INTEREST RATE DETERMINATION IN LESOTHO

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Structure of the Presentation

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- Financial Reforms in Lesotho
- Literature review
- Methodology
- Empirical results
- Conclusions

Introduction

- Lesotho is a member of the Common Monetary Area (CMA) with South Africa, Swaziland and Namibia
- CMA countries have their currencies pegged to the ZAR one on one
- There is free movement of capital between the member countries
- Monetary policy in member countries is governed by the CMA membership.

Introduction

- The influence of SA has led to the general belief that domestic developments are insignificant in interest rate determination
- Aziakpono(2006) and Sander and Kleimer(2006) show the dominance of SA economy by looking at the pass through,
- The paper intends to empirically evaluate the factors that influence selected nominal interest rates post monetary policy liberalisation

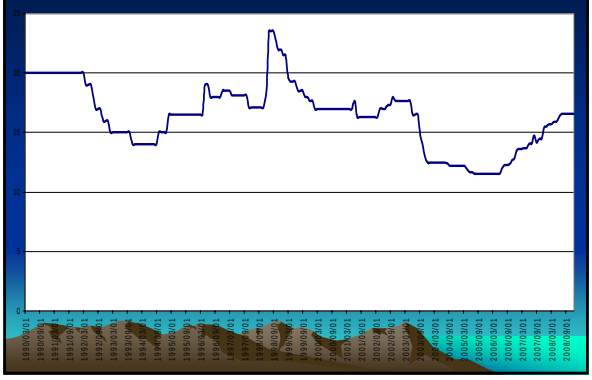
Financial Reforms in Lesotho

1998	Interest rate liberalisation
1999	Financial Institutions Act 1999 Restructuring of State owned banks
2000	Central Bank of Lesotho Act 2000
2001	Indirect instruments of Monetary Policy
2002	Establishment of the Lesotho Unit Trust Commercial Court
2003	Limited Liberalisation of Capital account
2004	Attraction of an additional commercial bank and opening of Lesotho Postbank

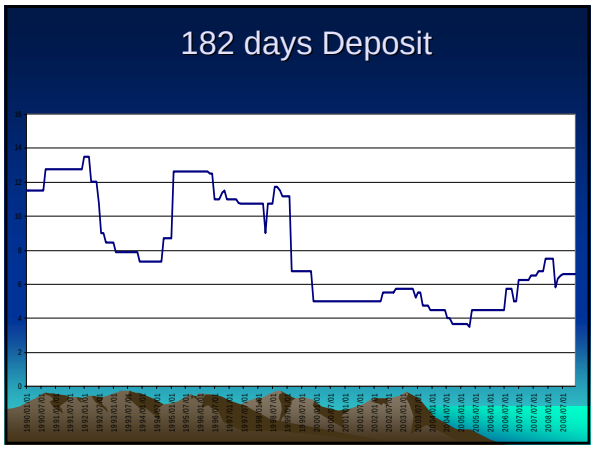
Theory and Evidence on interest determination in developing countries

- Edward and Khan(1985)
- Bhattacharya(2006) in India
- Poddar(2006) in Lebanon
- Dua and Pandit(2002) in India
- Gochoco(1991) in The Philippines
- Blejer and Diaz(1986) in Uruguay

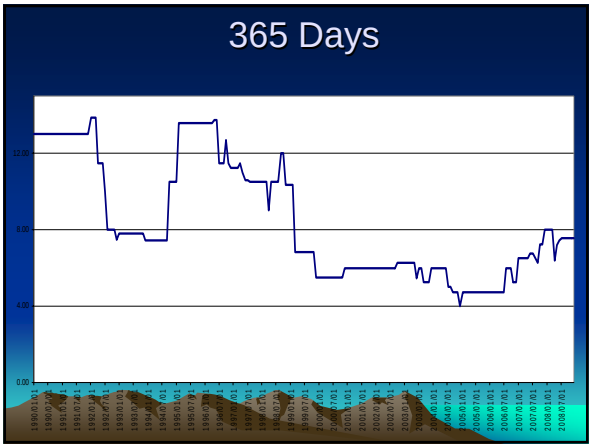
Prime Lending Rate



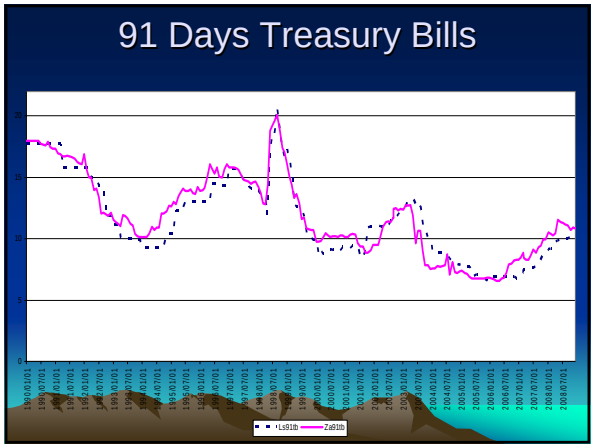
182 days Deposit



365 Days



91 Days Treasury Bills



Methodology

$$i_t^{\,d} = \beta_0 + \beta i_t^{\,f} + \beta \inf_t + \beta rm_t + \beta nir_t + \beta gs_t + U_t$$

$$l91tb_t = \beta_0 + \beta i_t^{\,f} + \beta \inf_t + \beta rm_t + \beta nir_t + \beta gs_t + U_t$$

$$ls365\,days_t = \beta_0 + \beta l91tb + \beta i_t^{\,f} + \beta \inf_t + \beta nir_t + \beta gs_t + V_t$$

$$ls182\,days_t = \beta_0 + \beta l91tb + \beta i_t^{\,f} + \beta \inf_t + \beta nir_t + \beta gs_t + W_t$$

$$lsprime_t = \beta_0 + \beta l91tb + \beta i_t^{\,f} + \beta \inf_t + \beta nir_t + \beta gs_t + Z_t$$

Unit Root Results

Variable	Lags	ADF	PP
Levels			
Ls91tb	4	-1.983	-1.338
Ls182day	4	-1.392	-1.525
Ls365day	4	-1.299	-2.083
Lsprime	4	-1.639	-1.022
Lfres	4	-1.585	-1.939
Lsinfl	4	-1.920	-1.541
LZarepo	4	-2.499	-1.376
LZa91tb	4	-2.249	-1.749
First Differences			
Δ Lstb	4	-3.1329	-8.1444
ΔLs182day	4	-3.2452	-7.1254
ΔLs365day	4	-6.2444	-9.7915
ΔLsprime	4	-2.3772	-6.9248
ΔLfres	4	-4.1956	-9.5190
ΔLgs	4	-5.9871	-17.8744
ΔLsinfl	4	-3.2798	-7.5685
ΔLZarepo	4	-2.9172	-7.4118
ΔLZa91tb	4	-2.7963	-9.7969

Cointegration Analysis

	Trace Test				λ_{Max} Test			
	r = 0	1	2	3	r = 0	1	2	3
Model A (Ls91tb, LZa91tb, Lsinfl, Lrm, Lgs, Lfres)	144.27**	91.59**	45.32	21.02	52.67**	46.27**	24.29	10.96
Model B (Lsprim, LZa91tb, Lzarepo Lsinfl, , Lgs, Lfres)	155.75**	110.77**	70.73**	40.50**	44.98**	40.04**	30.22	21.61
Model C (Ls182day,Lzarepo, Ls91tb Lsinfl,,Lgs, Lfres)	181.78**	114.16**	73.68**	39.04**	67.61**	40.47**	34.63**	25.30
Model D (Ls365day,Lzarepo, Ls91tb Lsinfl,, Lsgs, Lsfres)	169.89**	107.77**	64.55**	37.25**	62.12**	43.21**	27.30	21.87

* denotes significance at 1 per cent

Cointegrating Vectors

	Model A	Model B	Model C	Model D
Dependent Variable	Ls91tb	Lsprime	Ls182days	Ls365days
Intercept	7.84	1.12	2.31	2.82
Ls91tb		0.22*	-0.88*	-0.64*
Za91tb	0.83*			
Zarepo		0.62*	0.64*	0.38*
Lsinfl	0.11*	-0.11*	0.55*	0.38*
Lsrm	-0.44*			
Lsgs	0.07*	-0.19*	0.57*	0.11
Lsfres	-0.65*	0.11*	-0.54	-0.23

Dependent Variable: DLls91days

	Coefficient	Std. error	t. statistic	Prob.
Ecm(-1)	-0.26	0.0530	-4.99	0.0000
Dllsinfl(-2)	0.069	0.3940	1.75	0.0804
Dllsrm(-1)	0.03	0.0223	1.59	0.1104
Dllsgs(-1)	-0.03	0.0142	-2.33	0.0200
Dllsfres(-1)	0.20	0.0678	2.97	0.0031
Dllsfres(-2)	0.11	0.0622	1.78	0.0742
Dlza91days(-2)	-0.07	0.0676	-1.08	0.2790
Dlls91days(-1)	0.20	0.0983	2.08	0.0375
Dlls91days(-2)	0.15	0.0925	1.55	0.1998
Intercept	-0.004	0.0036	-1.13	0.2568
R Squared	0.365	Mean dependent var	-0.003	
R-Squared Adj	0.284	S.D dependent var	0.037	
S.E of reg	0.031	Sum squared resid	0.071	
D-W Stat	2.085			

Dependent variable:DLLS365days

Variable	coefficient	Std.error	T.statistic	Prob.
ECM(-1)	-0.4640	0.0676	-6.8607	0.0000
DLLS365Days(-5)	0.5926	0.1065	5.5643	0.0000
DLLSINFL(-1)	-0.2773	0.0755	-3.6734	0.0003
DLLSINFL(-3)	-0.1016	0.0687	-1.4776	0.1410
DLLSINFL(-4)	-0.1017	0.0680	-1.4952	0.1363
DLGS(-1)	-0.0689	0.0255	-2.7099	0.0073
DLGS(-2)	-0.0323	0.0255	-1.2681	0.2061
DLGS(-4)	-0.0264	0.0216	-1.2194	0.2240
DLZAREPO(-3)	-0.2082	0.1563	-1.3315	0.1844
DLZAREPO(-4)	-0.3239	0.1629	-1.9801	0.0480
DLZAREPO(-5)	-0.6019	0.1686	-3.5700	0.0004
DLZAREPO(-6)	-0.4034	0.1641	-2.4580	0.0148
DLLS91TB(-1)	0.3513	0.1689	2.07973	0.0387
DLLS91TB(-4)	0.5496	0.1859	2.9559	0.0035
DLLS91TB(-5)	-0.2679	0.1626	-1.6479	0.1008
DLLS91TB(-7)	0.4424	0.1627	2.7192	0.0071
DLFRES(-2)	0.1491	0.1103	1.3516	0.1779
DLFRES(-4)	0.1544	0.0925	1.6695	0.0965
DLFRES(-5)	-0.1579	0.1207	-1.3081	0.1922
R-squared	0.5868	Mean dependent var	0.0022	
R-squared Adj	0.4563	S.D.dependent	0.0616	
S.E. of regression	0.0454	Sum squared resid	0.1175	
Durbin Watson stat	2.0435			

Dependent Variable: DLLS182DAYS

	Coefficient	Std.error	t-statistic	Prob
ECM(-1)	-0.1359	0.0459	-2.9639	0.0034
DLLS182DAYS(-5)	0.3850	0.1311	2.9360	0.0037
DLLSINFL(-1)	-0.2208	0.0800	-2.7613	0.0062
DLLSINFL(-2)	0.0794	0.0698	1.1367	0.2569
DLLSINFL(-4)	-0.0894	0.0720	-1.2415	0.2157
DLLSINFL(-7)	0.0797	0.0713	1.1304	0.2595
DLGS(-1)	-0.0866	0.0321	-2.6952	0.0076
DLGS(-2)	-0.0854	0.0287	-2.9711	0.0033
DLLS91TB(-4)	0.2984	0.1903	1.5678	0.1183
DLLS91TB(-7)	0.2721	0.1712	1.5890	0.1135
DLZAPERO(-5)	-0.3119	0.1836	-1.6994	0.0906
DLZAPERO(-7)	-0.2545	0.1763	-1.4440	0.1502
DLFRES(-2)	0.1753	0.1041	1.6836	0.0937
DLFRES(-4)	0.3308	0.0985	3.3552	0.0009
R-squared	0.3723	Mean dependent var	0.0029	
R-squared Adj	0.2407	S.D.dependent	0.0594	
S.E. of regression	0.0518	Sum squared resid	0.1661	

Dependent variable: DLlsprime

Variable	Coefficient	Std.error	t-statistic	Prob
ECM(-1)	-0.0739	0.0415	-1.7817	0.0762
DLLSPRIME(-1)	-0.4783	0.1406	-3.4017	0.0008
DLLSPRIME(-6)	0.2738	0.1231	2.2234	0.0272
DLLSPRIME(-7)	0.2770	0.1096	2.5275	0.0122
DLLSINFL(-4)	0.0304	0.0248	1.2265	0.2214
DLLSINFL(-7)	0.0554	0.0235	2.3568	0.0193
DLGS(-3)	0.0183	0.0083	2.2148	0.0278
DLGS(-4)	0.0241	0.0077	3.1320	0.0020
DLGS(-6)	-0.0130	0.0086	-1.4063	0.1611
DLLS91TB(-1)	0.1480	0.0604	2.4497	0.0151
DLLS91TB(-4)	-0.1300	0.0559	-2.3259	0.0210
DLLS91TB(-5)	-0.1179	0.0656	-2.1205	0.0351
DLLS91TB(-7)	0.3242	0.0585	-1.7969	0.0737
DLZAPERO(-1)	0.2002	0.0610	5.5454	0.0000
DLZAPERO(-2)	0.1115	0.0520	3.2848	0.0012
DLZAPERO(-3)	-0.1528	0.0754	2.1433	0.0332
DLZAPERO(-7)	0.0910	0.0345	-2.0272	0.0439
DLFRES(-2)	0.0932	0.0340	2.6390	0.0089
DLFRES(-3)	0.0681	0.0350	2.7434	0.0066
DLFRES(-7)	0.0681	0.0349	1.9463	0.0529
intercept	-0.0025	0.0019	-1.3367	0.1827

Dependent variable: DLIsprime

R-Squared	0.7170	Mean dependent var	-0.0030	
R-squared Adj	0.6141	S.D.dependent var	0.0244	
S.E. of regression	0.0152	Sum squared resid	0.01264	
Durbin-Watson stat	2.1422			

Conclusion

- The results indicate that both external and domestic factors are important in the nominal interest rate determination.
- The South African interest rates explain both the long run and the dynamic movements.
- Other determinants such as government spending, inflation and gross foreign reserves are important