

APPENDICES

Appendix (1): Grameen Bank- The Sixteen Decisions

1. We shall follow and advance the four principles of the GB - discipline, unity, courage & hard work - in all walks of our lives.
2. Prosperity we shall bring to our families.
3. We shall not live in dilapidated houses. We shall repair our houses and work towards constructing new houses as soon as possible.

4. We shall grow vegetables all year round. We shall eat plenty of them and sell the surplus.
5. During the plantation season we shall plant as many seedlings as possible.
6. We shall plan to keep our families small. We shall minimize our expenditure. We shall look after our health.
7. We shall educate our children & ensure that we can earn to pay for their education.
8. We shall always keep our children & their environment clean.
9. We shall build & use pit latrines.
10. We shall drink water from tube wells. If it is not available, we shall boil water or use alum.
11. We shall not take dowry at our son's weddings, nor shall we give any dowry at our daughter's weddings. We shall keep our centre free from the curse of dowry. We shall not practice child marriage.
12. We shall not inflict injustice on anyone, nor shall we allow anyone else to do so.
13. We shall collectively undertake larger investments for higher incomes.
14. We shall always be ready to help each other. If anyone is in difficulty we shall help him or her.
15. If we come to know of any breach of discipline in any centre, we shall go there & help restore discipline.

16. We shall introduce physical exercises in all our centers. We shall take part in all social activities collectively.

NB: these 16 decisions were formulated in a national workshop of 100 women Centre Chiefs in March 1984, & form the social development program of GB. All members are expected to memorize & implement them.

Appendix (2): Quarterly Male/Female Credit Access Share in
Percent

Obs	TNCs	Male	Female	Male%	Female%
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Q12007	1311	1025	286.00	0.78	0.22
Q2 2007	1321	1030	291.00	0.78	0.22
Q3 2007	2637	2237	400.00	0.85	0.15
Q4 2007	3509	2890	619.00	0.82	0.18
Q12008	2117	1679	438.00	0.79	0.21
Q2 2008	2740	1830	910.00	0.67	0.33
Q3 2008	5228	3027	2201.00	0.58	0.42
Q4 2008	4238	3043	1195.00	0.72	0.28
Q1 2009	1869	1445	451.00	0.77	0.23
Q2 2009	2677	1888	789.00	0.71	0.29
Total	27647	20094	7580.00	0.73	0.27

Source: Research and Planning Dept (SSDB)

Appendix (3): Female/ Male Credit Access Share during the Case Study Period.

Branches	TNCs	Female	Male	Female%	Male%
Obied	994	364	630	0.37	0.63
Bawga	31	5	26	0.16	0.84
Omdurman	665	289	376	0.43	0.57
Algama	727	77	650	0.11	0.89
Hisihisa	742	153	589	0.21	0.79
U.N	313	126	187	0.40	0.60
K. south	402	100	302	0.25	0.75
Dalang	1114	154	960	0.14	0.86
Damasin	1339	63	1276	0.05	0.95
Sog gadid	340	89	251	0.26	0.74

Sog mhli	1125	396	729	0.35	0.65
Soki	1486	621	865	0.42	0.58
Fao	596	36	560	0.06	0.94
Sog Arbi	419	150	269	0.36	0.64
Gaderif	1341	603	738	0.45	0.55
Managil	2007	999	1008	0.50	0.50
Omdr mhli	1635	684	951	0.42	0.58
Bahari	979	478	501	0.49	0.51
P. Sudan	421	51	370	0.12	0.88
Dongla	358	94	264	0.26	0.74
Rabak	123	20	103	0.16	0.84
Rofaa	694	150	544	0.22	0.78
Senar	509	57	452	0.11	0.89
Senga	401	117	284	0.29	0.71
Shendi	1775	122	1653	0.07	0.93
Atbara	858	178	680	0.21	0.79
kasala	1558	271	1287	0.17	0.83
kosti	847	98	749	0.12	0.88
Madani	501	141	360	0.28	0.72
Nyala	3374	894	2480	0.26	0.74
Total	27674	7580	20094	0.27	0.73

Source: Research and Planning Dept (SSDB, 2007:1: 2009:6)

Appendix (4): The Quarterly Loan Size of the Case Study Bank (2007:1 – 2009:6)

Observations	Loan size
Q1 2007	6,532,090.00
Q2 2007	5,456,595.00
Q3 2007	10,327,416.00
Q4 2007	9,743,252.00
Q1 2008	9,830,096.00
Q2 2008	13,522,048.00
Q3 2008	15,867,842.00
Q4 2008	15,538,482.00
Q1 2009	9,164,606.00
Q2 2009	16,024,512.00
Total	112,006,939.00

Source: Research and Planning Dept (SSDB, 2007:1: 2009:6)

Appendix (5): Monthly Female/Male Credit Share during the Case Study Period.

Observations	Male	Female
Jan2007	163	37
Feb	406	66
March	456	183
April	480	133
May	175	56
June	375	102
July	282	81
Aug	494	72
Sept	1461	247
Oct	1858	227
Nov	651	229
Dec	381	163
Jan2008	276	85
Feb	442	110
March	961	243
April	531	166
May	649	257
June	650	487
July	697	159
Aug	1117	764
Sept	1213	1278

Oct	813	264
Nov	1091	399
Dec	1139	532
Jan2009	150	24
Feb	424	68
March	871	359
April	725	264
May	617	332
June	546	193
Total	20,094	7,580

Source: Research and Planning Dept (SSDB, 2007:1: 2009:6)

Appendix (6): Female /Male Credit Access in Percent per Individual Branch

Branches	Female%	Male%
Damasin	0.05	0.95
Fao	0.06	0.94
Shendi	0.07	0.93
Algma	0.11	0.89
Senar	0.11	0.89
kosti	0.12	0.88
P. Sudan	0.12	0.88
Dalang	0.14	0.86
Bawga	0.16	0.84
Rabak	0.16	0.84
kasala	0.17	0.83
Hisihisa	0.21	0.79
Atbra	0.21	0.79
Rofaa	0.22	0.78
K. south	0.25	0.75
Sog gadid	0.26	0.74
Dongola	0.26	0.74
Nyala	0.26	0.74
Madani	0.28	0.72
Senga	0.29	0.71
Sog mhli	0.35	0.65
Sog Arbi	0.36	0.64
Obied	0.37	0.63
U.N	0.40	0.60
Soki	0.42	0.58
Omdurman mahli	0.42	0.58
Omdurman	0.43	0.57
Gaderif	0.45	0.55
Bahari	0.49	0.51
Managil	0.50	0.50

Total	0.27	0.73
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Source: Research and Planning Dept (SSDB, 2007:1: 2009:6

Appendix (7): Outreach Vis-a Vis Financial Sustainability

Observations	Number of clients	Profit Margin
Jan2007	200	14,860.72
Feb	472	23,005.77
March	639	27,454.41
April	613	21,372.32
May	231	10,104.15
June	477	23,089.48
July	363	17,785.86
Aug	566	28,495.33
Sept	1708	56,992.97
Oct	2085	41,576.88
Nov	880	32,491.34
Dec	544	23,364.30
Jan2008	361	18,291.11
Feb	552	30,443.44
March	1204	49,566.41
April	697	34,495.06
May	906	51,556.77
June	1137	49,168.65
July	856	50,373.85
Aug	1881	56,489.69
Sept	2491	51,814.88
Oct	1077	45,733.67
Nov	1490	60,571.70
Dec	1671	49,079.45
Jan2009	174	11,171.66
Feb	492	33,049.83
March	1230	47,424.57
April	989	58,962.28
May	949	53,422.25
June	739	47,860.59
Total	27,674	1,120,069.39

Source: Research and Planning Dept (SSDB, 2007:1: 2009:6

Appendix (8): The Regional Distribution of the Banking System in Sudan 2008

States	Number	Percent
Khartoum State	199	0.37
Central State	106	0.20
Eastern State	67	0.13
Northern State	55	0.10
Kordofan State	47	0.09
Darfur State	42	0.08
Southern State	14	0.03
Total	532	100

Source: Research and Planning Dept (SSDB)

Appendix (9): Augmented Dickey – Fuller Unit Root Test on NCs

ADF Test Statistic	-3.415902	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NCS)

Method: Least Squares

Date: 01/22/10 Time: 14:33

Sample(adjusted): 2007:02 2009:06

Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NCS(-1)	-0.576801	0.168858	-3.415902	0.0020
C	554.3148	185.2689	2.991948	0.0059
R-squared	0.301755	Mean dependent var	18.58621	
Adjusted R-squared	0.275894	S.D. dependent var	624.1716	
S.E. of regression	531.1351	Akaike info criterion	15.45438	
Sum squared resid	7616821.	Schwarz criterion	15.54868	
Log likelihood	-222.0885	F-statistic	11.66839	
Durbin-Watson stat	1.845028	Prob(F-statistic)	0.002026	

Appendix (10): Augmented Dickey – Fuller Unit Root Test on PM

ADF Test Statistic	-2.826759	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PM)

Method: Least Squares

Date: 01/22/10 Time: 14:56

Sample(adjusted): 2007:02 2009:06

Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PM(-1)	-0.425557	0.150546	-2.826759	0.0087
C	168719.3	60390.54	2.793803	0.0095
R-squared	0.228363	Mean dependent var	11379.27	
Adjusted R-squared	0.199784	S.D. dependent var	141037.2	
S.E. of regression	126164.5	Akaike info criterion	26.39503	
Sum squared resid	4.30E+11	Schwarz criterion	26.48933	
Log likelihood	-380.7280	F-statistic	7.990567	
Durbin-Watson stat	1.898476	Prob(F-statistic)	0.008746	

Appendix (11): Augmented Dickey – Fuller Unit Root Test on D (PM)

ADF Test Statistic	-5.225503	1% Critical Value*	-3.6959
		5% Critical Value	-2.9750
		10% Critical Value	-2.6265

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PM,2)

Method: Least Squares

Date: 01/22/10 Time: 16:21

Sample(adjusted): 2007:04 2009:06
Included observations: 27 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PM(-1))	-1.520200	0.290919	-5.225503	0.0000
D(PM(-1),2)	0.338788	0.192817	1.757041	0.0917
C	15135.25	27491.42	0.550544	0.5870
R-squared	0.615371	Mean dependent var	-3707.519	
Adjusted R-squared	0.583319	S.D. dependent var	218864.5	
S.E. of regression	141278.9	Akaike info criterion	26.65930	
Sum squared resid	4.79E+11	Schwarz criterion	26.80328	
Log likelihood	-356.9005	F-statistic	19.19891	
Durbin-Watson stat	2.066468	Prob(F-statistic)	0.000010	

Appendix (12): Regression Results of NCs on PM

Dependent Variable: NCS

Method: Least Squares

Date: 01/22/10 Time: 16:41

Sample: 2007:01 2009:06

Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-140.1107	184.0193	-0.761392	0.4528
PM	0.002846	0.000456	6.247661	0.0000
R-squared	0.582297	Mean dependent var	922.4667	

Adjusted R-squared	0.567379	S.D. dependent var	585.1247
S.E. of regression	384.8595	Akaike info criterion	14.80797
Sum squared resid	4147272.	Schwarz criterion	14.90139
Log likelihood	-220.1196	F-statistic	39.03327
Durbin-Watson stat	1.406099	Prob(F-statistic)	0.000001

Appendix (13): Regression Results of PM on NCs

Dependent Variable: PM

Method: Least Squares

Date: 01/22/10 Time: 16:55

Sample: 2007:01 2009:06

Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	184618.9	35602.55	5.185553	0.0000
NCS	204.6009	32.74841	6.247661	0.0000

R-squared	0.582297	Mean dependent var	373356.5
Adjusted R-squared	0.567379	S.D. dependent var	156885.9
S.E. of regression	103190.0	Akaike info criterion	25.99087
Sum squared resid	2.98E+11	Schwarz criterion	26.08429
Log likelihood	-387.8631	F-statistic	39.03327
Durbin-Watson stat	1.091968	Prob(F-statistic)	0.000001

**Appendix (14): Augmented Dickey-Fuller Unit Root Test on
Residual of (PM)**

ADF Test Statistic	-3.758686	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID02)

Method: Least Squares

Date: 01/22/10 Time: 16:52

Sample(adjusted): 2007:02 2009:06

Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID02(-1)	-0.715797	0.190438	-3.758686	0.0008
C	-1.877413	69.96227	-0.026835	0.9788

R-squared	0.343508	Mean dependent var	-13.79933
Adjusted R-squared	0.319194	S.D. dependent var	456.1466
S.E. of regression	376.3710	Akaike info criterion	14.76550
Sum squared resid	3824688.	Schwarz criterion	14.85980
Log likelihood	-212.0997	F-statistic	14.12772
Durbin-Watson stat	1.890232	Prob(F-statistic)	0.000835

Appendix (15) Augmented Dickey-Fuller Unit Root Test on Residual of (NCs)

ADF Test Statistic	-3.127114	1% Critical Value*	-3.6752
		5% Critical Value	-2.9665
		10% Critical Value	-2.6220

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

Method: Least Squares

Date: 01/22/10 Time: 17:01

Sample(adjusted): 2007:02 2009:06

Included observations: 29 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.557530	0.178289	-3.127114	0.0042
C	4831.410	17448.60	0.276894	0.7840

R-squared	0.265882	Mean dependent var	7576.510
Adjusted R-squared	0.238693	S.D. dependent var	107554.7
S.E. of regression	93844.62	Akaike info criterion	25.80314
Sum squared resid	2.38E+11	Schwarz criterion	25.89744
Log likelihood	-372.1455	F-statistic	9.778843
Durbin-Watson stat	2.010323	Prob(F-statistic)	0.004198

Appendix (16): Vector Auto regression Estimates &Equations

Date: 01/22/10 Time: 17:33

Sample(adjusted): 2007:03 2009:06

Included observations: 28 after adjusting endpoint

Standard errors & t-statistics in parentheses

	NCS	PM
NCS(-1)	0.044803 (0.26644) (0.16815)	-130.4166 (68.7518) (-0.8969000)
NCS(-2)	0.125638 (0.27881) (0.45063)	41.78674 (71.9428) (0.58083)
PM(-1)	0.002849 (0.00104) (2.73046)	0.970925 (0.26921) (3.60655)
PM(-2)	-0.001597 (0.00125) (-1.27820)	-0.123151 (0.32240) (-0.38199)
C	310.3135 (277.112) (1.11981)	150408.4 (71505.1) (2.10346)
R-squared	0.399020	0.425727
Adj. R-squared	0.294501	0.325853
Sum sq. resids	5501823.	3.66E+11
S.E. equation	489.0907	126203.3
F-statistic	3.817698	4.262655
Log likelihood	-210.3677	-365.8545
Akaike AIC	15.38341	26.48961
Schwarz SC	15.62130	26.72750
Determinant Residual <u>Covariance</u>		1.41E+15
Log Likelihood		-567.8206
Akaike Information Criteria		41.27290
Schwarz Criteria		41.74869

$$\text{NCS} = 310 + 0.04 \text{ NCS } (-1) + 0.13 \text{ NCS } (-2) + 0.003 \text{ PM } (-1) - 0.002 \text{ PM } (-2)$$

$$\text{PM} = 150408 - 130.41 \text{ NCS } (-1) + 41.79 \text{ NCS } (-2) + 0.97 \text{ PM } (-1) - 0.12 \text{ PM } (-2)$$

Appendix (17): Results of Granger – Causality Test

Pairwise Granger Causality Tests

Date: 01/22/10 Time: 18:17

Sample: 2007:01 2009:06

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
PM does not Granger Cause NCS	28	3.73485	0.03939
NCS does not Granger Cause PM		1.83613	0.18205

Appendix (18): Vector Error Correction Estimates

Date: 01/22/10 Time: 21:55

Included observations: 27 after adjusting
endpoints

Standard errors & t-statistics in parentheses

Cointegrating Eq:	CointEq1	
NCS(-1)	1.000000	
PM(-1)	-0.001743 (0.00085) (-2.05419)	
C	-304.9640	
Error Correction:	D(NCS)	D(PM)
CointEq1	-0.950268 (0.36860) (-2.57802)	-227.6995 (98.6053) (-2.30920)
D(NCS(-1))	0.160599 (0.36670) (0.43796)	82.40101 (98.0962) (0.84000)
D(NCS(-2))	0.152402 (0.27894) (0.54636)	106.4288 (74.6194) (1.42629)
D(PM(-1))	0.000657 (0.00123) (0.53180)	-0.328850 (0.33033) (-0.99550)
D(PM(-2))	-0.001572 (0.00122) (-1.28881)	-0.501777 (0.32636) (-1.53749)
C	14.69748 (95.9588) (0.15316)	14892.60 (25670.0) (0.58016)
R-squared	0.537603	0.349916
Adj. R-squared	0.427509	0.195135
Sum sq. resids	5001420.	3.58E+11
S.E. equation	488.0193	130550.3
F-statistic	4.883113	2.260708
Log likelihood	-202.0582	-352.9655
Akaike AIC	15.41172	26.59004
Schwarz SC	15.69968	26.87800
Mean dependent	3.703704	7557.844
S.D. dependent	644.9896	145517.9
Determinant Residual	1.42E+15	
Covariance		
Log Likelihood	-547.6560	
Akaike Information Criteria	41.60415	
Schwarz Criteria	42.27606	