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Emerging Paradigms of Financing Tanzanian Microfinance Institutions and their Impact on Financial Sustainability – Part I

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This paper examines the impact of modern Microfinance Institutions (MFIs) capital structure variables on MFI's financial sustainability. Using quarterly time series data from 1997 to 2014, the findings reveal that deposit mobilization is the most crucial determinant of financial sustainability amongst other MFI capital structure variables, followed by shareholders equity, debt (commercial borrowing) and lastly going public. Since this study (Part I) used time series data from the leading formal MFI in Tanzania, Part II and III will utilize panel data from formal, semi-formal and transforming MFIs.

JEL Classification: G21

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1. Introduction

One of the key components of the business planning process is an estimate of the funding requirement for running a business; the same applies in microfinance business planning. According to Ledgerwood and White (2006), accessing and structuring the funding is a new challenge, especially for transforming Microfinance Institutions (MFIs). Traditionally, MFIs, especially Nongovernmental Organizations (NGOs), used to start up with grant capitalization, and may use a mix of retained earnings and donor funds (grants) as they attain a certain level of sustainability. However, the increasing demand of microfinance services and donors' reluctance in supporting the MFIs caused a paradigm shift in microfinance industry from government- or donor-subsidized institutions to self-sufficient institutions providing commercial finance; hence making the MFIs get to finance their operations with a number of options including savings, debts, and for-profit investments (Robinson, 2001). Again, this opportunity has also come with some challenges because some of the MFIs even take loans denominated in foreign rather than local currency, a condition that raises foreign exchange risk to a level that many MFIs are unprepared to face[1].

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[1] CGAP (2005) highlighted that 92 percent of debt is issued to MFIs in hard currency.

Seeing the funding opportunities that MFIs have and the challenges that might emerge while taking the opportunities, this paper aims at providing an insight on the emerging paradigms of financing MFIs and their impact on MFIs' financial sustainability. This is of importance in enabling the MFIs to determine the optimal mix of different funding options while making a decision regarding capital structure. The motivation and significance of this research also come from the fact that the positive impact of MFIs on the welfare of the poor can only be sustained if the institutions can achieve a good financial performance (Kinde, 2012). The results of this research are different from those of previous researches because the research has been conducted in a different environment (Tanzania) and has also considered the impact of selling shares to the public on MFI's financial sustainability. Apart from the introduction, this paper is organized by having the following sections: literature review, methodology, dataset and analysis, discussion of the findings, and conclusions and way forward.

2. Literature Review

2.1 Theoretical Aspects

The guiding theory in this research comes from Ledgerwood and White (2006, pp.163-197) who proposed the funding structure for a MFI at different stages of growth as summarized in Table 1 below. This model is suitable for this study because NGOs and formal financial institutions are among the leading models in microfinance provision (Forbes, 2007). This theory considers table includes five stages of MFI growth: 1 - Starting up NGO, 2 - Self Sufficient NGO, 3 - Matured NGO, 4 - Newly Transformed MFI, and lastly 5 - Matured Transformed MFI.

Table 1: Funding Sources for MFIs

Stages of MFI Growth →					
	1	**2**	**3**	**4**	**5**
Funding Sources					
Deposits from Public					
Term Deposits				X	X
Demand Deposits				X[a]	X[a]
Debt					
Commercial Debt			X	X	X
Subsidized Debt		X	X	X	
Bond Offerings					X
Equity					
Retained Earnings		X	X	X	X
Donated Equity	X	X	X		
Share Capital				X	X

Source: Ledgerwood and White (2006)

a. MFIs licensed under legislation specific for microfinance are typically not allowed to offer current accounts (cheque accounts). Such a product is generally only permissible with a commercial bank license.

The financial sustainability aspect, especially the basis for measuring financial sustainability of the MFI is derived from the ratios discussed by Sa-Dhan (2013) and modified according to MIX Market definitions of financial and operational sustainability as discussed by Bogan (2012). As

shown in Table 2 below, the above mentioned literatures provide the following important dimensions of MFI financial sustainability.

Table 2: Dimensions of Financial Sustainability

Ratio	Formula
Return on performing assets (ROA)	Financial income / Average Performing Assets
Operating self sufficiency (OSS)	Financial revenue / Financial & operating costs + loan loss provision
Financial self sufficiency (FSS)	Financial revenue / Financial & operating costs + loan loss provision + imputed cost of capital*
*The Imputed cost of capital = [Inflation x (average net worth - average fixed assets) + (Inflation - interest rate paid) x Concessional loans]	

Source: Sa-Dhan (2013)

2.2 Empirical Literature Review

The following is a review of the obtained literature on the impact of capital structure (funding option and mix) on MFI's financial sustainability.

Coleman (2007) found the highly leveraged MFIs in Ghana perform better by reaching out to more clientele, enjoy scale economies, and therefore were better able to deal with moral hazard and adverse selection, enhancing their ability to deal with risk. Peter (2007) found a negative relationship between the financial sustainability of a MFI and the level of subsidies it receives each quarter i.e. the more the level of subsidy income rises, the more the respective MFI's financial sustainability falls. Similarly, Kereta (2007) came out with the finding that there is a negative relationship between dependency ratio (the ratio of donated equity to total capital) and financial sustainability. The findings by Silva (2008) are consistent with the findings on the previous study by Coleman (2007).

Iezza (2010) found the collection of deposits from clients to have positive influence on MFI's financial sustainability. Hoque, Chishty and Halloway (2011) propounded that leverage decreases the relative level of outreach to the very poor; hence, MFIs can adopt a non-commercial approach to financing as an alternative to commercialization. Kar (2012) came out with the results that the increase in leverage raises profit-efficiency in MFIs". Similarly, Lislevand (2012) suggested that the use of debt is beneficial to the MFIs as far as cost of funds is concerned.

Bogan (2012) revealed that share capital as a percent of assets is significant and negatively related to MFI's financial sustainability. Kioko (2012) revealed that, for deposit taking MFIs, deposit to asset ratio is a statically significant determinant of MFI sustainability with the following statistical values (t value=2.37, p value=0.00063), while for the non-deposit taking MFIs debt to equity ratio is a significant determinant of MFI sustainability. Kinde (2012) found that debt to equity ratio has a negative but statistically insignificant impact on financial sustainability, and there is a negative and statistically significant relationship between dependency ratio and financial sustainability at 1% level of significance.

The study by Tehulu (2013) revealed that leverage (measured by debt to equity ratio) has a negative and statistically significant impact on financial sustainability. Sekabira (2013) suggests that grants and debt have a substantial damaging consequence on MFI performance, and capital structure is an essential aspect as far as MFIs' sustainability is concerned. Lastly, Ngo (2013) propounded that profitable and regulated MFIs that utilize considerably more commercial funds have higher level of sustainability, efficiency and outreach.

2.3 Research Gap and Hypotheses

Critical analysis of the above-discussed literatures shows that the impact of MFIs' capital structure on financial sustainability has not been well addressed because there are mixed results. In addition to that, past researches have limitation in sense that there is no study (to the best of researchers' knowledge) that has discussed the impact of MFIs going public (financing through stock markets) on their financial sustainability. These facts show that there is a research gap and raise a need for further research on the subject matter. To fill the highlighted research gap, the following hypotheses need to be tested:

- **H_0:** The capital structure of the Microfinance Institution has no significant impact on its financial sustainability
- **H_1:** The capital structure of the Microfinance Institution has a significant impact on its financial sustainability

3. Methodology

This paper employs quantitative research techniques and uses secondary data only. This paper (Part I) focuses on a formal MFI that has operated for the longest time in Tanzania, has the widest network of branches and largest customer base – National Microfinance Bank (NMB, 2013) – while Part II will focus on other MFIs. As pointed out in the literature review, financial sustainability is measured by three factors: Return on Assets (ROA), Operational Self-Sufficiency (OSS) and Financial Self-Sufficiency (FSS), while capital structure variables include customer deposits (DEP), commercial borrowings (BOR), equity (EQ) and going public (GP). Thus literature justifies these variables to be used, some as dependent variables and others as independent variables. It has to be noted that all these variables are financial ratios.

Quarterly data from 1997 fourth quarter to 2014 second quarter (67 observations) was collected from NMB website and Bank of Tanzania (BOT) databases. Since this is time series data, there is a justification of employing Ordinary Least Squares (OLS) method for data analysis, accompanied by the Augmented Dickey-Fuller unit root test, Variance Inflation Factor (VIF) test of multicollinearity problem, Durbin-Watson test of autocorrelation and robustness check to control the heteroscedasticity (Gujarat, 2003). The following models (functional forms) summarize the study:

$$ROA = f(DEP, BOR, EQ, GP) \quad (1)$$
$$OSS = f(DEP, BOR, EQ, GP) \quad (2)$$
$$FSS = f(DEP, BOR, EQ, GP) \quad (3)$$

As pointed out earlier, this research improves the previous studies by including the element of going public (GP) i.e. selling shares in the stock markets in the capital structure and tries to see whether such a decision has impact of financial sustainability of the MFI. Previous studies just focused generally on debt versus equity composition of the capital structure but this one takes selling shares in the stock market as a special case, and has includes a special variable (dummy variable) for it.

4. Data Set and Analysis

From the quarterly financial statements of NMB and BOT quarterly economic outlook reports, the required financial ratios were calculated as shown in the Appendix 1. Six variables were the ratios, while going public was a dummy variable. However, the ratio of commercial borrowing to assets (BOR) had 31 observations with zero value i.e. the bank did not borrow in such periods and even in the periods when borrowing has taken place the ratio is still too small. To avoid non-stationarity problem, the variable is converted to a dummy variable – with 1 standing for the periods that borrowing has taken place and 0 for non-borrowing periods. Table 3 below gives the descriptive statistics of the variables put in place.

Table 3: Descriptive Statistics for the Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
ROA	67	.0151791	.0218319	-.1393	.0434
OSS	67	1.598179	.3949037	.312	3.126
FSS	67	1.417179	.3380105	.218	2.36
DEP	67	.8547313	.0875964	.701	1.43
BOR	67	.5373134	.5023689	0	1
EQ	67	.0652239	.0960456	-.54	.228
GP	67	.3432836	.4783887	0	1

Source: STATA Output of Research Data (2014)

A rough prediction on the relationship among the variables was generated through correlation as shown in Table 4 below. ROA and OSS seem to be affected more by EQ and BOR, while FSS seems to be affected more by DEP and EQ.

Table 4: Variables Correlation Matrix

	ROA	OSS	FSS	DEP	BOR	EQ	GP
ROA	1.0000						
OSS	0.5369	1.0000					
FSS	0.4907	0.4089	1.0000				
DEP	0.0077	-0.0351	0.4652	1.0000			
BOR	0.2543	0.3348	0.1592	0.0333	1.0000		
EQ	0.2891	0.3959	-0.3505	-0.6934	0.3247	1.0000	
GP	0.1851	0.1160	-0.2673	-0.1793	0.1666	0.4346	1.0000

Source: STATA Output of Research Data (2014)

Unit root tests were conducted on the ROA, OSS, FSS, DEP and EQ variables and as shown in Appendix 2, all the variables were found stationary and hence suitable for OLS regression analysis. The VIF test of multicollinearity was also conducted, and as shown in Table 5 below,

the VIF is small (highest value is 3.02), indicating that there is no collinearity among the explanatory variables.

Table 5: Results of Multicollinearity Test

Variable	Variance Inflation Factor (VIF)	1/VIF
DEP	2.33	0.428281
BOR (Dummy)	1.31	0.764360
EQ	3.02	0.331367
GP (Dummy)	1.28	0.780816
Mean VIF	1.99	

Source: STATA Output of Research Data (2014)

After conducting the above preliminary tests, OLS regression test was employed, taking care of the dummy variables and robustness check to avoid the heteroscedasticity problem. The STATA command also included the "beta" so as to rank the explanatory variables according to their impact on the dependent variables. Thereafter the adjusted R^2 was generated and Durbin-Watson test of autocorrelation was conducted. The following section discusses the results.

5. Discussion of the Findings

In this paper, the findings on the impact of capital structure variables on MFI financial sustainability in Tanzania are discussed basing on the three functional models suggested in Section III above.

5.1 Findings Basing on ROA

As shown in Table 6 below, all the explanatory variables (DEP, BOR, EQ and GP) do not have a statistically significant impact on ROA, although all of them have a positive impact. This is because none of them has a test statistic (t) of above 1.96 at 5% level of significance. The beta coefficients reveal that EQ and DEP have a stronger impact on ROA. The Durbin-Watson coefficient is approximately 2, showing that there is no autocorrelation problem. However the R^2 and adjusted R^2 values are small, indicating that the named explanatory variables have a little contribution in explaining the trend of MFI financial sustainability based on ROA; hence, other variables than these should be sough and included when modeling for the determinants of MFI financial sustainability. If one bases the results only on ROA, it can be said that the capital structure variables do not have a statistically significant on MFI financial sustainability, but before doing so let us look on the results basing on OSS and FSS as well.

Table 6: Multiple Regression Results on the Impact of DEP, BOR, EQ and GP on ROA

			Number of obs =	67
			F-value (4, 62) =	1.28
			R-squared =	0.1715
			Adjusted R^2 =	0.1180
ROA	Coef.	Robust Standard Error	t-statistic	Beta
DEP	0.0897	0.0563	1.59	0.3597
BOR (Dummy)	0.0033	0.0034	0.96	0.0749
EQ	0.1152	0.0646	1.78	0.5069
GP (Dummy)	0.0008	0.0034	0.23	0.0168
Constant	-0.0710	0.0539	-1.32	
Durbin-Watson d-statistic (5, 67) = 2.0855				

Source: STATA Output of Research Data (2014)

5.2 Findings Basing on OSS

As shown in Table 7 below, all other explanatory variables except GP have a positive impact on OSS. In addition to that, DEP and EQ have a statistically significant impact on OSS. The beta coefficients reveal again that EQ and DEP have a stronger impact on MFI financial sustainability, this time basing on OSS. Likewise, as it was in the previous section, the Durbin-Watson coefficient is approximately 2, showing that there is no autocorrelation problem. It has as well happened that the R^2 and adjusted R^2 values are small (not even up to 0.5), indicating that the named explanatory variables have a little contribution in explaining the trend of MFI financial sustainability based on OSS; hence, other variables than these should be sough and included in the model. Basing on these findings only we can say that DEP and EQ have a statistically significant positive impact on MFI's financial sustainability but they are insufficient explanatory variables.

Table 7: Multiple Regression Results on the Impact of DEP, BOR, EQ and GP on OSS

			Number of obs =	67
			F- value (4, 62) =	7.88
			R-squared =	0.2921
			Adjusted R^2 =	0.2464
OSS	Coef.	Robust Standard Error	t-statistic	Beta
DEP	1.9854	0.5226	3.80	0.4404
BOR (Dummy)	0.0843	0.1042	0.81	0.1073
EQ	2.9882	0.8612	3.47	0.7268
GP (Dummy)	-0.1145	0.1003	-1.14	-0.1387
Constant	-0.2997	0.4803	-0.62	
Durbin-Watson d-statistic (5, 67) = 1.9085				

Source: STATA Output of Research Data (2014)

5.3 Findings Basing on FSS

As shown in Table 8 below, DEP and BOR have a positive impact while EQ and GP have a negative impact on FSS. In addition to that, only DEP has a statistically significant impact on FSS. The beta coefficients rank DEP to have a stronger impact on MFI financial sustainability, this time basing on FSS. The Durbin-Watson coefficient is still not small, although this time it is not approximately 2, but it still shows that there is no significant autocorrelation problem. As it was in the above cases, the R^2 and adjusted R^2 values are small, indicating that the named explanatory variables have a little contribution in explaining the trend of MFI financial sustainability based on FSS. Basing on these findings only we can say that only DEP has a statistically significant positive impact on MFI's financial sustainability.

Table 8: Multiple Regression Results on the Impact of DEP, BOR, EQ and GP on FSS

		Number of obs = 67		
		F-value (4, 62) = 12.11		
		R-squared = 0.2851		
		Adjusted R^2 = 0.2390		
FSS	Coef.	Robust Standard Error	t-statistic	Beta
DEP	1.4477	0.5992	2.42	0.3752
BOR (Dummy)	0.1364	0.0795	1.72	0.2027
EQ	-0.2366	0.8023	-0.29	-0.0672
GP (Dummy)	-0.1446	0.0782	-1.85	-0.2046
Constant	0.1716	0.5610	0.31	
Durbin-Watson d-statistic (5, 67) = 1.4677				

Source: STATA Output of Research Data (2014)

5.4 Overall Findings

With reference to the hypotheses put in place, the results show that deposits mobilization has a statistically significant impact on MFI financial sustainability, at 5% level of significance, when the dependent variable is OSS or FSS. In addition to that, equity capital also has a statistically significant impact when the dependent variable is OSS. In all the remaining cases, capital structure variables are found not to have statistically significant impact on financial sustainability variables.

Generally, from the above three scenarios, among the capital structure variables, deposit mobilization is the leading determinant of financial sustainability as it always has a positive impact in all cases and a statistically significant impact on OSS and FSS. Owners' equity follows as it has a positive significant impact on OSS, although its impact is insignificant in other cases. Commercial borrowing has a positive impact that is not statistically significant in all cases. Lastly, according to this paper, going public has no defined and statistically significant impact on MFI's financial sustainability.

The findings of this study are different from those of the previous studies because this study did not take into consideration subsidies (donor funds) as part of capital structure, but took a full coverage of other sources of capital i.e. deposit mobilization, commercial borrowing and equity

(including selling shares in the stock markets). This is mainly because the study was undertaken in a formal, deposit taking and advanced institution. The most unique finding is that of the impact of selling shares in stock markets on financial sustainability. However, with regard to deposit mobilization, the findings of this study are consistent with the findings of most of the discussed literature. This can be supported by the fact that deposits can be the cheapest source of funds for MFIs.

6. Conclusions, Limitations and Way Forward

The findings have shown that deposit mobilization is the most crucial determinant of financial sustainability amongst other MFI capital structure variables, followed by shareholders equity, debt (commercial borrowing) and lastly going public. These findings, especially on deposit mobilization, are consistent with the findings of most of the previous studies; and this is due to the fact that deposits can be the cheapest source of funds for financial institutions. Hence, it is suggested that the MFIs should develop appropriate savings products so as to capture and utilize clients' savings efficiently for their financial sustainability; and should seek for willing investors to add the equity capital base. In this paper, commercial borrowing has not drawn a significant attention but it is an option that should analyzed more, especially when it comes to MFIs that borrow significantly. This study has moved the body of knowledge forward by analyzing the impact of selling shares in stock markets (going public) of MFI's financial sustainability. Going public is not seen to have significant effect on MFI's financial sustainability, but this aspect should be researched more with other kind of dataset.

The significance of the findings of this research are pegged in the fact that they enable the MFIs to determine the optimal mix of funding options for their good performance and welfare of the poor. This is further supported by the fact that this research has been conducted in a different environment (Tanzania) and has also considered the impact of selling shares to the public on MFI's financial sustainability. Despite the good contribution of this research to the body of knowledge, it some limitations that future studies should overcome. The limitations are as follows: (i) The findings of this paper show that the values of R^2 and adjusted R^2 are small, suggesting that there are other variables that explain better the financial sustainability of MFIs; (ii) This paper concentrated more on formal MFIs while there is a significant number of MFIs operating as semi-formal institutions, which should as well be considered in the coming studies; and (iii) This study used time series data from one institution (NMB), hence future studies can utilize panel data from different institutions so as to come out with the results that are more robust and more relevant for generalization.

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Appendix 1: Financial Ratios

Period	ROA	OSS	FSS	DEP	BOR	EQ	GP
1997Q4	0.0162	3.126	1.069	0.800	0.0000	0.091	0
1998Q1	-0.0080	0.599	0.218	0.701	0.0000	0.228	0
1998Q2	0.0078	1.129	2.360	1.430	0.0000	-0.540	0
1998Q3	-0.1393	0.312	0.334	0.832	0.0000	-0.048	0
1998Q4	0.0054	1.063	1.223	0.856	0.0000	-0.048	0
1999Q1	0.0048	1.216	2.118	0.856	0.0000	-0.035	0
1999Q2	0.0003	1.006	1.218	0.844	0.0000	-0.041	0
1999Q3	0.0090	1.114	1.228	0.805	0.0000	-0.032	0
1999Q4	0.0087	1.087	1.176	0.801	0.0000	-0.056	0
2000Q1	0.0056	1.266	1.847	0.842	0.0000	-0.051	0
2000Q2	0.0105	1.252	1.401	0.743	0.0000	-0.028	0
2000Q3	0.0106	1.232	1.307	0.797	0.0000	-0.023	0
2000Q4	0.0094	1.154	1.168	0.739	0.0000	0.013	0
2001Q1	0.0096	1.711	1.715	0.746	0.0000	0.029	0
2001Q2	0.0151	1.553	1.555	0.787	0.0000	0.028	0
2001Q3	0.0155	1.397	1.398	0.908	0.0000	0.028	0
2001Q4	0.0162	1.273	1.274	0.925	0.0000	0.028	0
2002Q1	0.0076	1.651	1.622	0.905	0.0000	0.030	0
2002Q2	0.0092	1.403	1.388	0.903	0.0058	0.031	0
2002Q3	0.0149	1.408	1.392	0.906	0.0063	0.038	0
2002Q4	0.0160	1.361	1.349	0.908	0.0064	0.037	0
2003Q1	0.0034	1.285	1.240	0.913	0.0065	0.038	0
2003Q2	0.0081	1.342	1.316	0.898	0.0077	0.040	0
2003Q3	0.0108	1.359	1.337	0.927	0.0065	0.037	0
2003Q4	0.0157	1.363	1.342	0.909	0.0068	0.042	0
2004Q1	0.0119	2.211	2.055	0.909	0.0071	0.050	0
2004Q2	0.0199	1.950	1.853	0.897	0.0068	0.056	0
2004Q3	0.0273	1.907	1.835	0.857	0.0465	0.060	0
2004Q4	0.0326	1.767	1.711	0.866	0.0426	0.063	0
2005Q1	0.0096	1.986	1.730	0.905	0.0062	0.065	0
2005Q2	0.0205	1.910	1.767	0.889	0.0065	0.079	0
2005Q3	0.0284	1.840	1.728	0.887	0.0063	0.085	0
2005Q4	0.0367	1.824	1.727	0.888	0.0059	0.089	0
2006Q1	0.0138	2.311	1.753	0.878	0.0056	0.095	0
2006Q2	0.0276	2.193	1.823	0.854	0.0058	0.109	0
2006Q3	0.0370	1.969	1.783	0.857	0.0000	0.111	0
2006Q4	0.0434	1.759	1.629	0.854	0.0000	0.114	0
2007Q1	0.0120	1.927	1.432	0.862	0.0000	0.106	0
2007Q2	0.0209	1.750	1.556	0.865	0.0000	0.103	0
2007Q3	0.0283	1.656	1.474	0.857	0.0060	0.107	0
2007Q4	0.0315	1.645	1.521	0.874	0.0049	0.104	0
2008Q1	0.0135	2.149	1.405	0.860	0.0050	0.113	0
2008Q2	0.0207	1.792	1.430	0.844	0.0049	0.113	0

Period	ROA	OSS	FSS	DEP	BOR	EQ	GP
2008Q3	0.0216	1.665	1.402	0.720	0.0000	0.094	0
2008Q4	0.0311	1.587	1.362	0.868	0.0000	0.111	1
2009Q1	0.0088	1.739	0.998	0.863	0.0000	0.114	1
2009Q2	0.0165	1.645	1.273	0.860	0.0000	0.113	1
2009Q3	0.0205	1.599	1.325	0.858	0.0000	0.104	1
2009Q4	0.0281	1.581	1.347	0.872	0.0000	0.115	1
2010Q1	0.0068	1.595	1.028	0.875	0.0000	0.111	1
2010Q2	0.0132	1.555	1.291	0.861	0.0000	0.106	1
2010Q3	0.0216	1.648	1.491	0.868	0.0000	0.113	1
2010Q4	0.0256	1.584	1.482	0.856	0.0139	0.109	1
2011Q1	0.0089	1.762	1.260	0.845	0.0241	0.114	1
2011Q2	0.0159	1.627	1.321	0.841	0.0264	0.113	1
2011Q3	0.0248	1.643	1.316	0.827	0.0167	0.121	1
2011Q4	0.0331	1.595	1.279	0.828	0.0147	0.131	1
2012Q1	0.0104	1.713	0.860	0.832	0.0083	0.132	1
2012Q2	0.0216	1.673	1.179	0.837	0.0009	0.129	1
2012Q3	0.0307	1.727	1.379	0.828	0.0134	0.130	1
2012Q4	0.0346	1.608	1.380	0.808	0.0251	0.132	1
2013Q1	0.0097	1.688	1.070	0.807	0.0261	0.131	1
2013Q2	0.0195	1.705	1.396	0.808	0.0266	0.124	1
2013Q3	0.0303	1.729	1.531	0.816	0.0074	0.136	1
2013Q4	0.0412	1.707	1.566	0.777	0.0503	0.143	1
2014Q1	0.0111	1.718	1.278	0.776	0.0509	0.144	1
2014Q2	0.0127	1.777	1.330	0.752	0.0724	0.142	1

Key:
ROA - Return on Assets
OSS - Operational Self-Sufficiency
FSS - Financial Self-Sufficiency
DEP - Deposits from customers/Assets
BOR - Commercial Borrowings/Assets
EQ - Equity Capital/Assets
GP - Going Public (dummy variable)

Appendix 2: Unit Root Test Results

. **dfuller roa**

Dickey-Fuller test for unit root — Number of obs = **66**

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		------ Interpolated Dickey-Fuller -------		
Z(t)	**-6.666**	**-3.558**	**-2.917**	**-2.594**

MacKinnon approximate p-value for Z(t) = **0.0000**

. **dfuller oss**

Dickey-Fuller test for unit root — Number of obs = **66**

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		------ Interpolated Dickey-Fuller -------		
Z(t)	**-6.268**	**-3.558**	**-2.917**	**-2.594**

MacKinnon approximate p-value for Z(t) = **0.0000**

. **dfuller fss**

Dickey-Fuller test for unit root — Number of obs = **66**

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		------ Interpolated Dickey-Fuller -------		
Z(t)	**-8.002**	**-3.558**	**-2.917**	**-2.594**

MacKinnon approximate p-value for Z(t) = **0.0000**

. **dfuller dep**

Dickey-Fuller test for unit root — Number of obs = **66**

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		------ Interpolated Dickey-Fuller -------		
Z(t)	**-7.814**	**-3.558**	**-2.917**	**-2.594**

MacKinnon approximate p-value for Z(t) = **0.0000**

. **dfuller eq**

Dickey-Fuller test for unit root — Number of obs = **66**

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		------ Interpolated Dickey-Fuller -------		
Z(t)	**-5.878**	**-3.558**	**-2.917**	**-2.594**

MacKinnon approximate p-value for Z(t) = **0.0000**