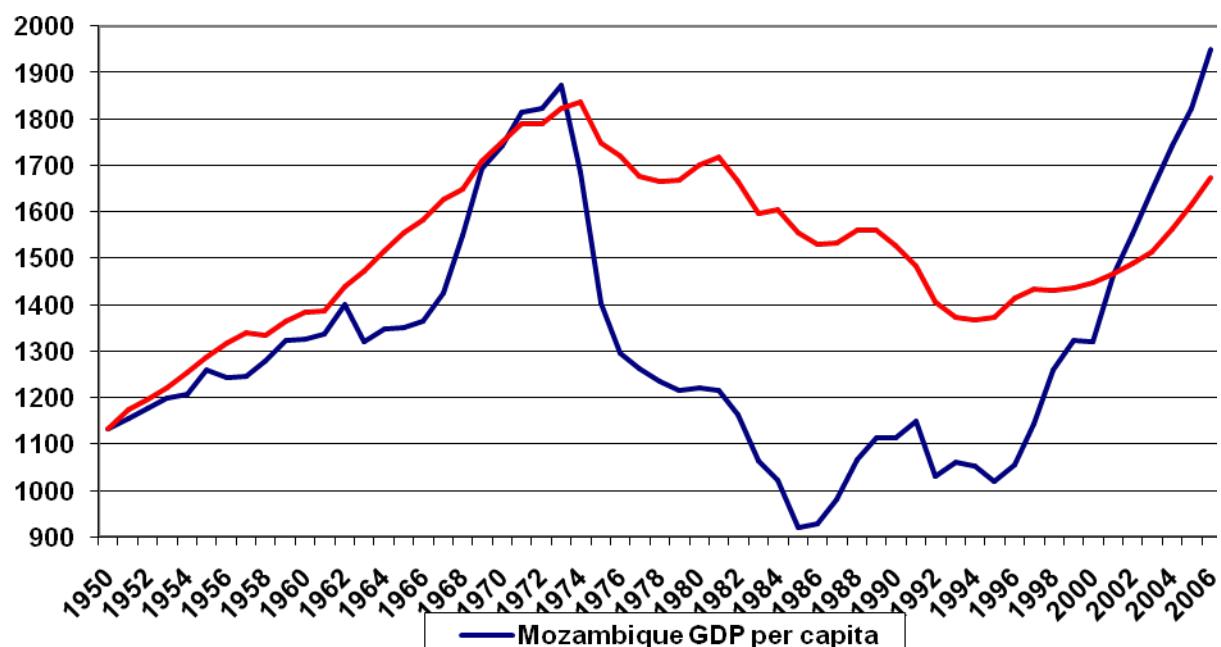

Figure 3.3 Political (thick) and Economic (thin) Governance index in Mozambique
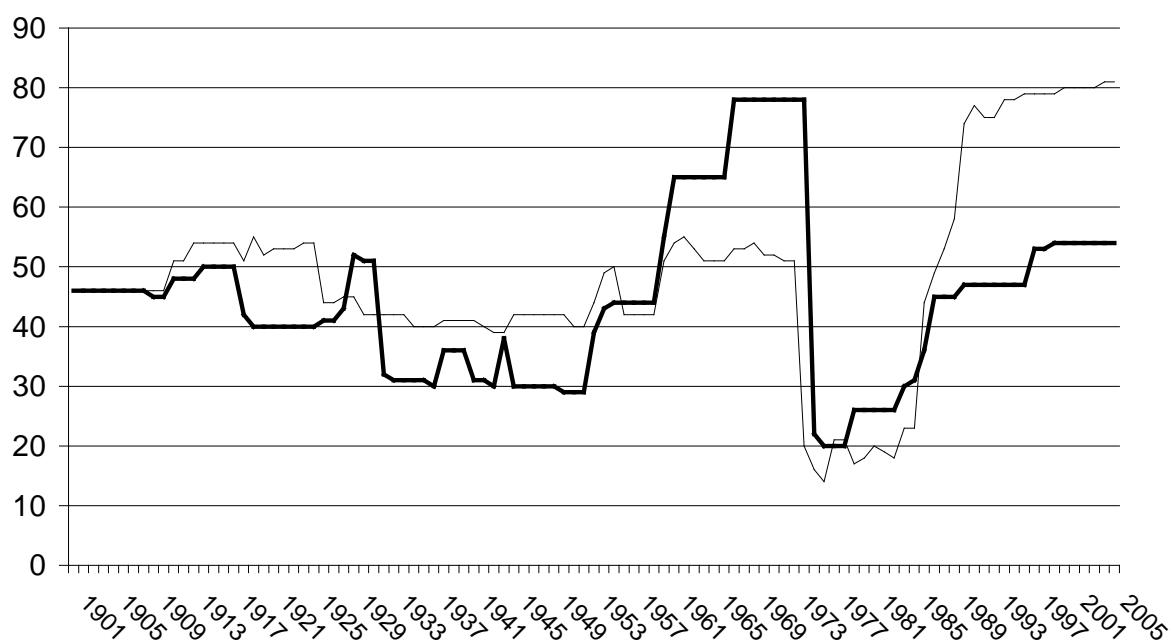
Source: Luiz, Pereira and Oliveira (2010)

Figure 4.1a: Cape Verde: Relation between Income Gap and Number Equivalent


CAPE VERDE
INCOME GAP TO FRONTIER & NUMBER EQUIVALENT

CAPE VERDE vs. ECOWAS
INCOME GAP TO FRONTIER

CAPE VERDE vs. ECOWAS
NUMBER EQUIVALENT
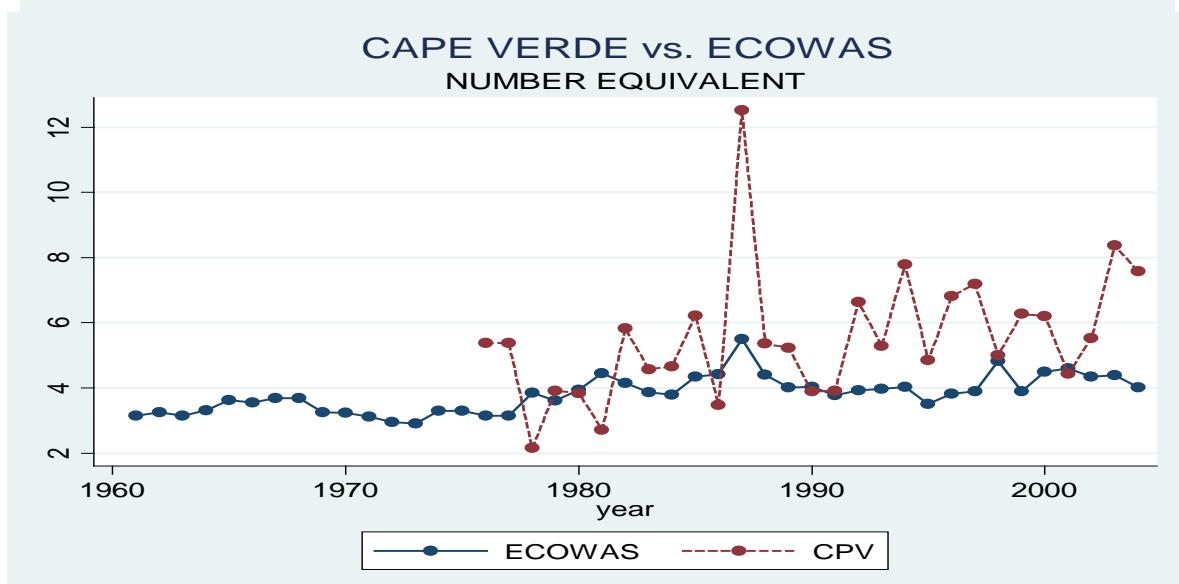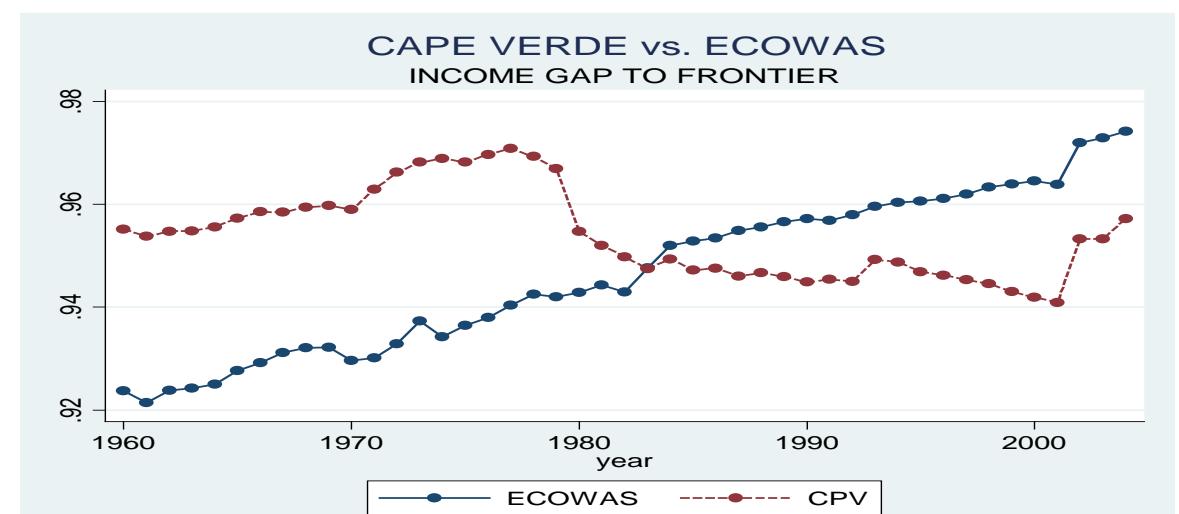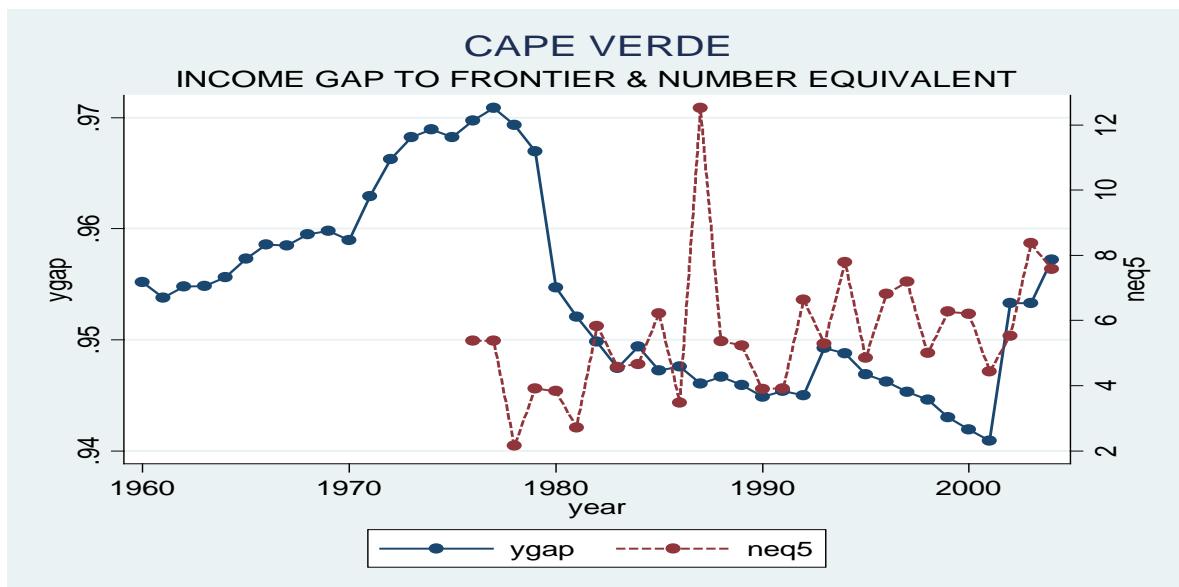
Figure 4.1b: Mozambique: Relation between Income Gap and Number Equivalent
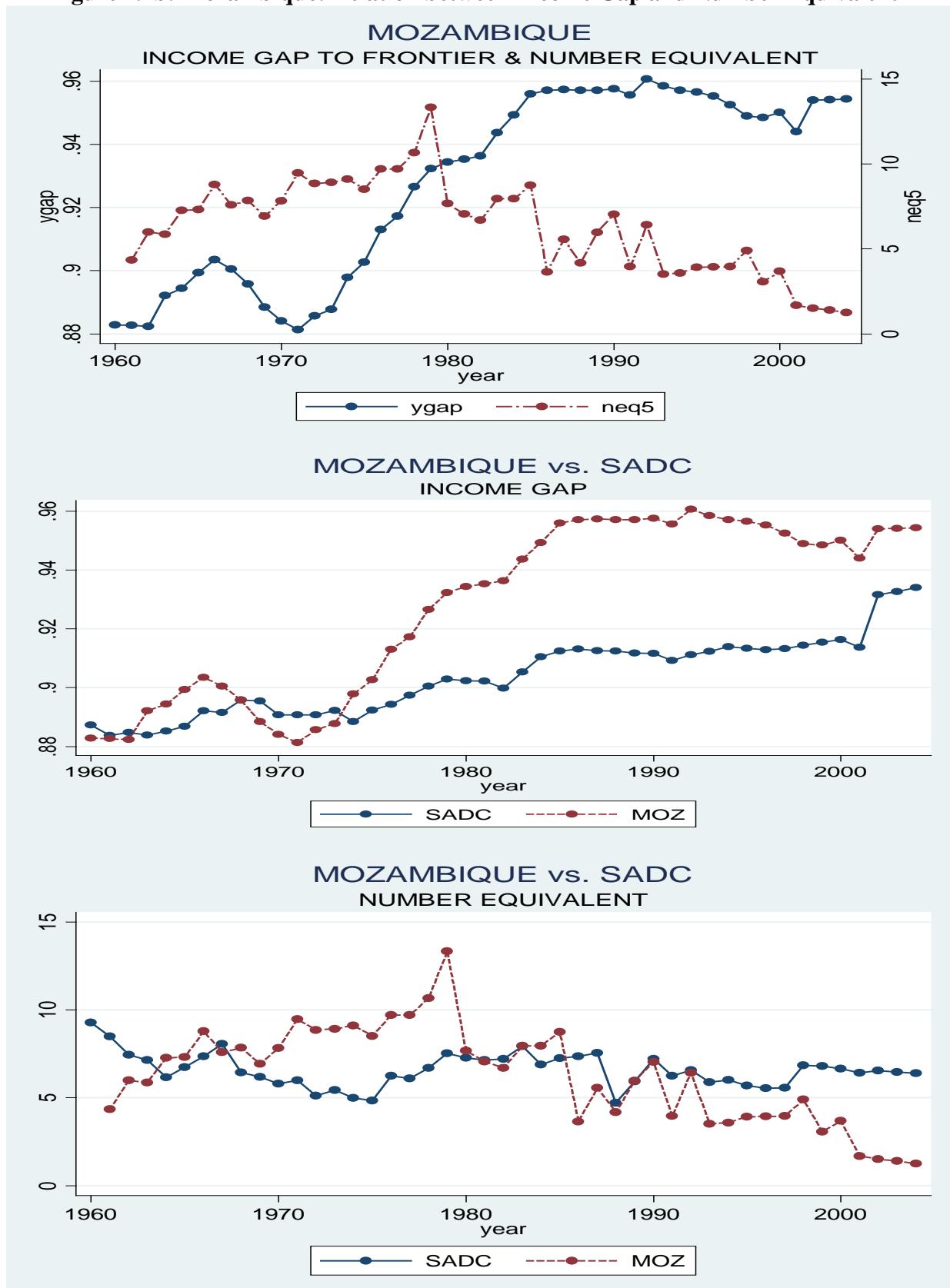
**Figure 4.2a: Relation between Income Gap and Number Equivalent in ECOWAS**
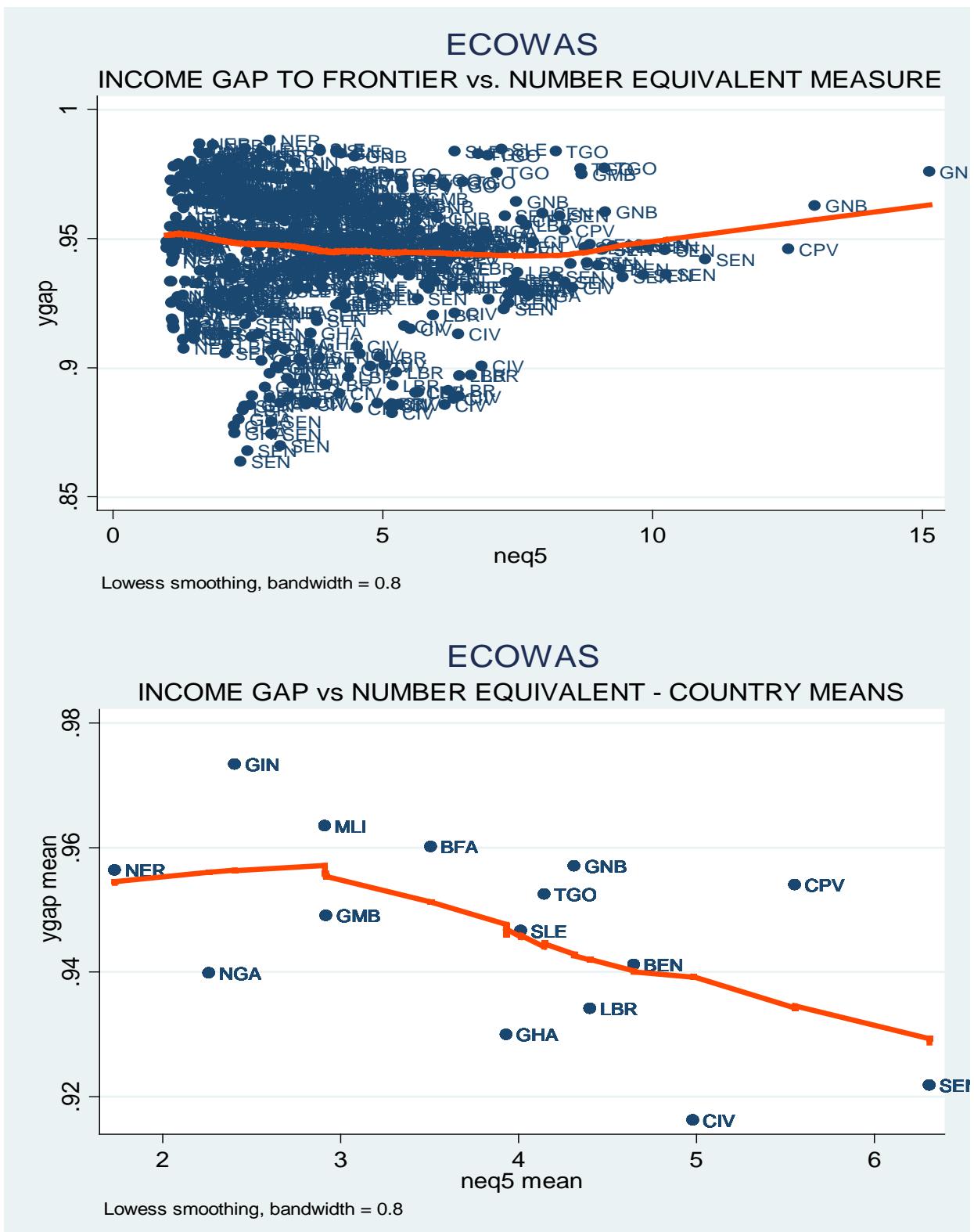
**Figure 4.2b: Relation between Income Gap and Number Equivalent in SADC**
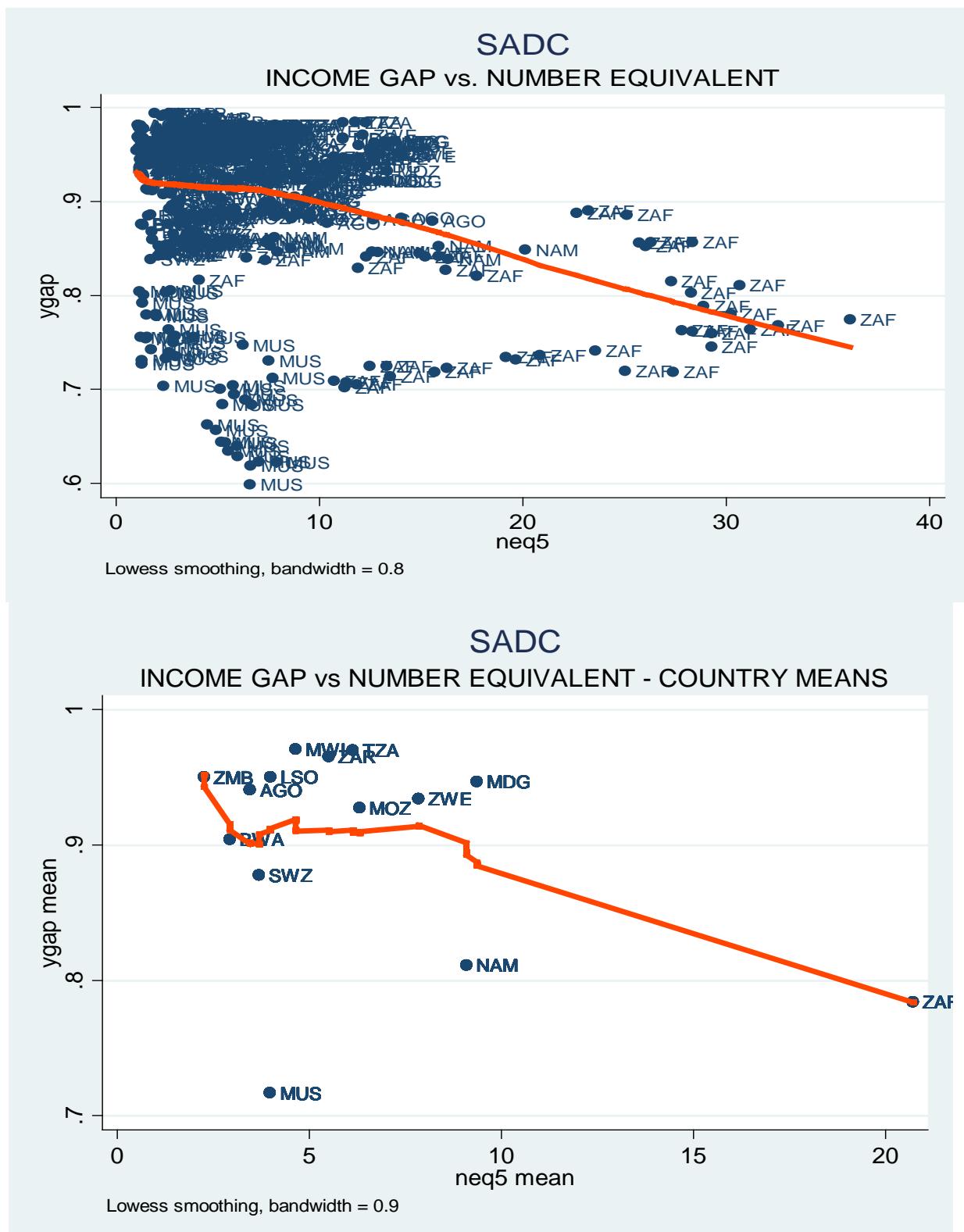
Figure 4.2b: (continued): Relation between Income Gap and Number Equivalent in SADC
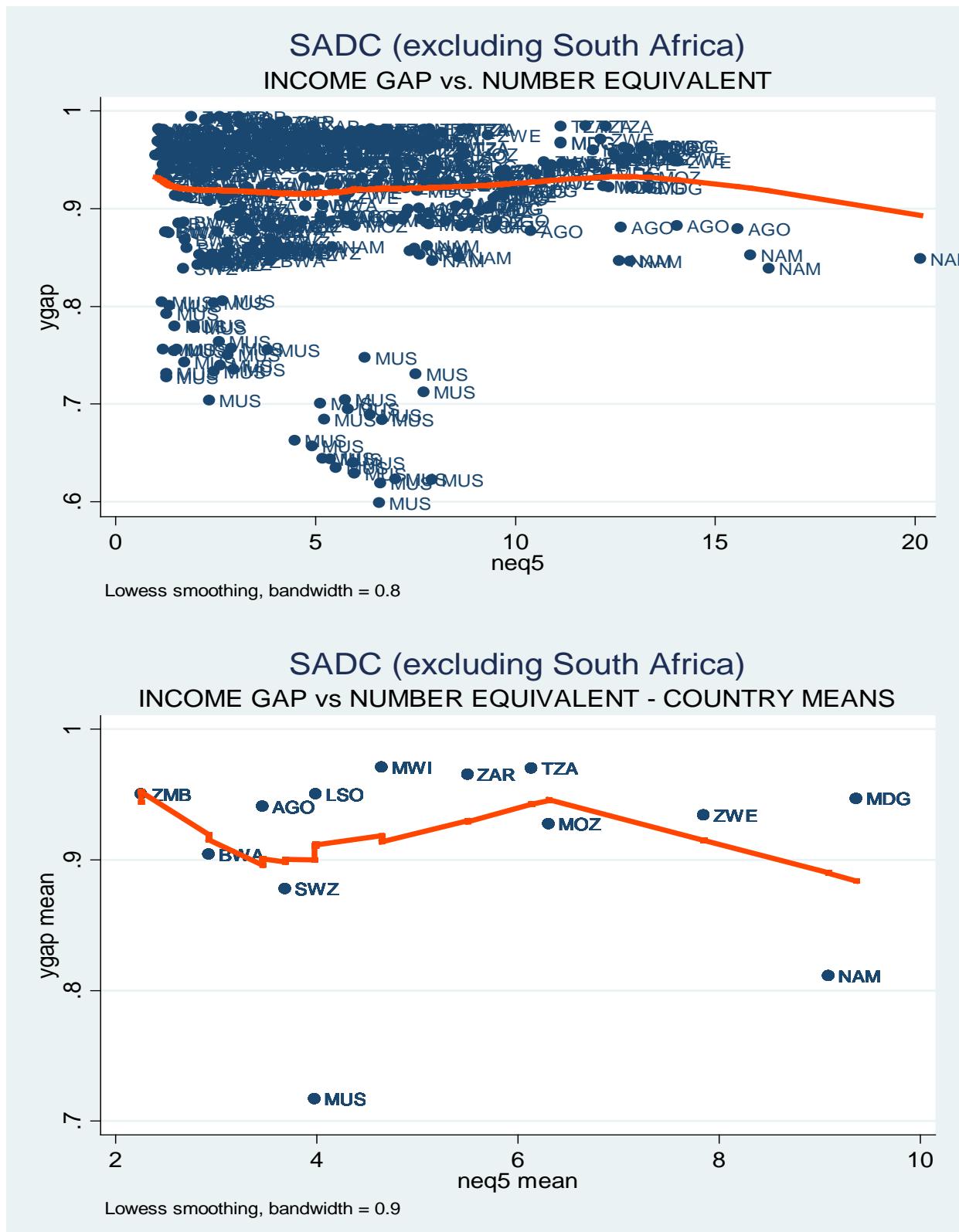
Figure 4.3a: Relation between Income Gap and Government Deficit in ECOWAS

ECOWAS
INCOME GAP vs. GOVERNMENT DEFICIT (% GDP)

Lowess smoothing, bandwidth = 0.8

ECOWAS
INCOME GAP vs GOVERNMENT DEFICIT - COUNTRY MEANS

Lowess smoothing, bandwidth = 0.8
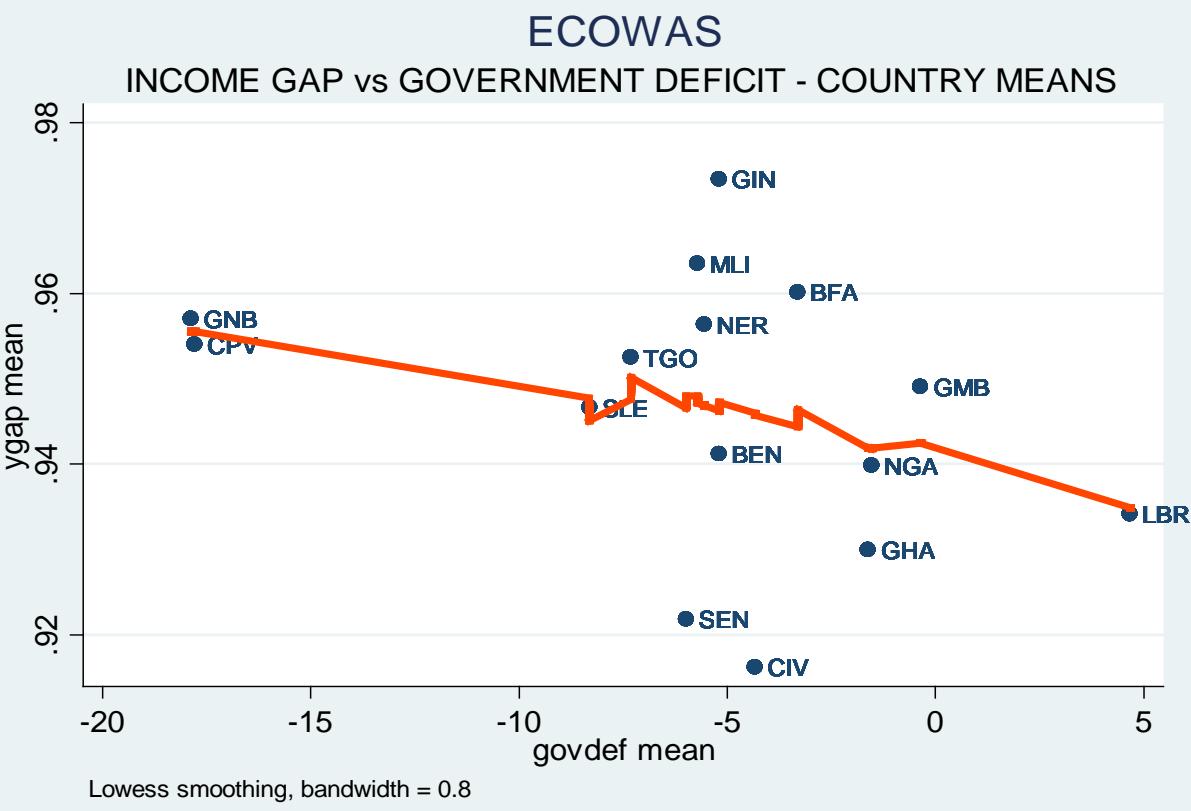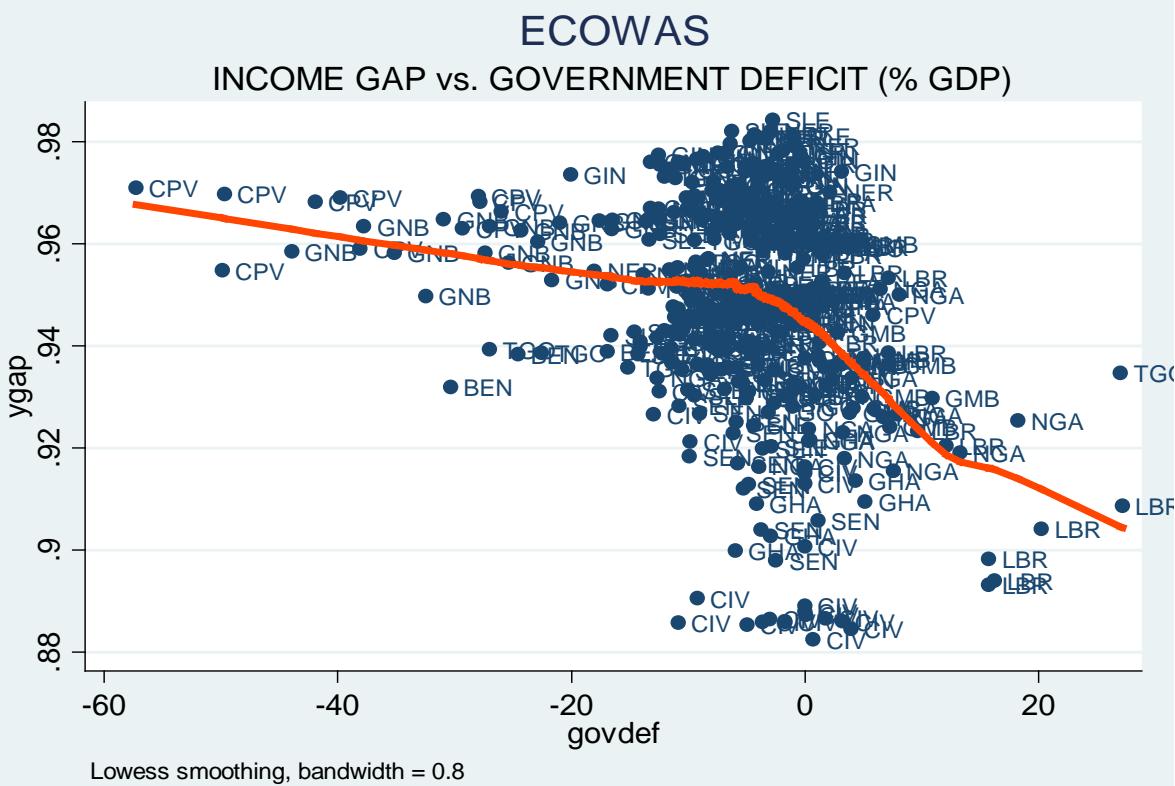
Figure 4.3a (continued): Relation between Income Gap and Government Deficit in ECOWAS

ECOWAS

INCOME GAP vs GOVERNMENT DEFICIT - TIME MEANS

Lowess smoothing, bandwidth = 0.8
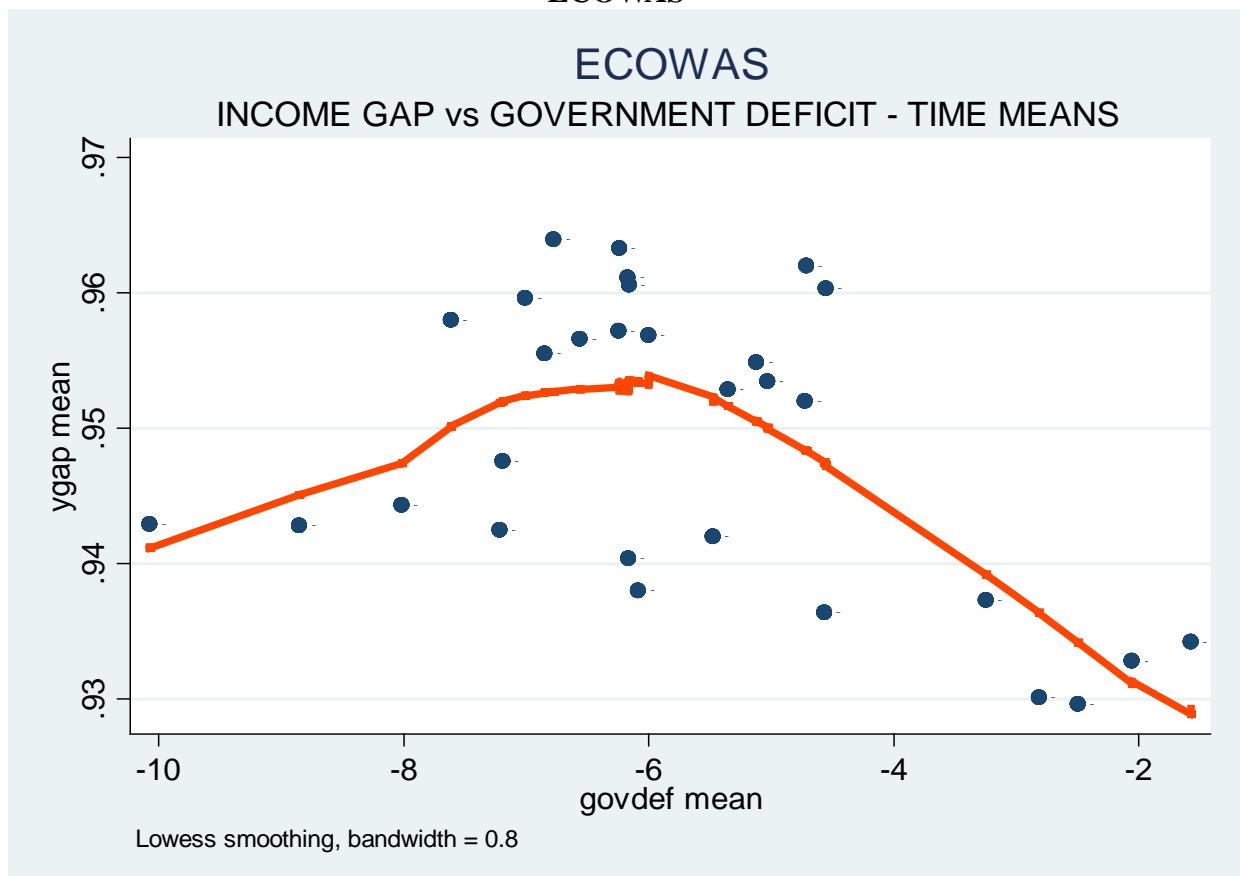
Figure 4.3b: Relation between Income Gap and Government Deficit in SADC

SADC
INCOME GAP vs. GOVERNMENT DEFICIT (% GDP)

Lowess smoothing, bandwidth = 0.8

SADC
INCOME GAP vs GOVERNMENT DEFICIT - COUNTRY MEANS

Lowess smoothing, bandwidth = 0.8
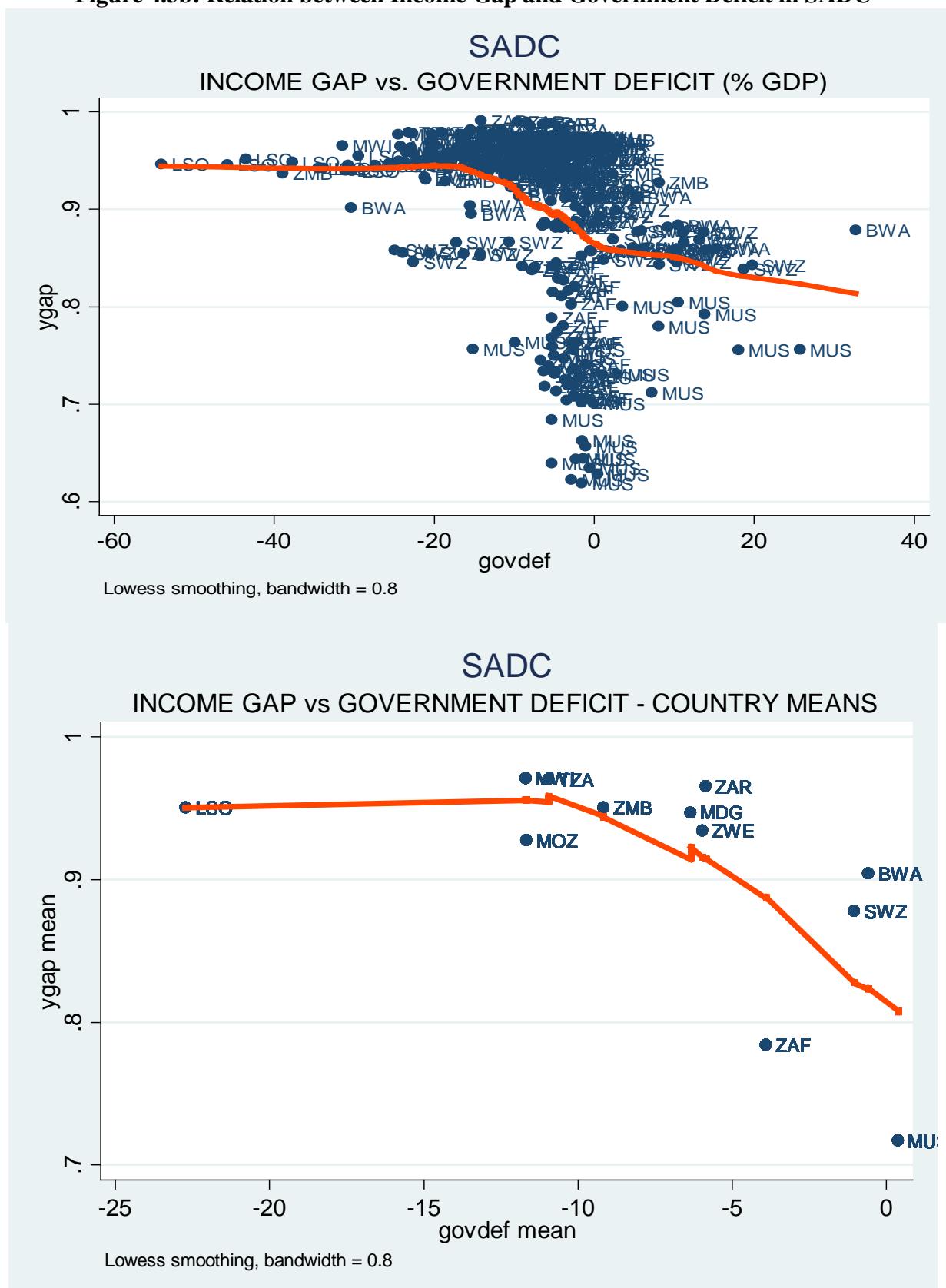
Figure 4.3b (continued): Relation between Income Gap and Government Deficit in SADC

SADC

INCOME GAP vs GOVERNMENT DEFICIT - TIME MEANS

Lowess smoothing, bandwidth = 0.8
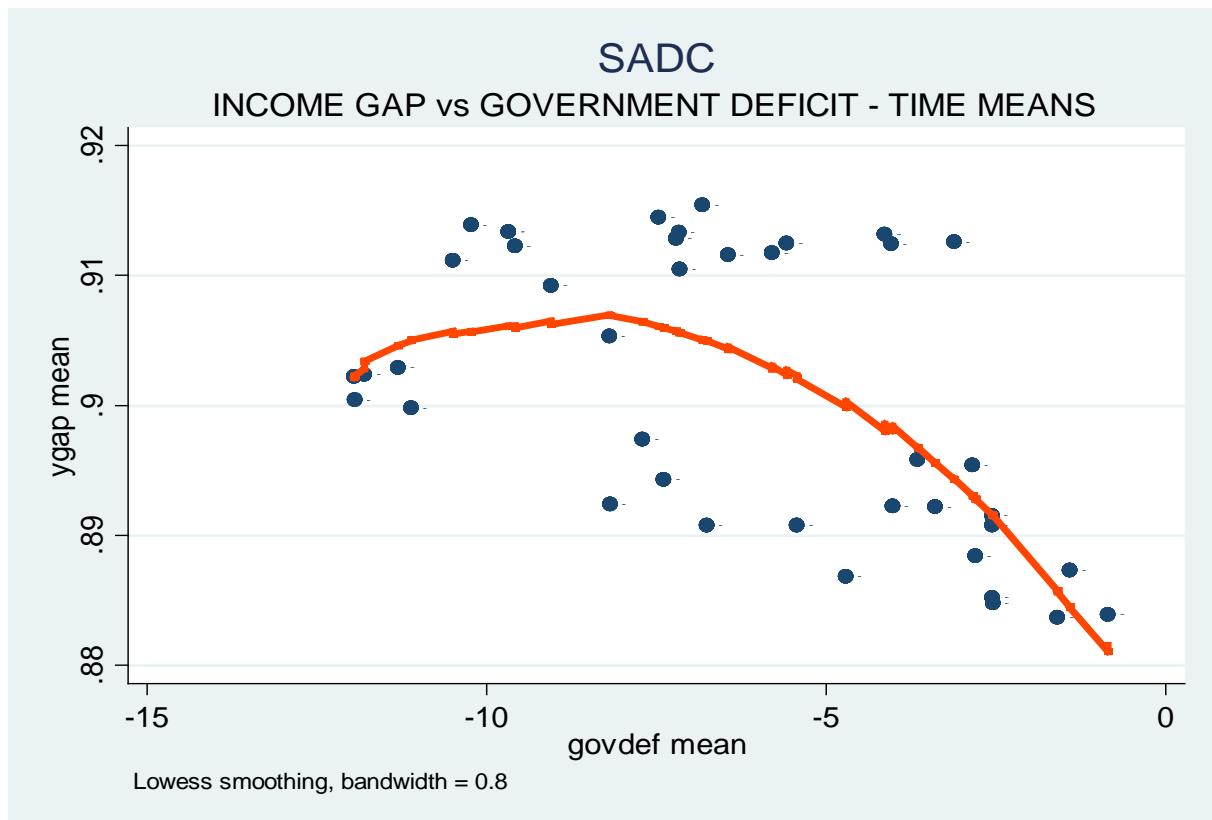
Figure 4.4a: Relation between Economic and Political Freedoms in ECOWAS
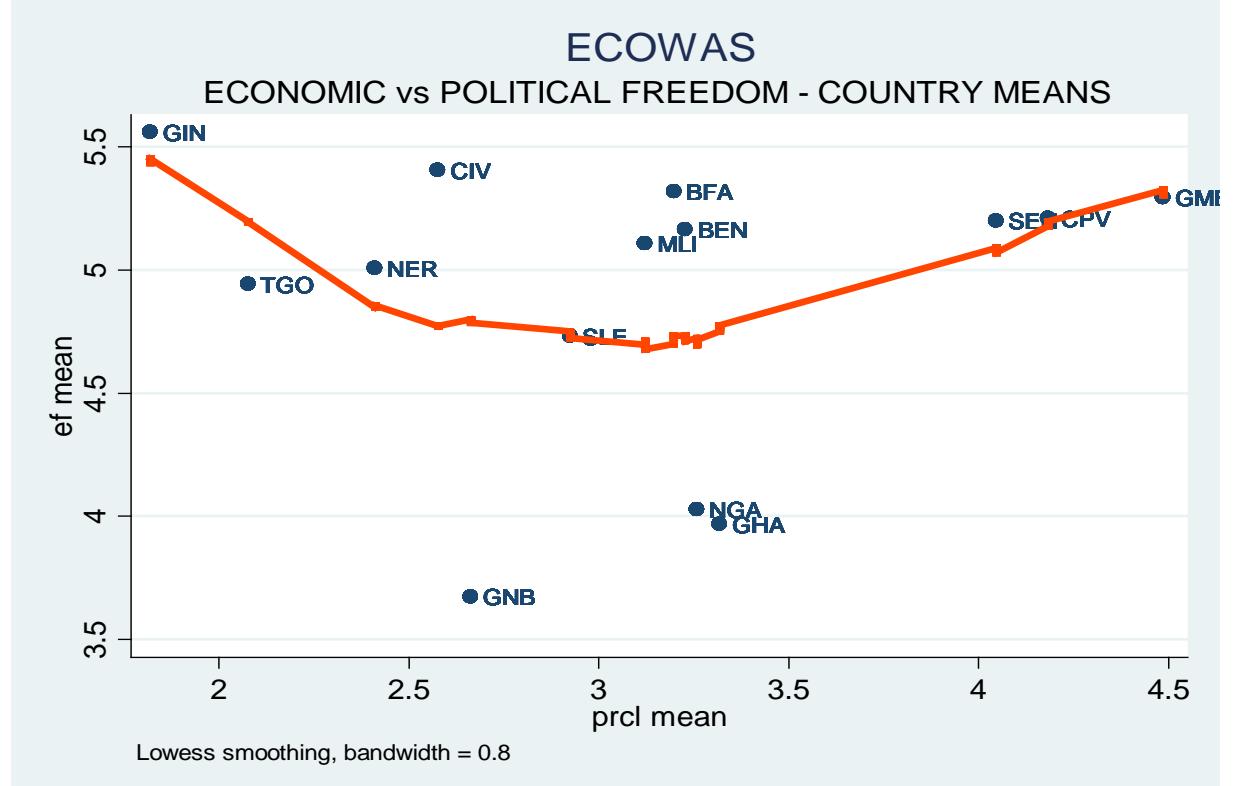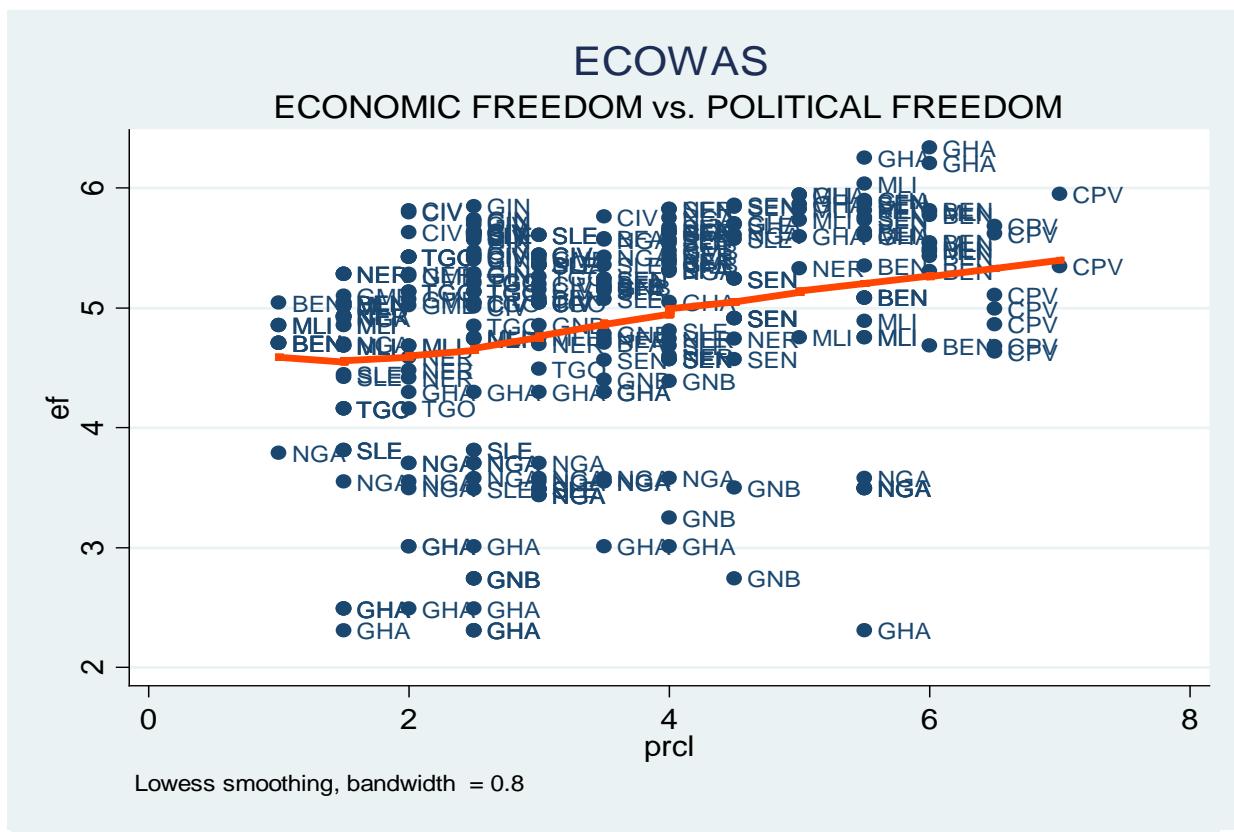
Figure 4.4a (continued): Relation between Economic and Political Freedoms in ECOWAS

ECOWAS
ECONOMIC vs POLITICAL FREEDOM

Lowess smoothing, bandwidth = 0.8
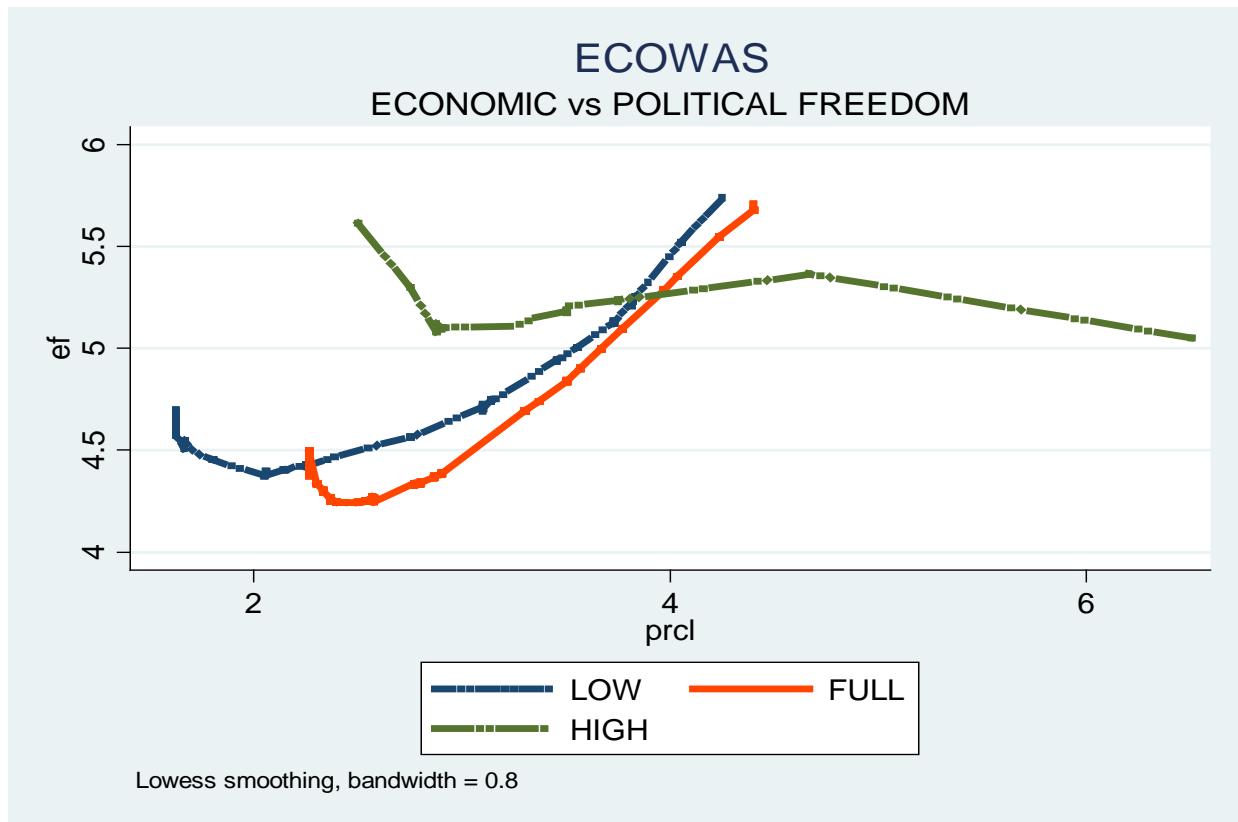
Figure 4.4b: Relation between Economic and Political Freedoms in SADC
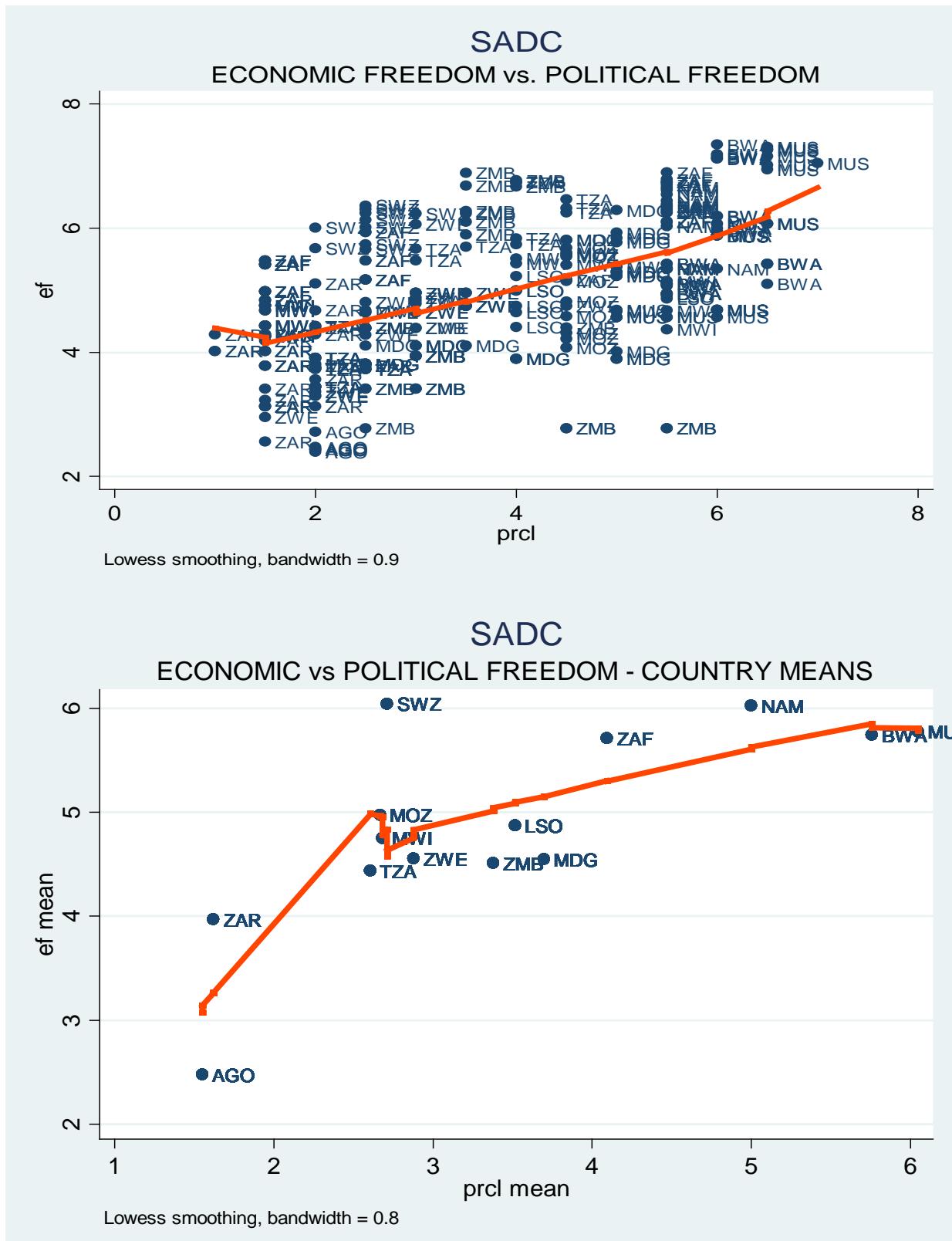
Figure 4.4b (continued): Relation between Economic and Political Freedoms in SADC

SADC
ECONOMIC vs POLITICAL FREEDOM

LOW   FULL
HIGH
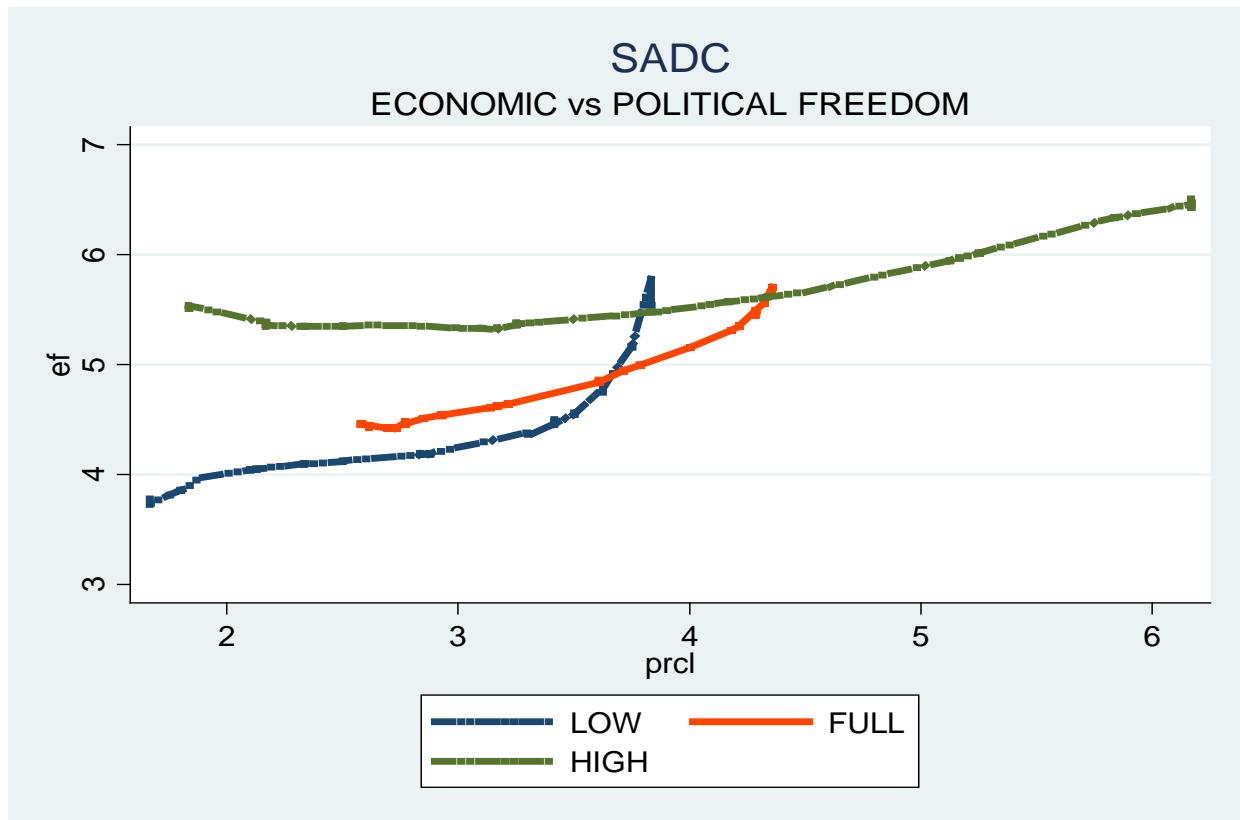
Figure 5.1a Conditional volatility of EMP Cape Verde vs ECOWAS
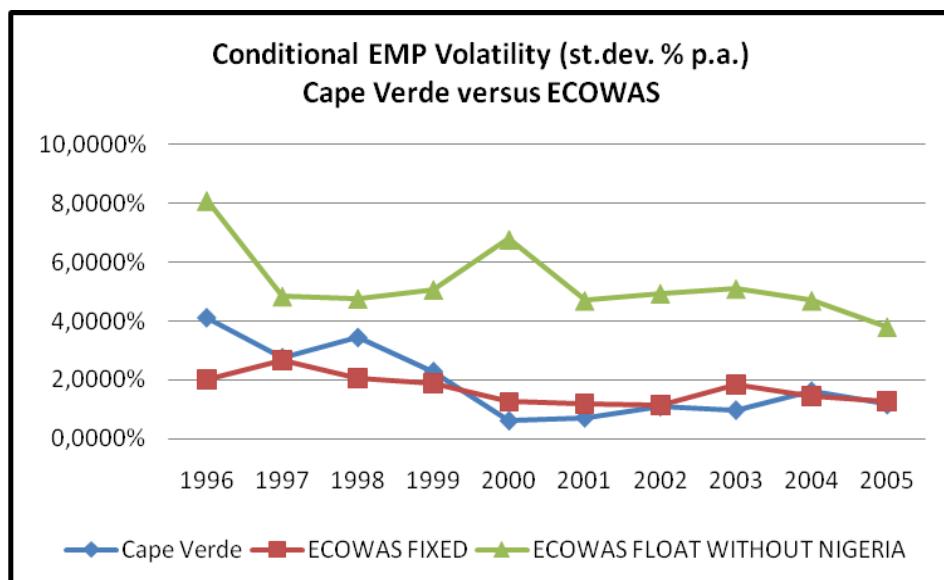
Source: Lopes and Santos (2010)

Figure 5.1b Conditional volatility of EMP Mozambique vs. SADC
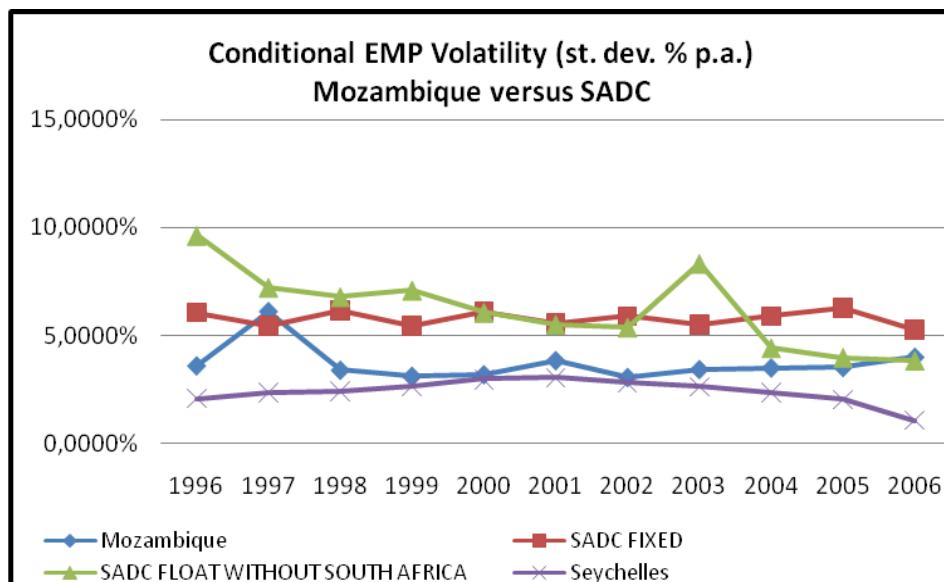
Source: Lopes and Santos (2010)

Figure 5.2a Conditional mean of EMP Cape Verde vs ECOWAS
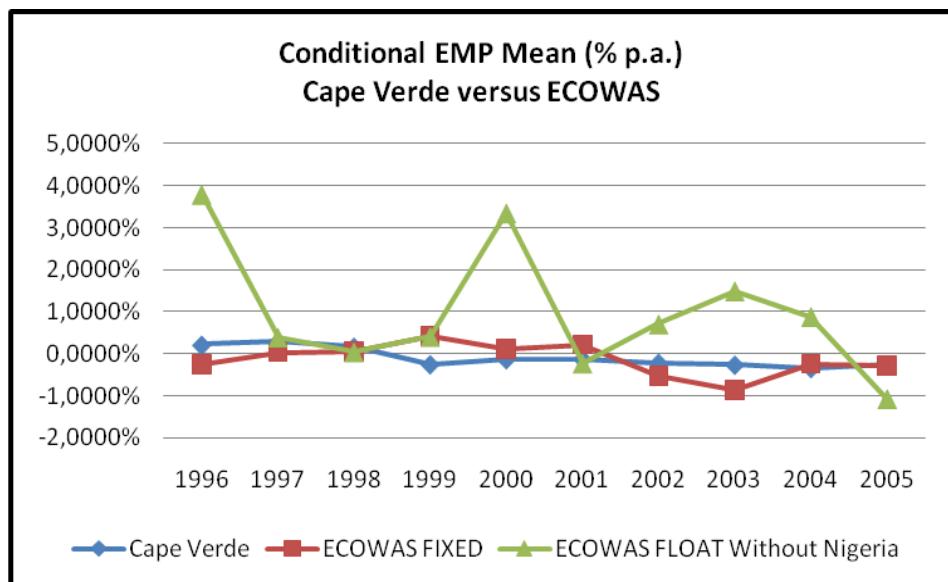
Source: Lopes and Santos (2010)

Figure 5. 2b Conditional mean of EMP Mozambique vs. SADC
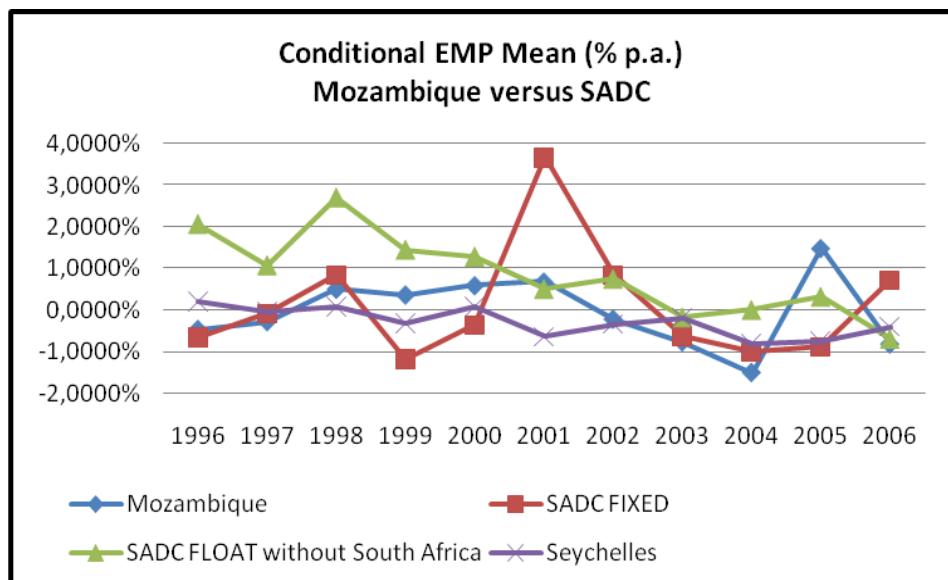
Source: Lopes and Santos (2010)

APPENDIX 1
Data Description

| Variable Type	Variable	Description	Source
Policy	ygap	Income Gap to Frontier (Country and U.S. GDP per capita, constant 2000 USD) – see text for definition	World Bank & Own calculations
	ypc	GDP per capita (constant 2000 USD)	World Bank
	neq 1,2,3,4,5	Number Equivalent Index (1,2,3,4,5 digit SITC rev2)	OECD
	inflation1	Inflation, consumer prices (annual %)	World Bank
	govdef	Government Surplus/Deficit (% GDP)	World Bank
	open1	Exports plus Import (% of GDP)	World Bank
	reer	Real Effective Exchange Rate (% change)	IMF - IFS
	emp	Exchange Market Pressure (% change)	Own calculations
Institutions	pr	Index of Political Rights	Freedom House
	cl	Index of Civil Liberties	Freedom House
	ef	Index of Economic Freedom	Fraser Institute
	constage	Constitutional Age	Polity
	demage	Age of Democracy	Eichengreen & Leblang (2006)
	demtot	Number of other Democracies in System	Polity
	dictrans	Number of Prior Transitions to Dictatorship	Polity
Controls	k	Gross capital formation (constant 2000 USD)	World Bank
Economic	ltotal	Labour Force, total	World Bank
Geographic	land	Land (sq. km)	World Bank
	landagri	Agricultural land (% of land area)	World Bank
	landarbl	Arable land (% of land area)	World Bank
	disteur	Minimum distance to the European Union	CEPII
Demographic	poptotal	Population, total	World Bank
	popdens	Population density (people per	World Bank
	popurban	Urban dwellers (% Population)	World Bank
	life	Life expectancy at birth, total (years)	World Bank
Dummies	landlock	Landlocked countries	United Nations
Economic	oil	Net Oil Exporter	United Nations
	capcont	Capital Controls	IMF - EAER
	legaleng	British Legal Origin	Polity
	cpv	Cape Verde	IFS Country Codes
	gha	Ghana	IFS Country Codes
	mus	Mauritius	IFS Country Codes
	moz	Mozambique	IFS Country Codes
	sen	Senegal	IFS Country Codes
	zaf	South Africa	IFS Country Codes

The acronyms of the different variables used in the regressions are given above. The data are annual and cover the period 1960-2004 but some variables have shorter spans (e.g. data on political and civil liberties, economic freedom) as these only became available later. Capital controls are measured in the manner of the Annual Report on Exchange Arrangements and Exchange Restrictions of IMF, which seeks to capture whether there are explicit legal restrictions on capital transitions (supplemented with historical sources introduced by Eichengreen and Leblang, 2006). For data on the real effective exchange rate, the International Financial Statistics gives an index based on 2005=100, where an increase reflects an appreciation. A real effective exchange rate index represents a nominal effective exchange rate index adjusted for relative movements in national price or cost indicators of the home country and selected countries. A nominal effective exchange rate index, meanwhile, represents the ratio (expressed on the base 2005=100) of an index of a currency's period- average exchange rate to a weighted geometric average of exchange rates for the currencies of selected countries.

Table A1.1 reports summary statistics for the ECOWAS and SADC averages of all the variables and Table A1.2 reports correlations for both samples of the final model variables.

Table A1.1 - Summary Statistics (all variables)

ECOWAS

Variable	Obs.	Mean	Median	Std. Dev.	Minimum	Maximum
ygap	675	0.95	0.95	0.02	0.86	0.99
ypc	612	356.70	284.39	217.94	56.47	1266.81
ypcgrowth	597	0.23	0.66	7.32	-50.49	90.47
neq5	637	3.83	3.46	2.09	1.00	15.12
inflation1	574	12.83	6.89	20.09	-34.40	178.70
govdef	450	-5.70	-4.65	9.19	-57.26	27.17
open1	592	59.01	54.58	26.57	6.32	140.86
reer	144	-0.04	-0.01	0.26	-1.88	0.79
averageempusd	106	0	0	0.04	-0.13	0.21
pr	490	2.87	2.00	1.78	1.00	7.00
cl	490	3.23	3.00	1.34	1.00	7.00
prcl	490	3.05	2.50	1.50	1.00	7.00
ef	295	4.81	5.05	0.90	2.31	6.34
constage	596	13.11	7.00	19.98	0.00	105.00
demage	660	0.72	0.00	2.16	0.00	14.00
demtot	660	64.72	54.50	26.48	36.00	110.00
dictrans	626	0.39	0.00	0.73	0.00	3.00
k	415	4.35e+08	3.00e+08	5.04e+08	4.90e+06	3.60e+09
ltotal	375	4.97e+06	2.66e+06	8.95e+06	88445.88	5.00e+07
disteur	675	4889.93	5020.85	302.59	4244.89	5283.33
landagri	660	42.49	41.81	17.32	13.04	81.40
land	660	335343.33	192530.00	415989.64	4030.00	1.27e+06
landarbl	660	12.39	9.43	9.89	1.34	46.15
poptotal	675	1.01e+07	4.49e+06	2.06e+07	196351.00	1.38e+08
popdens	660	42.83	35.96	31.32	2.49	157.07
popurban	576	0.11	0.10	0.08	0.00	0.39
life	240	47.50	46.90	7.75	32.28	69.84

SADC

Variable	Obs.	Mean	Median	Std. Dev.	Minimum	Maximum
ygap	630	0.9	0.94	0.08	0.6	0.99
ypc	507	945.54	459.1	1040.85	81.01	4264.32
ypcgrowth	493	1.13	1.07	5.69	-27.14	23.75
neq5	554	6.47	4.96	5.75	1	36.09
inflation1	495	109.59	12.14	1114.9	-9.62	23773.13
govdef	370	-7.37	-6.15	10.29	-54.09	32.68
open1	502	80.63	68.23	40.54	14.33	198.91
reer	129	-0.02	-0.02	0.2	-0.91	1
averageempusd	106	0.01	0.00	0.04	-0.08	0.18
pr	441	3.38	3	1.85	1	7
cl	441	3.41	3	1.56	1	7
prcl	441	3.4	3	1.65	1	7
ef	316	4.91	4.84	1.10	2.39	7.35
constage	509	13.06	8	16.35	0	81
demage	600	1.76	0	5.53	0	37
demtot	600	65.02	55.5	26.72	35	110
dictrans	572	0.15	0	0.36	0	1
k	466	2.03E+09	4.35E+08	4.85E+09	2.26E+06	2.79E+10
ltotal	350	5.60E+06	4.28E+06	5.69E+06	170025.2	2.28E+07
disteur	630	8253.78	8491.14	978.51	6257.08	9571.16
landagri	616	50.26	46.94	20.09	9.68	87.97
land	616	688990	662465	596625.63	2030	2.27E+06
landarbl	616	9.62	6.77	11.76	0.61	49.26
poptotal	630	1.02E+07	6.74E+06	1.14E+07	326000	5.69E+07
popdens	616	55.93	18.2	121.74	0.75	607.58
popurban	497	0.14	0.13	0.13	0	0.78
life	237	50.9	49.25	8.69	33.19	71.97

Table A1.2 - Correlations (final model variables only)

	lnygap	lnneq5	inflation1	govdef	lnopen1	lnprcl	lnef	constage	demage	demtot	dictrans	lnk	lnpopdens
lnygap	1												
lnneq5	-0.126	1											
inflation1	0.08	-0.012	1										
govdef	-0.128	-0.043	-0.011	1									
lnopen1	-0.396	-0.027	-0.016	-0.017	1								
lnprcl	-0.242	0.18	-0.042	0.035	0.212	1							
lnef	-0.264	0.296	-0.09	0.069	0.321	0.362	1						
constage	-0.225	0.176	-0.038	0.102	0.246	0.022	0.148	1					
demage	-0.189	0.073	-0.013	0.009	0.143	0.376	0.282	0.008	1				
demtot	0.244	0.064	0.044	-0.148	0.162	0.26	0.282	-0.01	0.24	1			
dictrans	0.042	0.003	-0.018	-0.04	-0.183	0.202	-0.046	-0.121	0.266	0.241	1		
lnk	-0.392	0.335	-0.035	0.15	-0.084	0.096	0.221	0.427	0.031	0.123	0.243	1	
lnpopdens	0.107	0.144	-0.013	-0.129	-0.104	0.24	0.074	-0.046	0.283	0.246	0.19	-0.029	1

Figure A1.a: Description of ECOWAS

Figure A1a (continued): Description of ECOWAS

ECOWAS
GOVERMENT DEFICIT (% GDP)
1960-2004, read from left to right

ECOWAS
OPENNESS (X+M/GDP)
1960-2004, read from left to right

ECOWAS
COMPOSITE INDEX OF POLITICAL AND CIVIL FREEDOMS
1960-2004, read from left to right

Figure A1a (continued): Description of ECOWAS

ECOWAS
INDEX OF ECONOMIC FREEDOM
1960-2004, read from left to right

ECOWAS
LIFE EXPECTANCY AT BIRTH
1960-2004, read from left to right
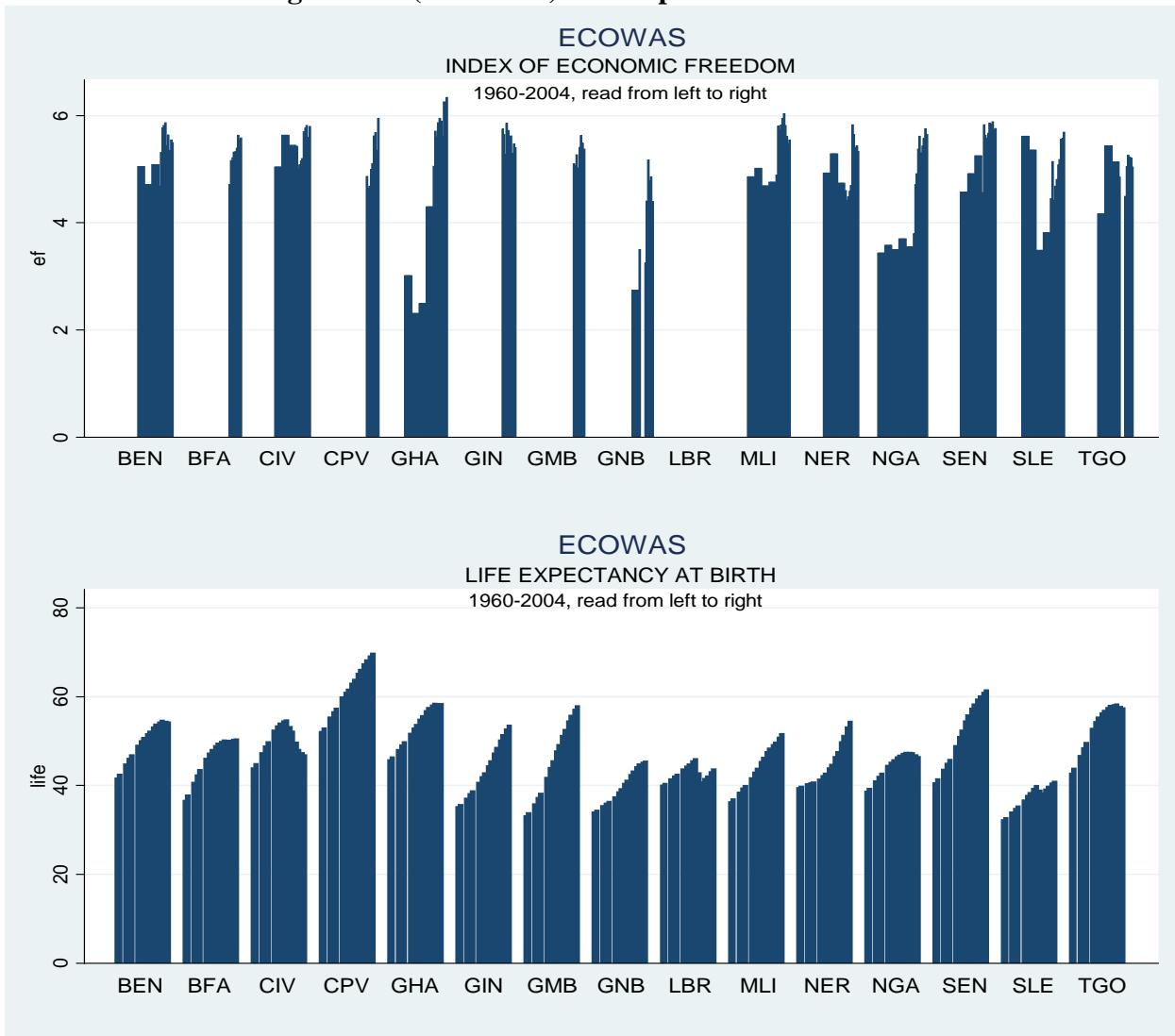
Figure A1.b: Description of SADC
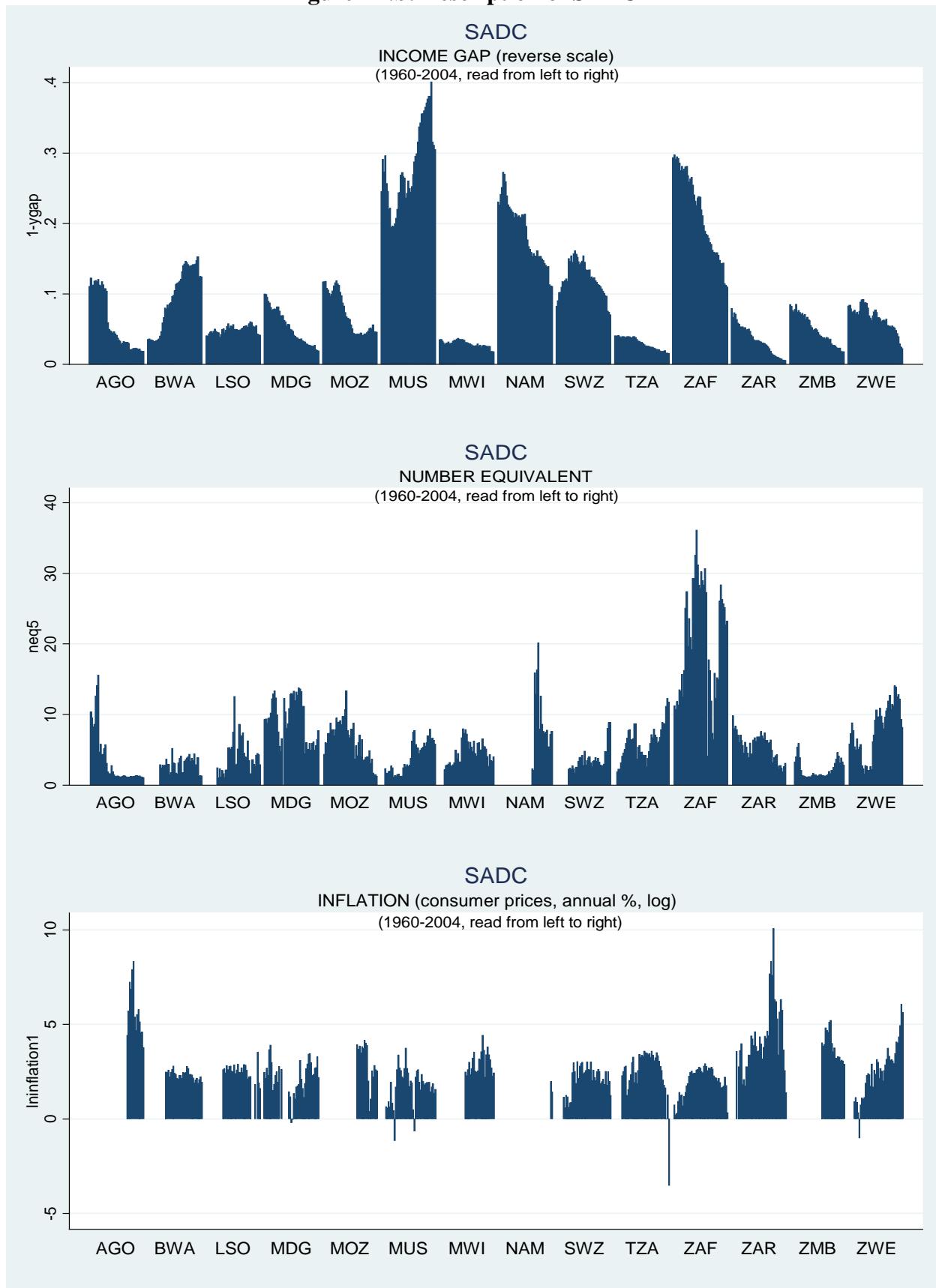
Figure A1.b (continued): Description of SADC

SADC
GOVERNMENT DEFICIT (% GDP)
(1960-2004, read from left to right)

SADC
DEGREE OF OPENNESS (X+M/GDP)
(1960-2004, read from left to right)

SADC
POLITICAL FREEDOM INDEX
(1960-2004, read from left to right)

Figure A1.b (continued): Description of SADC

SADC
ECONOMIC FREEDOM INDEX
(1960-2004, read from left to right)

SADC
LIFE EXPECTANCY AT BIRTH
(1960-2004, read from left to right)
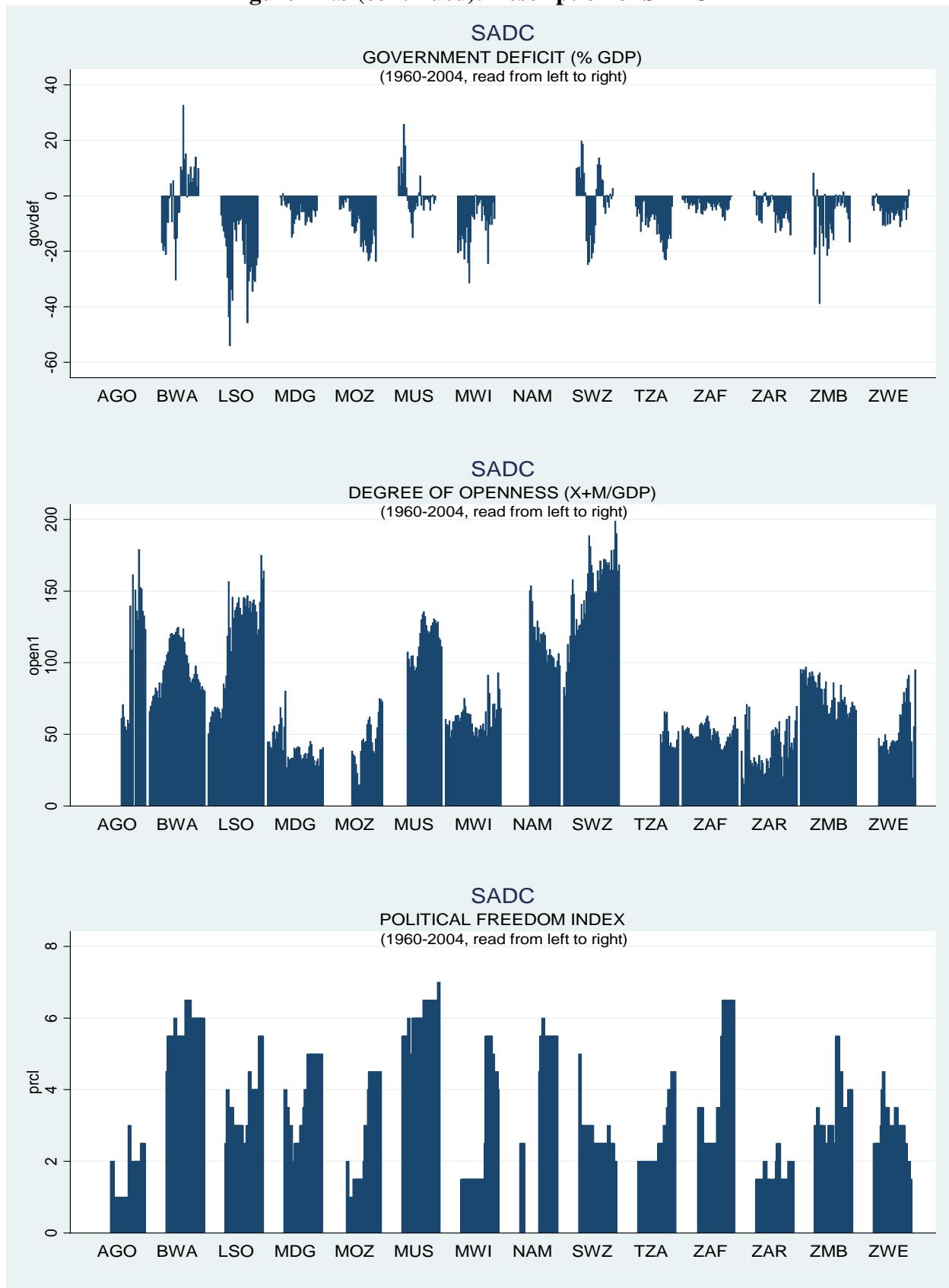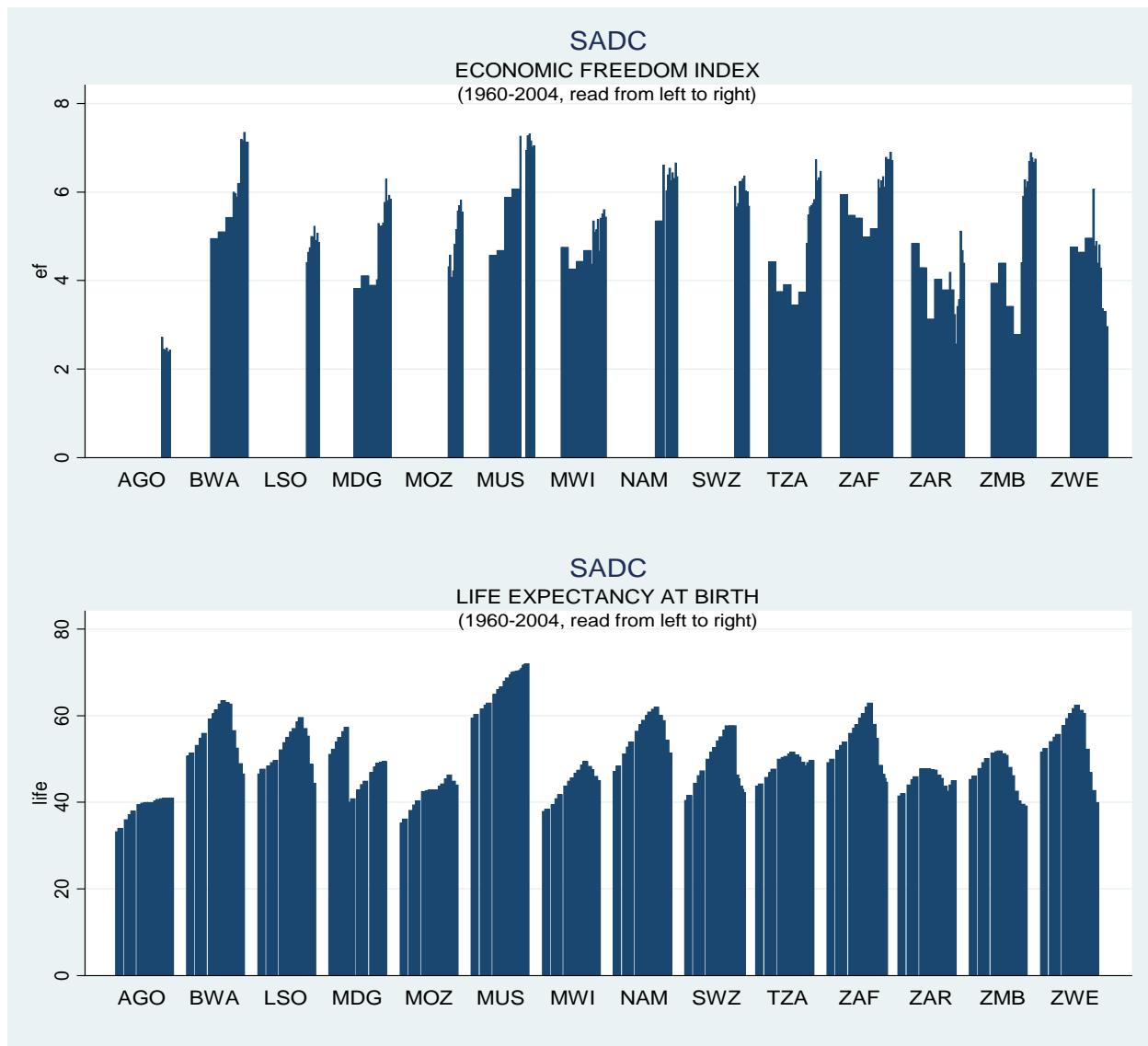
APPENDIX 2
Figure A2.1a: Comparison of High and Low Regimes in ECOWAS

ECOWAS
GDP PER CAPITA GROWTH - LOW vs HIGH REGIME

ECOWAS
NUMBER EQUIVALENT - LOW vs HIGH REGIME

ECOWAS
INFLATION - LOW vs HIGH REGIME

Figure A2.1a (continued): Comparison of High and Low Regimes in ECOWAS

ECOWAS
GOVERNMENT DEFICIT - LOW vs HIGH REGIME

ECOWAS
OPENNESS - LOW vs HIGH REGIME

ECOWAS
POLITICAL FREEDOM - LOW vs HIGH REGIME
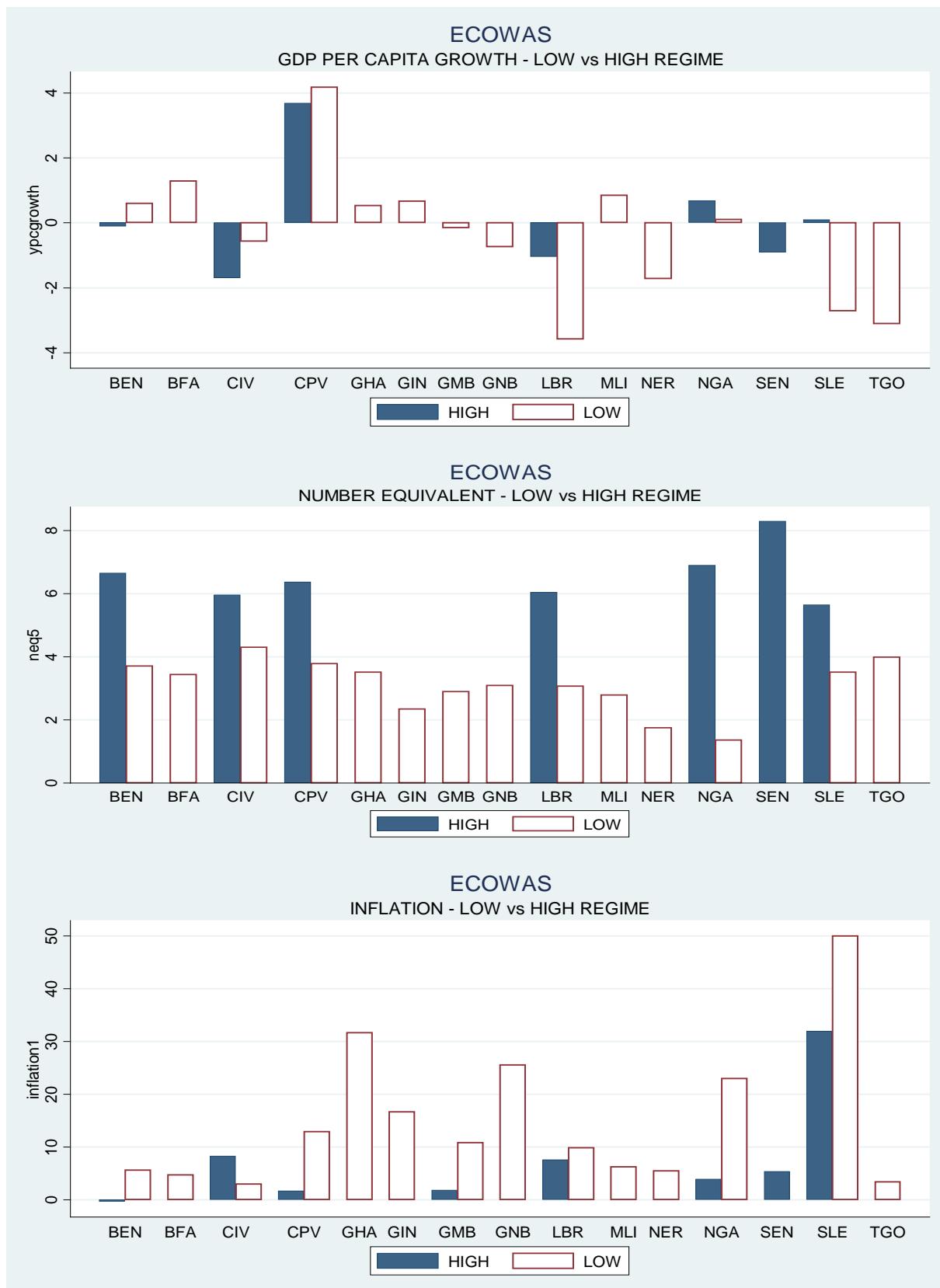
Figure A2.1a (continued): Comparison of High and Low Regimes in ECOWAS
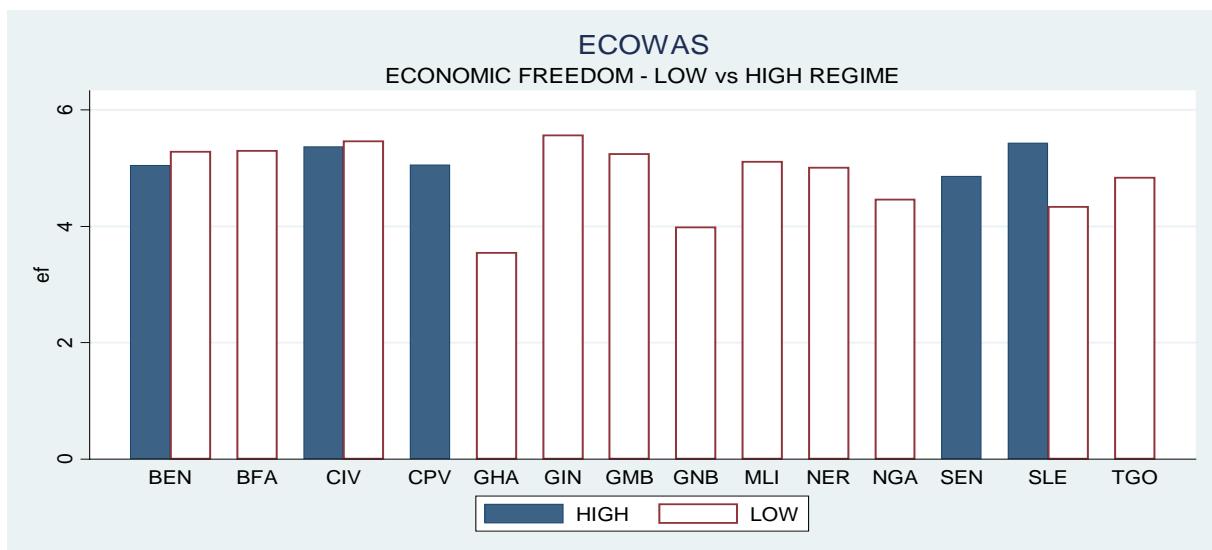
Figure A2.1b: Comparison of High and Low Regimes in SADC
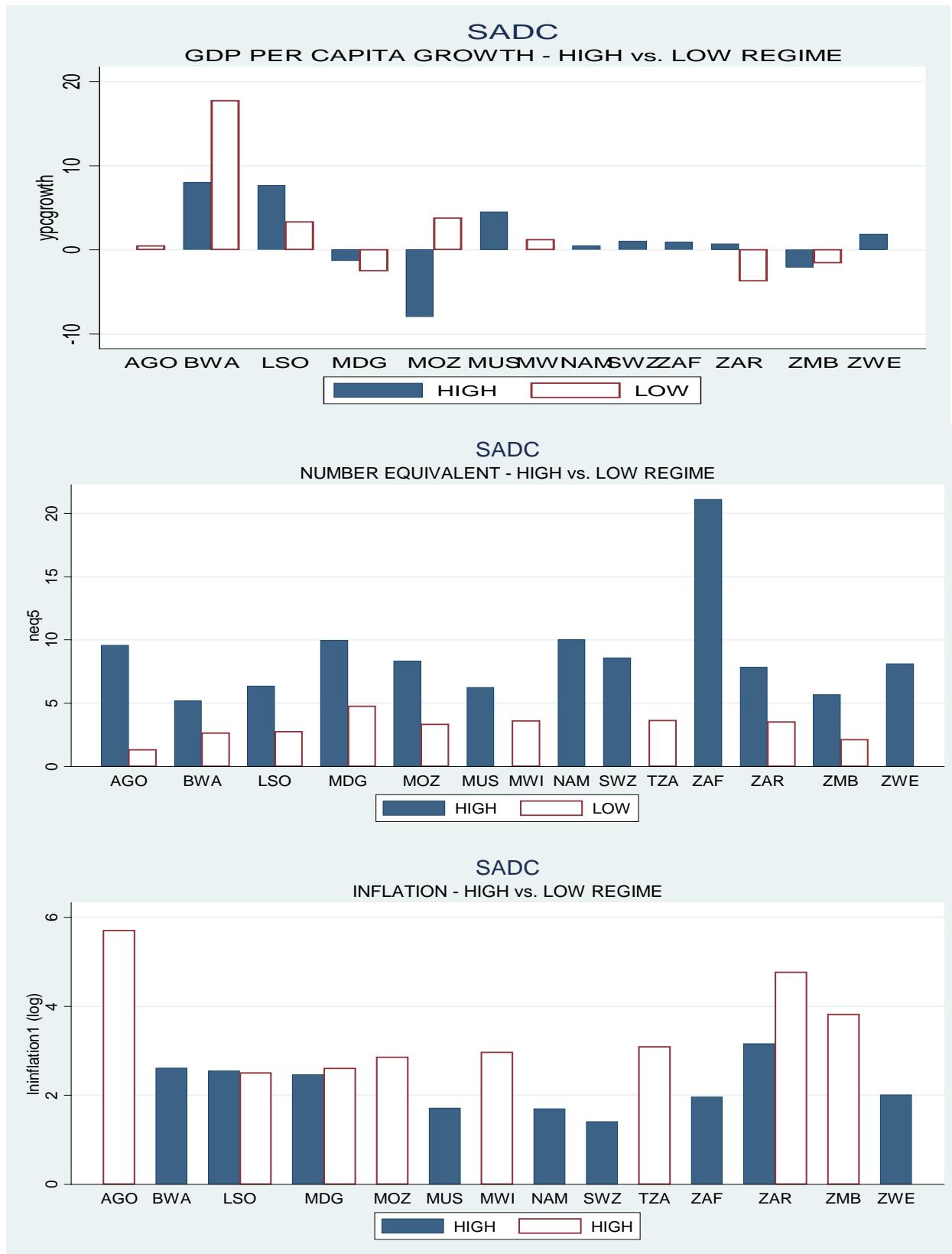
Figure A2.1b (continued): Comparison of High and Low Regimes in SADC

SADC
GOVERNMENT DEFICIT - HIGH vs. LOW REGIME

HIGH   LOW

SADC
OPENNESS - HIGH vs. LOW REGIME

HIGH   LOW

SADC
POLITICAL FREEDOM - HIGH vs. LOW REGIME

HIGH   LOW

Figure A2.1b (continued): Comparison of High and Low Regimes in SADC

SADC

ECONOMIC FREEDOM - HIGH vs. LOW REGIME
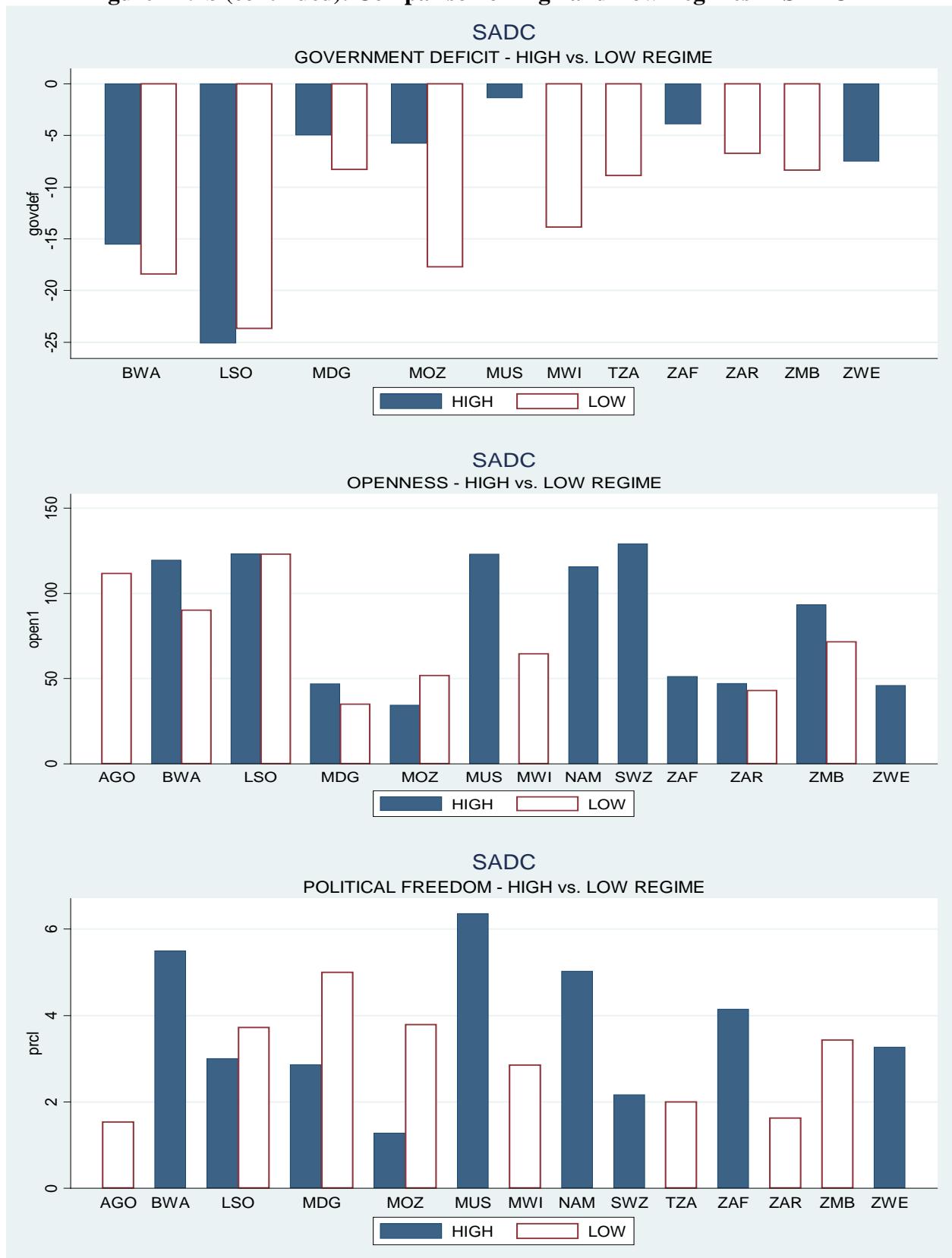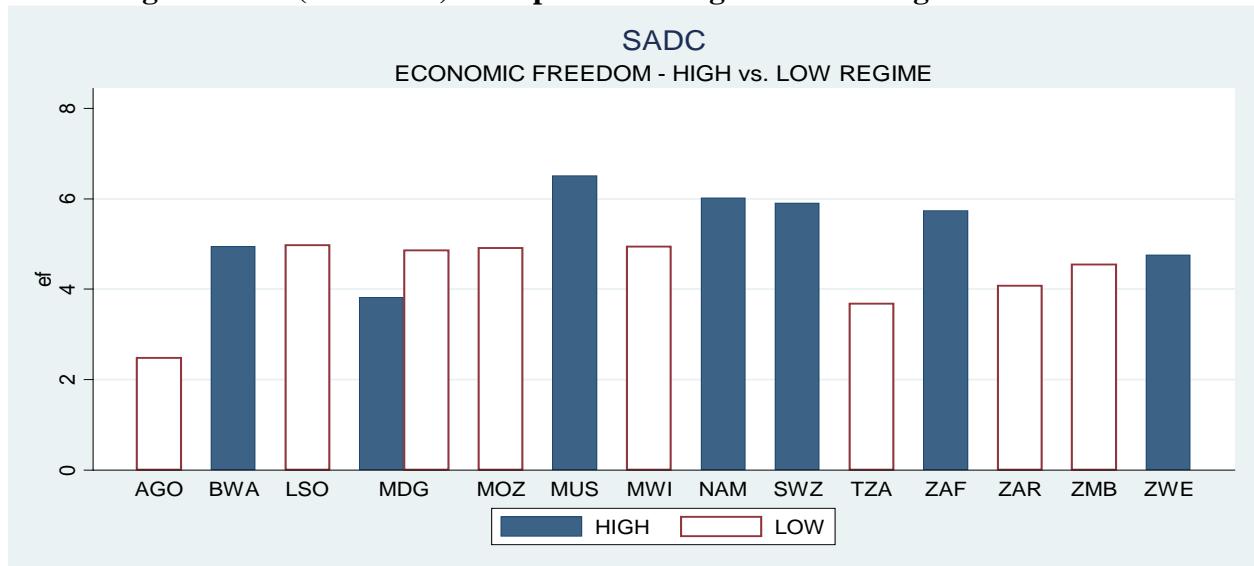
OLS and 2SLS Estimation Results

Table A2.1a: Determinants of Diversification in ECOWAS

| Variable Type	Variables	OLS Pooled lnneq5	OLS Random Effects lnneq5	OLS Between Effects lnneq5	OLS Fixed Effects lnneq5
Policy	lnygap	-0.263***	-0.241***	-0.793***	-0.214**
		(-3.550)	(-2.812)	(-3.626)	(-2.711)
	govdef	-0.0109***	-0.0106***		
		(-2.971)	(-2.677)		
Institutions	lnprcl	0.0484	0.0651		0.0875
		(0.908)	(1.203)		(1.069)
	lnef	0.264**	0.380***		0.516**
		(2.217)	(3.418)		(2.282)
	demage	-0.0353*	-0.0482**		-0.0483***
		(-1.945)	(-2.367)		(-3.787)
	demtot				-0.00773*
					(-2.029)
Control	lnpopdens	0.208***	0.176***		
		(4.100)	(2.678)		
	lnltotal				1.164**
					(2.333)
	lndisteur	7.313***	7.262***		
		(6.185)	(3.515)		
Dummies	landlock	0.811***	0.766**		
		(3.717)	(2.115)		
	cpv	0.609***	0.760***		
		(4.280)	(4.196)		
	gha	-1.200***	-1.225***	-0.861***	
		(-20.55)	(-13.54)	(-3.362)	
	sen	1.267***	1.292***		
		(8.722)	(5.502)		
	legaleng	-0.123**			
		(-1.984)			
	Constant	-61.19***	-60.95***	4.423***	-15.48**
		(-5.967)	(-3.426)	(5.035)	(-2.168)
Model Diagnostics	Observations	223	223	592	228
	R-squared	0.853		0.635	0.171
	Adjusted R-squared	0.844		0.574	0.149
	F test	318.2		10.44	30.54
	Prob > F	0		0.00236	9.52e-07
	Number of countries		14	15	14
	R-squared within model		0.151		
	R-squared between model		0.954		
	R-squared overall model		0.848		
	Wald Chi2		973.2		
	Prob > W		0		

Robust t-statistics in parentheses (except for the case of between effects) *** p<0.01, ** p<0.05, * p<0.1

Table A2.1a (continued): Determinants of Diversification in ECOWAS

Variable Type	Variables	2SLS Random Effects lnneq5	2SLS Between Effects lnneq5	2SLS Fixed Effects lnneq5
Policy	lnygap	-0.138 (-1.599)	-0.945*** (-3.910)	-0.358** (-2.501)
Institutions	lnprcl	0.149** (2.473)		0.130** (2.216)
	lnef	0.374*** (3.226)		0.351*** (2.852)
	demage	-0.0342** (-1.991)		-0.0334* (-1.816)
	demtot			-0.00852*** (-2.929)
Control	lnpopdens	0.210** (2.409)		
	lnltotal			1.463*** (4.074)
	lndisteur	7.244*** (4.097)		
Dummies	landlock	0.750** (2.345)		
	cpv	0.599** (2.536)		
	gha	-1.290*** (-7.445)	-1.409*** (-5.242)	
	sen	1.275*** (5.474)		
	Constant	-61.34*** (-4.051)	5.183*** (5.256)	
Model Diagnostics	Observations	200	315	183
	R-squared			0.227
	Adjusted R-squared		0.721	0.138
	Number of countries	13	14	13
	R-squared within model	0.153	0.0278	
	R-squared between model	0.966	0.764	
	R-squared overall model	0.860	0.328	
	F test	0	0.000370	0
	Prob > F		0.721	0.138

t-statistics in parentheses (robust in the case of fixed effects) *** p<0.01, ** p<0.05, * p<0.1

Table A2.1b Determinants of Diversification in SADC

Variable Type	Variables	OLS Pooled lnneq5	OLS Random Effects lnneq5	OLS Between Effects lnneq5	OLS Fixed Effects lnneq5
Policy	lnygap	-0.132*** (-2.839)		-0.315 (-1.626)	
	lnopen1	-0.468*** (-7.422)			
Institutions	lnef	0.803*** (5.081)	0.886*** (4.988)	2.278*** (3.327)	0.619*** (4.274)
	dictrans		-0.328*** (-3.793)		
Physical	lnk				0.148* (1.839)
	lnpopdens				-4.949*** (-3.108)
	lnltotal			0.471*** (4.570)	4.155** (2.635)
	landlock				
	mdg	0.633*** (5.062)	0.972* (1.847)		
	moz	-0.275** (-1.997)		-0.805* (-1.912)	
	tza	0.584*** (7.243)			
	zaf	1.197*** (9.883)	1.557** (2.364)		
	zwe	0.854*** (9.927)	0.963*** (2.668)		
	Constant	2.619*** (4.926)	0.0189 (0.0657)	-7.705*** (-3.539)	-48.18** (-2.538)
Model Diagnostics	Observations	254	290	217	237
	Number of countries		14	14	13
	R-squared	0.641		0.789	0.142
	Adjusted R-squared	0.630		0.696	0.127
	R-squared within model		0.0964		
	R-squared between model		0.672		
	R-squared overall model		0.555		
	F test	67.08		8.439	10.31
	Prob > F	0		0.00410	0.00122
	Wald Chi2		49.57		
	Prob > W		1.70e-09		

Robust t-statistics in parentheses (except for the case of between effects) *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A2.1b (continued): Determinants of Diversification in SADC

Variable Type	Variables	2SLS Random Effects lnneq5	2SLS Between Effects lnneq5	2SLS Fixed Effects lnneq5
Policy	lnygap	-0.380***	-0.242*	-0.310**
		(-3.976)	(-2.164)	(-2.091)
Institutions	lnef	0.936***	2.505***	1.196***
		(5.791)	(3.831)	(6.992)
	constage	0.00611***		0.00602**
		(3.427)		(2.006)
Physical	lnpopdens			-4.974***
				(-3.415)
	lnltotal	0.401***	0.512***	4.415***
		(5.909)	(9.075)	(3.587)
	moz		-0.508*	
			(-2.273)	
	zwe	0.753**	0.628**	
		(2.603)	(2.897)	
	Constant	-4.563***	-9.092***	
		(-5.020)	(-5.444)	
Model Diagnostics	Observations	156	156	156
	Number of countries	12	12	12
	R-squared			0.350
	Adjusted R-squared		0.899	0.270
	R-squared within model	0.258	0.148	
	R-squared between model	0.850	0.945	
	R-squared overall model	0.734	0.663	
	F test	19.62	20.63	35.51
	Prob > F	0	0.00102	0

t-statistics in parentheses (robust in the case of fixed effects) *** p<0.01, ** p<0.05, * p<0.1

Table A2.2a: Determinants of Convergence in ECOWAS

Variable Type	Variables	OLS Pooled lnygap	OLS Random Effects lnygap	OLS Between Effects lnygap	OLS Fixed Effects lnygap
Policy	lnneq5	-0.157*** (-5.848)		-0.340*** (-3.680)	
	inflation1		-0.0435*** (-3.658)		
	govdef				-0.00222* (-1.932)
	lnopen1				-0.0498*** -0.00222*
Institutions	lnprcl	-0.0764*** (-2.827)	-0.0833** (-2.166)	-0.414** (-2.475)	
	lnef		-0.309*** (-5.831)		-0.166** (-2.460)
	demage	-0.0696*** (-10.44)	-0.0504*** (-6.215)		-0.0216** (-3.153)
	demtot	0.00897*** (22.17)	0.192*** (6.243)		-0.00162** (-2.610)
	dictrans	0.148*** (5.416)	0.00828*** (15.00)		
Control	lnk				-0.0830*** (-3.922)
	lnpopdens				-3.145** (-2.720)
	lnltotal				4.296*** (3.737)
	landlock	0.0997*** (2.932)	0.209*** (3.945)		
Dummies	oil	-0.610*** (-18.17)	-0.497*** (-7.637)	-0.564*** (-4.766)	
	cpv		-0.219*** (-4.714)		
	gha	-0.351*** (-6.363)	-0.452*** (-9.250)		
	sen	-0.379*** (-10.07)	-0.359*** (-7.010)		
	legaleng	-0.212*** (-6.335)	-0.133*** (-3.417)		
	Constant	3.880*** (65.32)	4.177*** (44.93)	4.975*** (30.59)	-45.71*** (-3.491)
Model Diagnostics	Observations	441	181	444	140
	R-squared	0.732		0.811	0.917
	Adjusted R-squared	0.725		0.759	0.912
	F test	154.7		15.73	64.62
	Prob > F	0		0.000271	9.04e-06
	Number of countries		13	15	11
	R-squared within model		0.739		
	R-squared between model		0.920		
	R-squared overall model		0.849		
	Wald Chi2		785.3		
	Prob > W		0		

Robust t-statistics in parentheses (except for the case of between effects) *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A2.2a (continued): Determinants of Convergence in ECOWAS

Variable Type	Variables	2SLS Random Effects lnygap	2SLS Between Effects lnygap	2SLS Fixed Effects lnygap
Policy	lnneq5	0.790*** (5.400)	-0.326*** (-3.613)	
	lnopen1			-0.0728*** (-4.100)
Institutions	lnprcl	-0.234*** (-4.391)		
	lnef			-0.178*** (-4.876)
	demage		-0.0868** (-2.702)	
	demtot	0.00622*** (6.262)	0.0150*** (3.338)	-0.00242*** (-4.113)
Control	lnk	-0.197*** (-6.001)		-0.0901*** (-5.150)
	lnpopdens			-3.222*** (-5.026)
	lnltotal			4.506*** (7.162)
Dummies	landlock	0.606*** (6.985)		
	oil	-0.401*** (-3.704)	-0.530*** (-4.506)	
	cpv	-0.537*** (-4.387)		
	sen	-0.494*** (-4.256)		
	Constant	6.577*** (11.71)	3.507*** (9.792)	
Model Diagnostics	Observations	208	313	118
	R-squared			0.939
	Adjusted R-squared		0.762	0.930
	Number of countries	10	14	10
	R-squared within model	0.371	0.566	
	R-squared between model	0.913	0.835	
	R-squared overall model	0.613	0.654	
	F test	28.90	11.42	215.7
	Prob > F	0	0	0

t-statistics in parentheses (robust in the case of fixed effects) *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A2.2b: Determinants of Convergence in SADC

Variable Type	Variables	OLS Pooled lnygap	OLS Random Effects lnygap	OLS Between Effects lnygap	OLS Fixed Effects lnygap
Policy	lnneq5	-0.222*** (-6.120)	-0.0351 (-1.193)		
	open1			-0.532** (-2.327)	
	lninflation1				0.0327** (2.304)
Institutions	lnprcl		-0.0549* (-1.704)		-0.166** (-2.545)
	lnef			-1.940*** (-3.707)	
	demage	-0.00638* (-1.678)		-0.0553** (-2.479)	
	demtot				0.00759*** (5.016)
	dictrans	0.262*** (5.978)	0.184*** (3.649)		
Physical	lnk	-0.138*** (-3.798)	-0.286*** (-9.104)		-0.349*** (-5.390)
	lnpopdens	0.165*** (9.680)			
	lnltotal	0.401*** (18.00)	0.510*** (7.454)		
	oil	0.239** (2.392)			
	moz	-0.302*** (-4.752)			
	mus	-1.707*** (-15.81)	-1.014*** (-6.400)		
	zaf	-1.247*** (-11.66)	-1.098*** (-4.958)	-1.235** (-2.740)	
	Constant	0.642 (0.949)	2.281** (2.221)	9.321*** (7.609)	10.31*** (8.000)
Model Diagnostics	Observations	265	253	254	278
	Number of countries		13	14	12
	R-squared	0.898		0.845	0.657
	Adjusted R-squared	0.894		0.776	0.652
	R-squared within model		0.471		
	R-squared between model		0.917		
	R-squared overall model		0.891		
	F test	640.6		12.26	13.21
	Prob > F	0		0.00109	0.000576
	Wald Chi2		362.8		
	Prob > W		0		

Robust t-statistics in parentheses (except for the case of between effects) *** p<0.01, ** p<0.05, * p<0.1

Table A2.2b (continued): Determinants of Convergence in SADC

Variable Type	Variables	2SLS Random Effects lnygap	2SLS Between Effects lnygap	2SLS Fixed Effects lnygap
Policy	inflation1	-0.356***	-0.600	-0.101
		(-3.216)	(-1.633)	(-1.098)
Institutions	lnprcl		-5.893***	
			(-3.645)	
	lnef		-1.389*	-0.120***
			(-2.280)	(-3.065)
	demage	-0.591***		-0.372***
		(-6.474)		(-4.585)
	demtot	-0.591***		-0.372***
		(-6.474)		(-4.585)
Physical	lnk	-0.591***		-0.372***
		(-6.474)		(-4.585)
	lnltotal	0.561***		0.730***
		(6.187)		(5.226)
	Constant	8.115***	16.42***	
		(4.910)	(4.400)	
Model Diagnostics	Observations	190	178	190
	Number of countries	12	12	12
	R-squared			0.358
	Adjusted R-squared		0.690	0.299
	R-squared within model	0.191	0.0726	
	R-squared between model	0.919	0.775	
	R-squared overall model	0.809	0.235	
	F test	24.09	10.11	22.96
	Prob > F	0	0.00426	0

t-statistics in parentheses (robust in the case of fixed effects) *** p<0.01, ** p<0.05, * p<0.1