

Enterprising Entrepreneurship & Start-Ups : Models for Growth and Financing of Micro, Small & Medium Enterprises (MSMEs) in times of Recession

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Abstract

Nation's worldwide are en-tasked with responsibility to build sustainable future for all while maintaining appropriate environmental discipline and stable socio-economic growth. The changing structure of world investment, trade, capital flow and the need for deeper integration, strengthening regulatory framework and signaling system is greater. The paper outlines framework for challenges & opportunities before MSMEs in the Global Economy through an integrated model approach of (a) reducing Financial Volatility; (b) fostering Employment Growth and Economic Development ; (c) fostering Sustainable Environment ; (d) restructuring Pension Systems and Societal Setups; (e) Self-Assessment Financing Model for Inducing Sustainable Growth; (f) Goal Programming Model for Capital Structure Decision; (g) focus on Organic Agriculture, Empowering & Doubling Farmer's Income; (h) setting in Fiscal Discipline & re-orienting role of IMF; (i) re-energizing multi-lateral trade agreements (WTO) along with bi-lateral FTAs.

I. Introduction

1.1 Financial Trends and Global Scenario

THERE ARE OVER US\$ 8 trillion worth of transactions that take place on a daily basis, which is equivalent to the total world trade every year. The persistent rise in the dispersion of current account balances of the world as a whole, wherein the sum of surpluses match the sum of deficits has grown substantially since the World War II. Since 1990, the un-regulated financial markets were set to induce growth for emerging and developed economies. However the economies have been hit one after the other with the fashion

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Submitted April 2015 ; Accepted August 2018

- 16 The second stage in this is to conduct self-evaluation process, assess or engage an external institution to evaluate the performance or competence of the institution. This is also done through ratings, rankings or accrediting bodies at national and international levels. This process enhances the insight on the strengths, weaknesses and opportunities before an institution. It also gives a new sense of direction., promoting inter and intra institutional interactions and directions to the institution under evaluation.
- 17 It is for the betterment of any setup, that there is natural, equal and sustained growth. But nature plays its own role. Differentiation is the rule of nature and the survival of the fittest is the game.
- 18 This enables bring in quality promotion, develop a network to promote educational enrichment and have collaborations for growth and exchange.
- 19 1 Crore (1,00,00,000) = 10 Million ; 1 Lakh (1,00,000) = 0.1 Million ; 1 Million (1,000,000)= 0.1 Crores ; 1 Billion (1,000,000,000) = 100 Crores ; 1 Crore (1,00,00,000) = 100 Lakh
- 20 The Fund was established in 2008 with an authorized capital of about US\$ 3.2 billion. The Fund plays a very important role in implementing the strategically important projects along structural transformation and modernization of economy, as well as establishment, firstly, of the production infrastructure. In the nearest perspective we are going to take the Fund's assets up to US\$ 5 billion. For over the past two years the Fund allocated credits worth more than US\$ 550 million to finance and co-finance tens of large industrial and infrastructure facilities.

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APPENDIX I
Industry Composition of ET 500 Companies

S No.	Industry Composition	Number of companies in each industry	Percentage of the industries in the sample survey
1	Agriculture	26	5.20
2	Capital Goods	46	9.20
3	Chemical & Petrochemical	35	7.00
4	Consumer Durables	18	3.60
5	Diversified	12	2.40
6	Finance	56	11.20
7	FMCG	25	5.00
8	Healthcare	27	5.40
9	Housing Related	41	8.20
10	Information Technology	33	6.60
11	Media & Publishing	6	1.20
12	Metal, Metal Products & Mining	32	6.40
13	Miscellaneous	30	6.00
14	Oil & Gas	15	3.00
15	Power	9	18.00
16	Telecom	12	2.40
17	Textile	21	4.20
18	Tourism	3	0.60
19	Transport Equipments	40	8.00
20	Transport Services	13	2.60
	Total	500	100.00

APPENDIX II
Summary of 10 Years LTD for 19 Industries

S.No.	Industry	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Min	Max	Range
Average														
1	Agriculture	0.73	0.69	0.85	0.97	1.13	1.27	1.35	1.58	1.6	0.81	0.7	1.6	0.91
2	Chemical & Petrochemicals	0.58	0.94	7.4	7.45	2.11	1.49	1.07	1.2	1	0.94	0.6	7.5	6.87
3	Power	0.59	0.51	0.49	1.66	1.08	1.57	1.7	1.55	1.36	1.36	0.5	1.7	1.2
4	Transport Services	1.17	0.96	1.78	6.74	3.02	1.74	1.53	2.15	0.81	0.67	0.7	6.7	6.06
5	Consumer Durables	0.61	0.61	0.75	0.75	0.71	2.4	1.4	1.54	1.31	1.11	0.6	2.4	1.8
6	Capital Goods	0.57	0.64	0.67	0.77	0.73	0.72	0.62	0.61	0.64	0.61	0.6	0.8	0.21
7	Diversified	0.86	0.82	0.78	0.8	0.83	0.75	0.9	1.16	1.86	1.72	0.8	1.9	1.1
8	FMCG	0.51	0.49	0.35	0.34	0.5	0.49	1.62	0.37	0.36	0.33	0.3	1.6	1.29
9	Healthcare	0.51	0.44	0.35	0.39	0.44	0.44	0.38	0.4	0.53	0.66	0.4	0.7	0.31
10	Housing Related	1	1.11	1.56	1.31	2.06	1.7	1.28	1.45	2.66	1.07	1	2.7	1.66
11	Information Technology	0.26	0.29	0.31	0.44	0.3	0.21	0.27	0.27	0.38	0.33	0.2	0.4	0.22
12	Media & Publishing	0.35	0.41	0.51	0.48	0.34	0.41	0.39	0.58	0.56	0.33	0.3	0.6	0.25
13	Metal, Metal Products & Mining	1.36	2.48	0.92	1.24	3.59	3.6	1.61	1.16	1.16	0.74	0.7	3.6	2.86
14	Miscellaneous	0.58	0.68	0.79	0.77	0.8	0.91	1.07	0.77	0.68	0.58	0.6	1.1	0.49
15	Oil and Gas	0.48	0.52	0.59	0.65	1.03	0.98	0.7	5.63	0.73	0.5	0.5	5.6	5.16
16	Telecom	0.66	0.54	0.56	1.36	2.02	0.97	1.19	1.02	1.01	1.22	0.5	2	1.49
17	Textiles	1.04	1.62	0.97	0.67	0.66	0.77	0.95	0.89	0.87	0.84	0.7	1.6	0.95
18	Tourism	1.09	1.08	1.03	0.83	0.82	0.96	1.15	1	0.86	0.73	0.7	1.2	0.42
19	Transport Equipments	0.6	0.62	0.58	0.63	0.62	0.57	0.58	0.63	0.61	0.53	0.5	0.6	0.1
	Min	0.26	0.29	0.31	0.34	0.3	0.21	0.27	0.27	0.36	0.33			
	Max	1.36	2.48	7.4	7.45	3.59	3.6	1.7	5.63	2.66	1.72			
	Range	1.09	2.18	7.09	7.12	3.29	3.39	1.42	5.36	2.3	1.39			
	Average	0.71	0.81	1.12	1.49	1.2	1.16	1.04	1.26	1	0.82			

APPENDIX III
Summary of 10 Years TDE for 19 Industries

S.No.	Industry	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Min	Maxc	Range	
1	Agriculture	1.1	1.06	1.43	1.67	1.88	2.06	2.06	2.18	2.14	1.41	1.06	2.18	1.12	1.7
2	Capital Goods	0.9	1.02	1.08	1.16	1.09	1.11	0.98	0.94	1	0.96	0.9	1.16	0.26	1.02
3	Chemical and Petrochemicals	0.96	1.51	11.13	12.04	2.81	1.97	1.76	1.87	1.46	1.34	0.96	12.04	11.07	3.69
4	Consumer Durables	1.49	1.47	1.62	1.48	1.3	3.04	1.96	2.07	1.94	1.87	1.3	3.04	1.74	1.82
5	Diversified	1.23	1.22	1.2	1.18	1.24	1.18	1.21	1.51	2.32	2.24	1.18	2.32	1.14	1.45
6	FMCG	0.77	0.8	0.74	0.95	1.01	0.99	2.02	0.74	0.67	0.66	0.66	2.02	1.36	0.93
7	Healthcare	0.72	0.64	0.55	0.6	0.67	0.67	0.57	0.58	0.75	0.91	0.55	0.91	0.36	0.67
8	Housing Related	1.24	1.4	1.88	1.57	2.32	1.93	1.51	1.71	2.88	1.3	1.24	2.88	1.64	1.77
9	Information Technology	0.38	0.39	0.42	0.64	0.49	0.36	0.42	0.5	0.74	0.54	0.36	0.74	0.38	0.49
10	Media & Publishing	0.44	0.56	0.63	0.55	0.39	0.46	0.43	0.65	0.73	0.39	0.39	0.73	0.34	0.54
11	Metal, Metal Products & Mining	1.29	1.96	1.16	1.5	3.57	4.18	1.6	1.08	1.21	0.83	0.83	4.18	3.35	1.84
12	Miscellaneous	1.19	1.29	1.43	1.37	1.32	1.36	1.41	1.19	1.12	0.93	0.93	1.43	0.51	1.26
13	Oil and Gas	0.61	0.65	0.71	0.89	1.11	1.18	0.94	0.83	0.89	0.64	0.61	1.18	0.57	0.84
14	Power	1.06	0.77	0.78	1.89	1.37	1.88	2.04	1.86	1.59	1.54	0.77	2.04	1.26	1.48
15	Telecom	0.8	0.64	0.6	1.42	2.8	1.36	1.61	1.41	1.48	2.07	0.6	2.8	2.2	1.42
16	Textiles	1.58	2.48	1.55	1.13	1.05	1.22	1.46	1.38	1.33	1.19	1.05	2.48	1.43	1.44
17	Tourism	0.44	0.55	0.82	0.74	0.54	0.41	0.29	0.24	0.16	0.14	0.14	0.82	0.69	0.43
18	Transport Equipments	0.93	0.93	0.85	0.88	0.92	0.89	0.88	0.92	0.92	0.8	0.8	0.93	0.13	0.89
19	Transport Services	1.31	1.05	1.89	6.82	3.17	1.85	1.63	2.25	0.92	0.68	0.68	6.82	6.14	2.16
	Min	0.38	0.39	0.42	0.55	0.39	0.36	0.29	0.24	0.16	0.14				
	Max	1.58	2.48	11.13	12.04	3.57	4.18	2.06	2.25	2.88	2.24				
	Range	1.2	2.09	10.71	11.48	3.18	3.82	1.77	2.01	2.72	2.1				
	Average	0.97	1.07	1.6	2.02	1.53	1.48	1.3	1.26	1.28	1.11				

APPENDIX IV

Industry wise Normal Distribution Test Results for LTD

LTD	AGRI	CG	CP	CD	DIV	FMCG	HC	HR	IT	MP
Jarque Bera	0.91	0.65	3.13	2.26	2.74	18.95	2.23	2.24	0.87	0.77
Probability	0.63	0.72	0.19	0.32	0.25	0	0.33	0.33	0.65	0.68
Anderson Darling (A2)	0.33	0.32	1.75	0.59	1.35	2.06	0.49	0.48	0.36	0.28
Probability	0.44	0.45	0	0.08	0	0	0.167	0.175	0.35	0.53
LTD	MMMP	MIS	OG	PO	TELE	TEX	TSM	TE	TS	
Jarque Bera	1.68	0.74	21.17	1.25	1.26	6.93	0.69	1.51	1.06	
Probability	0.43	0.69	0	0.53	0.53	0.03	0.71	0.47	0.01	
Anderson Darling (A2)	0.87	0.34	2.41	0.66	0.38	0.41	0.25	0.42	1.11	
Probability	0.01	0.41	0	0.055	0.32	0.26	0.65	0.26	0	

APPENDIX V

Industry wise Normal Distribution Test Results for TDE

TDE	AGRI	CG	CP	CD	DIV	FMCG	HC	HR	IR	MP
Jarque Bera	13.6	2.28	1.9	1.33	0.7	2.8	1.5	0.69	0.69	7.87
Probability	0	0.32	0.39	0.52	0.7	0.25	0.47	0.71	0.71	0.02
Anderson Darling (A2)	43	0.23	1.85	0.66	1.69	1.41	0.42	0.43	0.42	0.28
Probability	0.23	0.73	0	0	0	0	0.25	0.24	0.24	0.52
TDE	MMMP	MIS	OG	PO	TEL	TS	TEX	TSM	TE	
Jarque Bera	0.63	1.9	13.6	2.28	1.9	1.33	0.67	2.8	1.5	
Probability	0.73	0.39	0	0.32	0.39	0.52	0.72	0.25	0.47	
Anderson Darling (A2)	1.05	0.37	0.32	0.44	0.41	0.83	0.21	0.55	1.06	
Probability	0	0.34	0.47	0.22	0.27	0.02	0.79	0.11	0	

APPENDIX VI
TDE Industry Constraint Equations (19 Industries)

S.No	Industry Variables	TDE Constraint Equation	Explanatory Power		Variables with (r=0.90) with TDE	Positively Correlated with TDE	Negatively Correlated with TDE (r=-0.90)
			R	R ² S.E.			
1	Agriculture	TDE = 1.071 + 0.979 LTD - 0.0007 PBTT + 0.003 REFEX + 0.002ROGCPBTT + 0.002ROGGB + .040 CEFX + .001ROGCE + .001 FAR	1	1 79	PBTTM,CPM,PAT,PBT, PBDT,MC,CP,LTD	None	None
2	Capital Goods	TDE = 0.754+0.001ROGMC - 0.002CFHF	0.976 + 0.014 PBTTMIR,CEXEX,DR	0.953	0.02048CFFO,EP,ROGCOP,ICR,OI, PBDT,ROCE,PBTTM,CPM, LTD,CEFX and PO	VOTA	VOTA
3	Chemical and Petrochemicals	TDE = -2.295 + 1.502LTD - .000ROGCP	1 + .003CE	0.999	0.1216	LTD	None
4	Consumer Durables	TDE = 397 + 1.21LTD + .028 OI - 0.13CEPS - .002PBT	0.999	0.999	0.01933	LTD	None
5	Diversified Industry	TDE = .530 + 1.087LTD - .073CR + .008EPS	0.999	0.998	0.02427	LTD	None
6	FMCG	TDE = 1.038 + .092VOGB - .008APATM	1	0.999	0.08282	ROGFX,ROGNS,ROGTA,IR, ROGS,REFX,CEXEX,ICR,REFX	CEFF, CFFF, REXFX
	CFFI					MC,PAT,PBT,CP,NWCPBTT, DIV,PBTT,PBTT,NET,CFHO, CL, CA,CE,OI,COP,VOGB,NS,VO,GS, CEPS,GBTAL,SC,PBTTM,EP,ROCE, PO,PBTTM,DV,BV,CR,DR,FAR, EP,CV,VOTA and LTD	None
7	Healthcare	TDE = .142 + 1.155 LTD	0.993	0.987	0.0122	LTD	None
8	Housing Related	TDE = .188 + 1.022LTD + .000ROGMC	0.999	0.999	0.031071	LTD	PBTTM
9	Information Technology	TDE = -.070 + 2.069LTD - .001DIV	0.966	0.934	0.0335	None	None
10	Media and Publishing	TDE = 434 + .866LTD + .139CR + .005CV + .000PBT - .001DV + .000EP	1	1	0.0007	LTD	None
11	Metal and Metal Product	TDE = .045 + 1.098LTD + .001ROGGS + .000ROGCPBTT + .002ICR + .000ROGGB - .002CV	1	1	0.0049	LTD	None
12	Miscellaneous Industry	TDE = 1.470 - .062APATM + .001ROGMC	0.949	0.901	0.0497	None	None
13	Oil and Gas Industry	TDE = 1.715 - .004ROGCPBTT	0.868	0.754	0.05673	LTD	None
14	Power	TDE = 0.523 + 0.962LTD - 0.3.1CPM + 0.021PBTTM + 0.000PAT + .001ROGCPAT	0.999	0.999	0.0183	LTD	None
15	Telecom	TDE = -1.168 + 1.525LTD - 0.361VOGB	1	1	0.0163	LTD	None
16	Textile	TDE = -0.176 + 1.493LTD + 0.001ROGMC + 0.031FAR1	0.999	0.999	0.01369	CEPS,BV,EP,EP and LTD	None
17	Tourism	TDE = 0.015 + 1.049LTD	0.999	0.998	0.01134	LTD	None
18	Transport Equipments	TDE = 0.196 + 0.1073LTD + 0.004CV - .014CPM	0.968	0.937	0.01185	None	None
19	Transport Services	TDE = -.134 + 1.047LTD + 0.005DV	1	1	0.005032	None	None
	ROGMC,LTD	None					
		-0.001ROGMC + 0.005ROCE					

APPENDIX VII
LTD Industry Constraint Equations (19 Industries)

No	Industry	LTD Constraint Equation	R	Explanatory Power R ²	Variables Positively Correlated S.E. with (r=0.90) with LTD	Variables Negatively Correlated (r=-0.90) with LTD
1	Agriculture	LTD = -.812 + 1.085TDE + .001NWC -.016DV+.013PO + .000MC + .001CFFI + .010PBIDTM+.008CEFX	1	1	0.0012 TDE	APATM
2	Capital Goods	LTD = .304 + .000PO -.571TDE -.157CR	1	1	0.01146	CFFO, EP, CFFI, ROGCOP, VOTA ICR, OI, IR, CEXFX, DR, PBIDTM, CV, PBIDTM, ROCE, PBIDTM, CPM, CEFX, PO and TDE
3	Chemical and Petrochemicals	LTD = 1.574 + .664TDE -.000ROGCP -.002CE	1	0.999	0.08091	EP, ICR, GB, CPM, APATM, None REFX, ROGNS, ROGGS, PBIDTM, CFFO, ROGMC and TDE
4	Consumer Durables	LTD= 1.509 + 1.001TDE +.035VOGB +.000REXFX1	1	0.996	0.0417	None
5	Diversified Industry	LTD= -.133 + .0839TDE -.002CFFO +.001ROGCP1 +.001RONW + .001ROGGS	1	1	0.00731	None
6	FMCG	LTD= -.013 + .582 TDE	0.99	0.982	0.1774	ROGGS, ROGPAT, IR, REFX, CEXFX, ICR, REXFX, PAL, MC, PBT, CF, PBIDT, PBIDT, CFFO, NWCCL, NET, CA, OI, SC, CEPS, COP, VOGB, NS, VO, CE, DIV, PBID, GS, EPS, GB, ROCE, TAL, PBIDM, BV, PBIDTM, DV, PO, DR, FAR, EP, CV, VOTA,
7	Healthcare	LTD= -.046 + .857 TDE -.004ROCE	1	1	0.00055	DR, CFFI, CEPS, VOTA, PO, CR, BVVOGB, FAR and TDE
8	Housing Related	LTD= -.179 + 0.976TDE + 0.000ROGMC	1	0.999	0.03036	PO, ROGPAT, BV, ROGCE, CFFI, VOTA, ROGNW and TDE
9	Information Technology	LTD= -.025 + .476TDE + .001DIV + .000CFFF +.006FAR	0.97	0.934	0.0335	NONE
10	Media and Publishing	LTD= .130 + .707TDE -.005RONW	0.97	0.93	0.02422	TDE
11	Metal and Metal Product	LTD= -.041 + .911TDE +.001ROGGS +.002ICR +.000ROGGB -.002CV+.000ROGPBIDT	1	1	0.0044	TDE
12	Miscellaneous Industry	LTD= 1.715 -.072ROCE +.005ROGTA	0.97	0.939	0.0394	TDE
13	Oil and Gas Industry	LTD = 0.311 + 0.150CEPS - 0.205EPS	1	0.99	0.19315	TDE
14	Power	LTD = -0.023 + 0.883TDE -0.000CL + .000CFFF	1	0.997	0.0309	TDE
15	Telecom	LTD = 0.767 + 0.655TDE - 0.237VOGB + 0.000PAT +.000ROGPAT	1	1	0.0107	TDE
16	Textile	LTD= 0.118 + 0.669TDE - 0.001ROGMC	1	0.999	0.00916	TDE
17	Tourism	LTD= 0.013 + 0.951TDE	1	0.998	0.0108	TDE
18	Transport Equipments	LTD= 0.126 + 0.554TDE	0.83	0.691	0.0154	None
19	Transport Services	LTD=0.128 +0.955TDE - 0.005DV +.001ROGMC -.004ROGCE	1	1	0.0048	ROGPBIT, ROGMC and TDE

APPENDIX VIII
Abbreviations Explanations to the Table I

1.	Z	=	Goal Function to be minimized
2.	ROE	=	Return on Equity
3.	d_1^+	=	Positive deviation from goal 1
4.	d_1^-	=	Negative deviation from goal 1 (Violating Variable)
5.	ROGNS	=	Rate of growth of net sales
6.	d_2^+	=	Positive deviation from goal 2
7.	d_2^-	=	Negative deviation from goal 1 (Violating Variable)
8.	ROGCE	=	Rate of growth of capital employed (ROGCE)
9.	d_3^+	=	Positive deviation from goal 3 (Violating Variable)
10.	d_3^-	=	Negative deviation from goal 3 (Violating Variable)
11.	TDE	=	Total debt to equity ratio
12.	LTD	=	Long term debt to equity
13.	PBIT	=	Profit before interest and taxes
14.	REFX	=	Revenue earning from foreign exchange
15.	PBDT	=	Profit before depreciation and taxes
16.	ROGGB	=	Rate of growth of gross block
17.	CEFX	=	Capital earning in foreign exchange
18.	ROGCE	=	Rate of growth of capital employed
19.	NWC	=	Networking capital
20.	DV	=	Debtors velocity
21.	PO	=	Payout
22.	MC	=	Market capitalization
23.	CFFI	=	Cash flow from investing activities
24.	PBIDTM	=	Profit before interest, depreciation, tax margin
25.	ROGPBIT	=	Rate of growth of profit before interest and taxes
26.	ROGNS	=	Rate of growth of net sales
27.	ROGLTD	=	Rate of growth of long term debt
28.	ROGRE	=	Rate of growth retained earning