APPENDIX

Appendix	**I**	**Performance of Scheduled Commercial Banks in India**
Appendix	**II**	**Correlation Matrix**
Appendix	**III**	**Abbreviations**

APPENDIX I

PERFORMANCE OF SCHEDULED COMMERCIAL BANKS IN INDIA

Chart I.1: Changes in CRAR: PSB

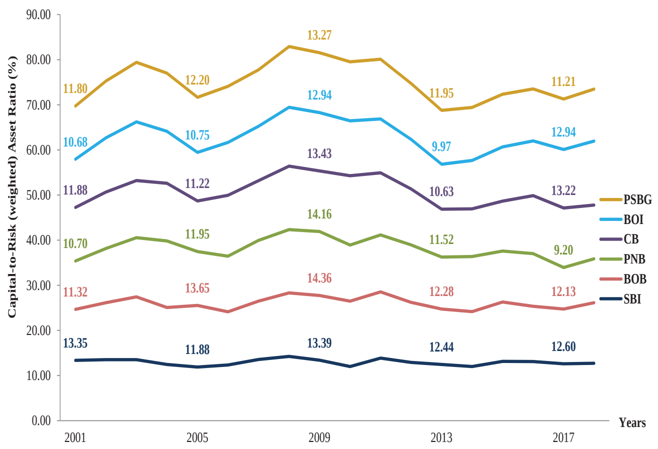


Chart I.4: Changes in ROA: PSB

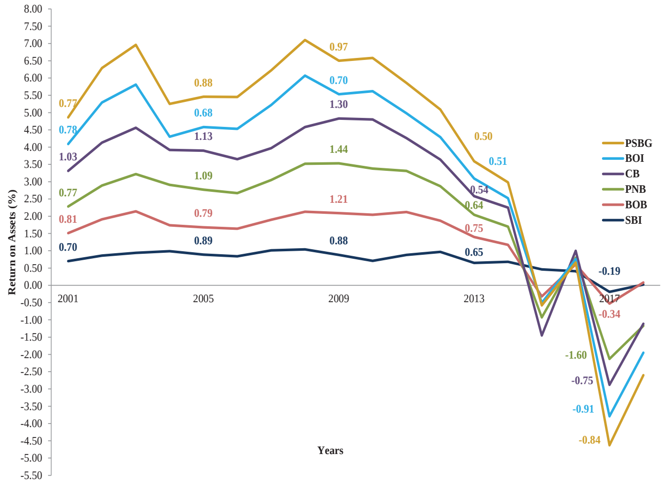


Chart I.2: Changes in CRAR: PvtSB

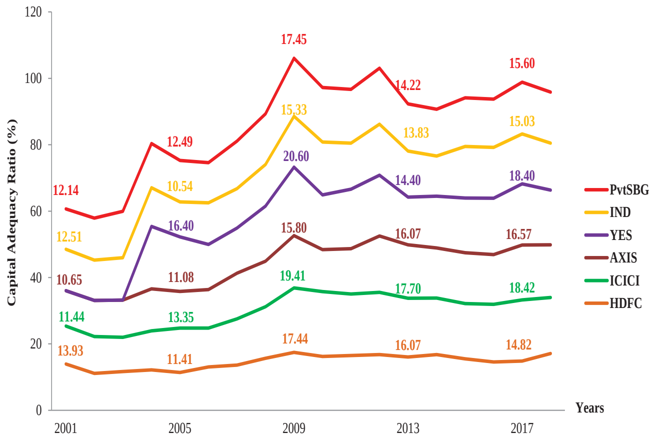


Chart I.5: Changes in ROA: PvtSB

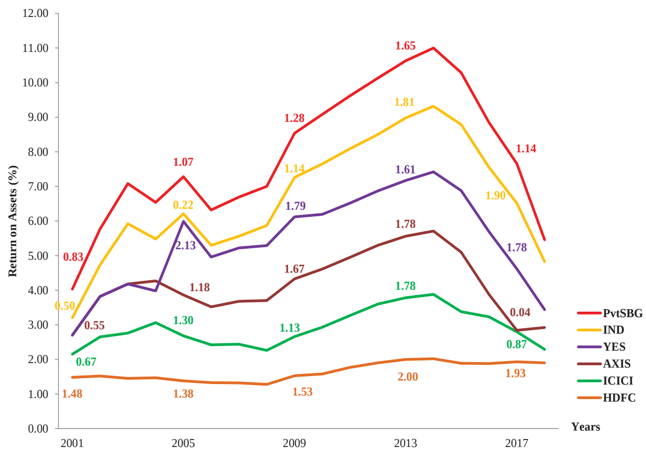


Chart I.3: Changes in CRAR: FB

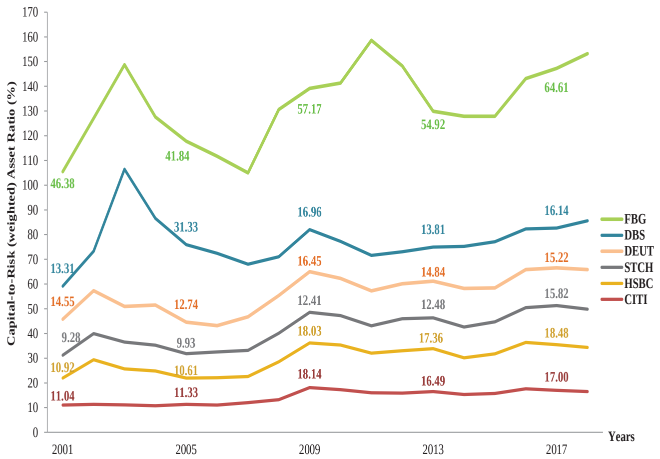


Chart I.6: Changes in ROA: FB

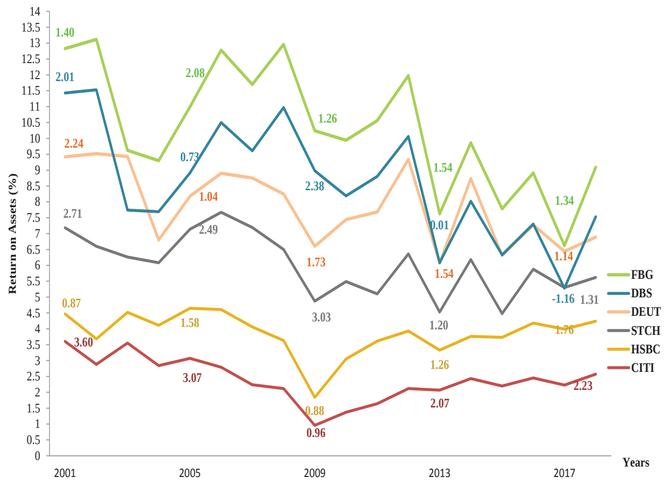


Chart I.7: Changes in ROE: PSB

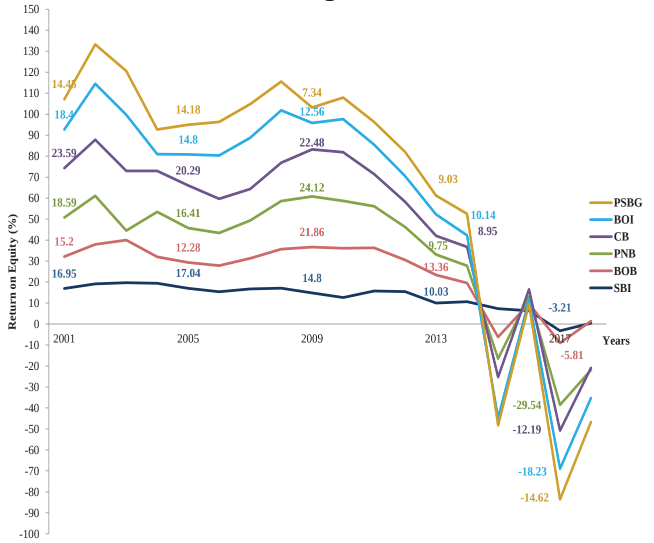


Chart I.10: Changes in NIM: PSB

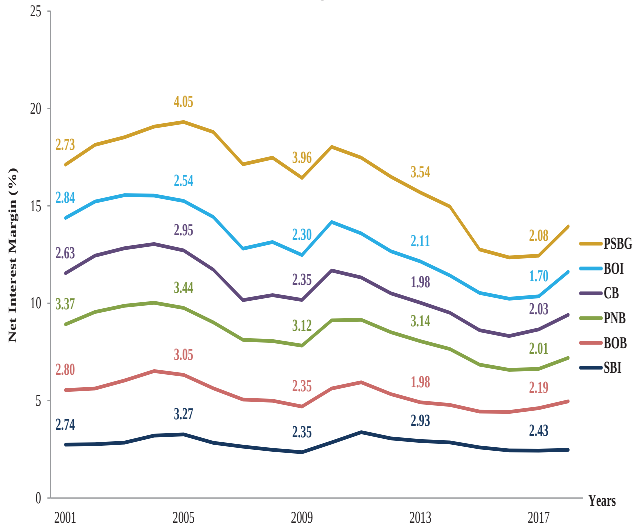


Chart I.8: Changes in ROE: PvtSB

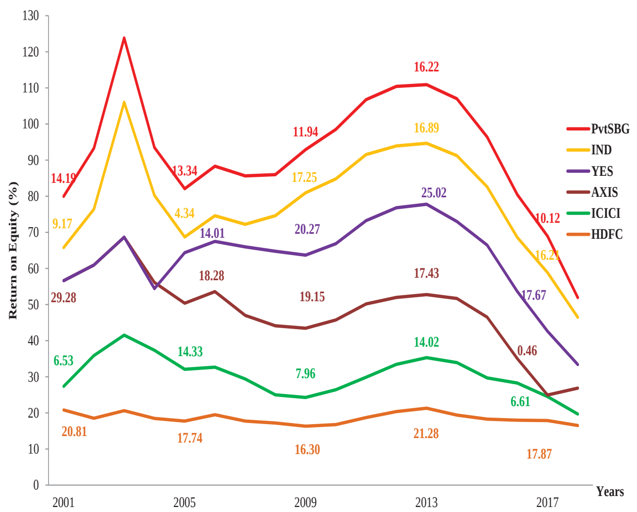


Chart I.11: Changes in NIM: PvtSB

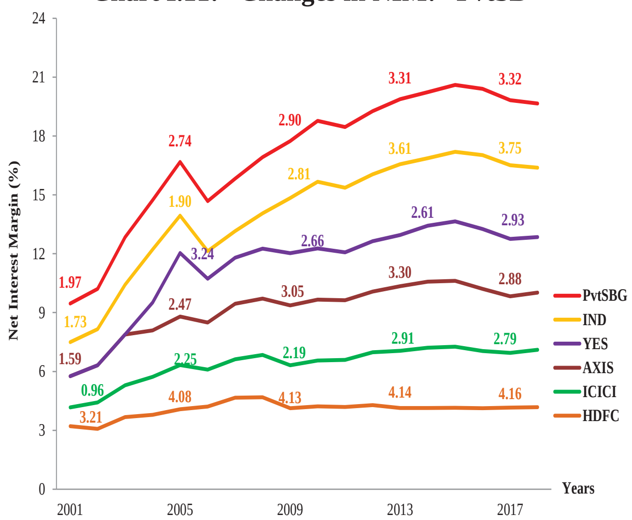


Chart I.9: Changes in ROE: FB

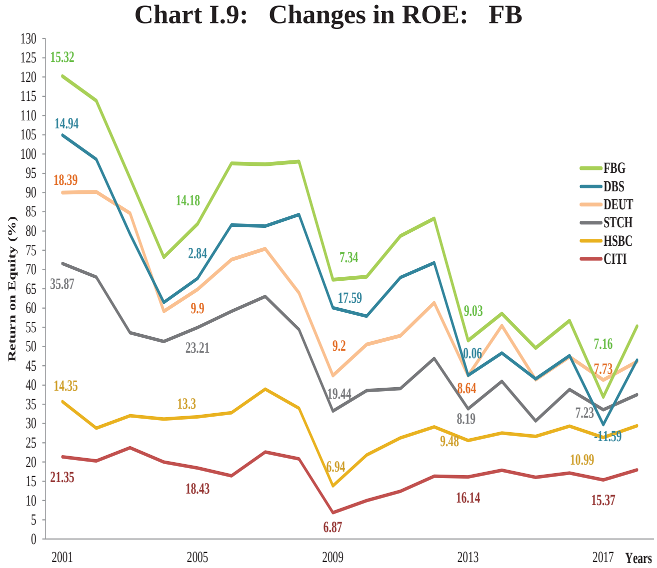


Chart I.12: Changes in NIM: FB

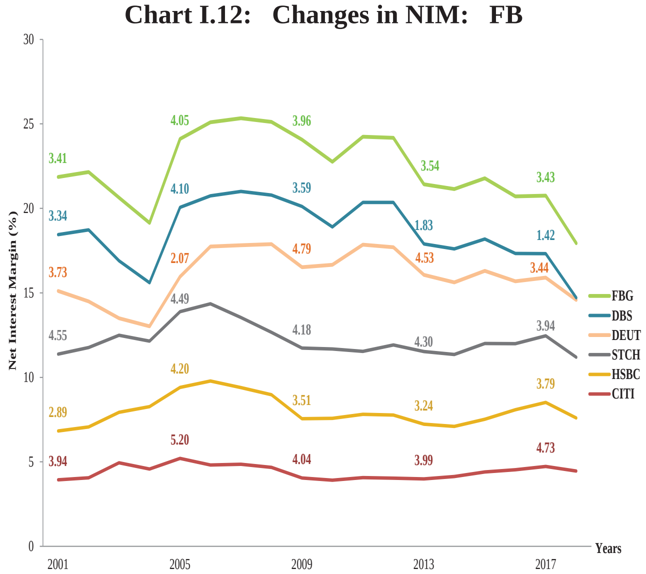


Chart I.13: Changes in CIR: PSB

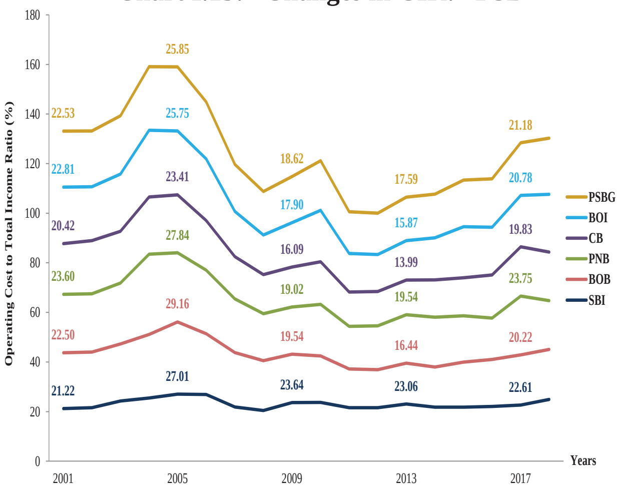


Chart I.16: Changes in BPE: PSB

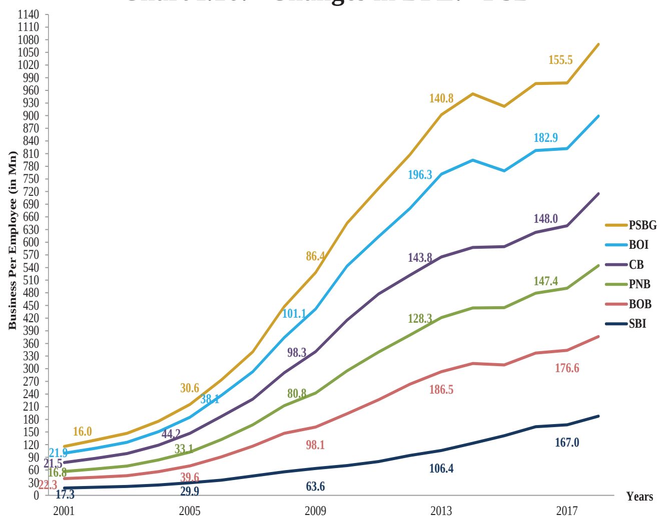


Chart I.14: Changes in CIR: PvtSB

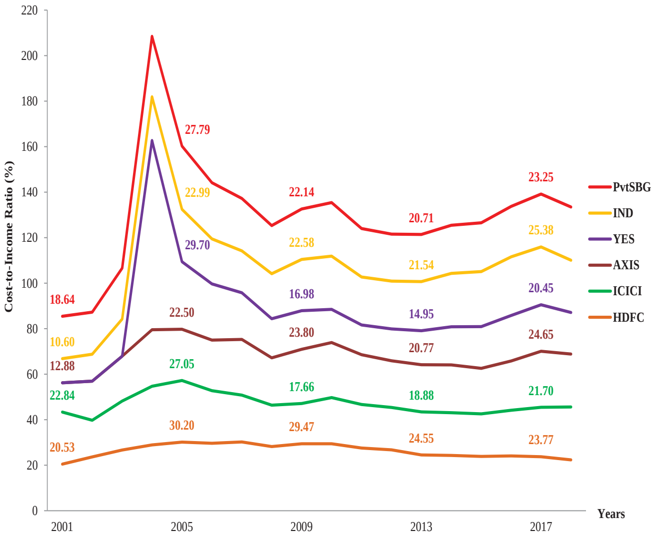


Chart I.17: Changes in BPE: PvtSB

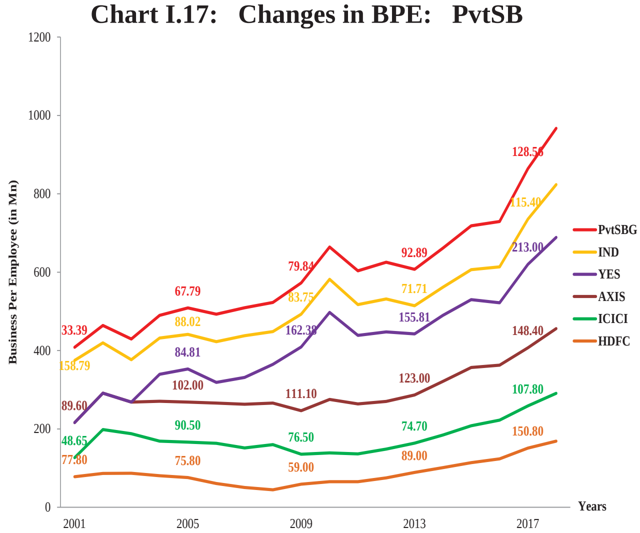


Chart I.15: Changes in CIR: FB

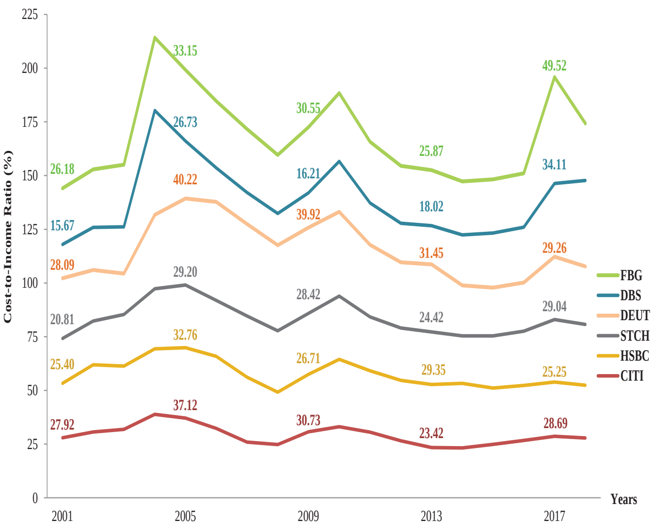


Chart I.18: Changes in BPE: FB

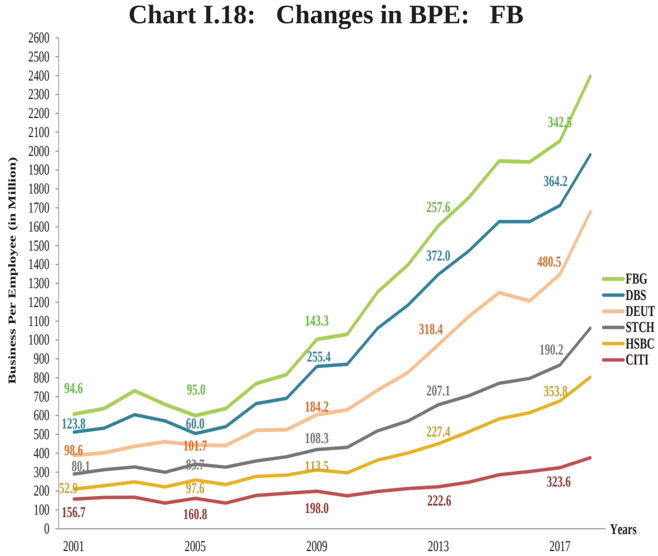


Chart I.19: Changes in BPB: PSB

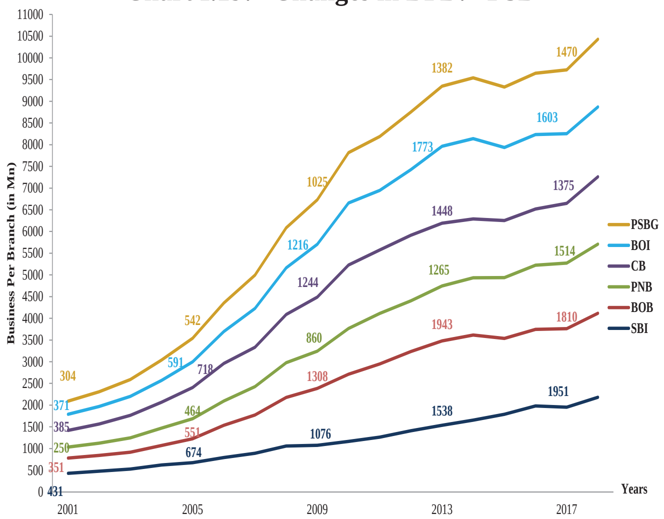


Chart I.22: Changes in PPE: PSB

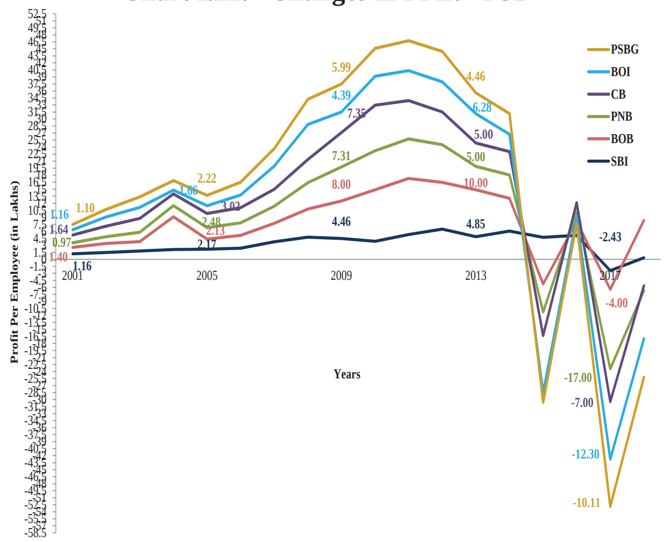


Chart I.20: Changes in BPB: PvtSB

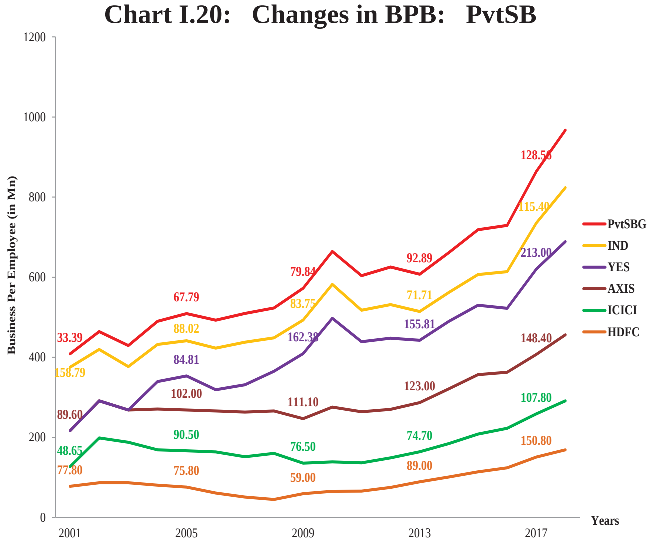


Chart I.23: Changes in PPE: PvtSB

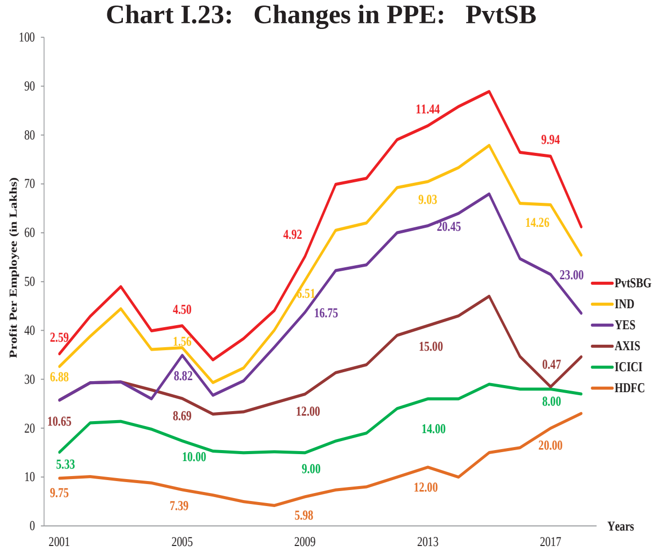


Chart I.21: Changes in BPB: FB

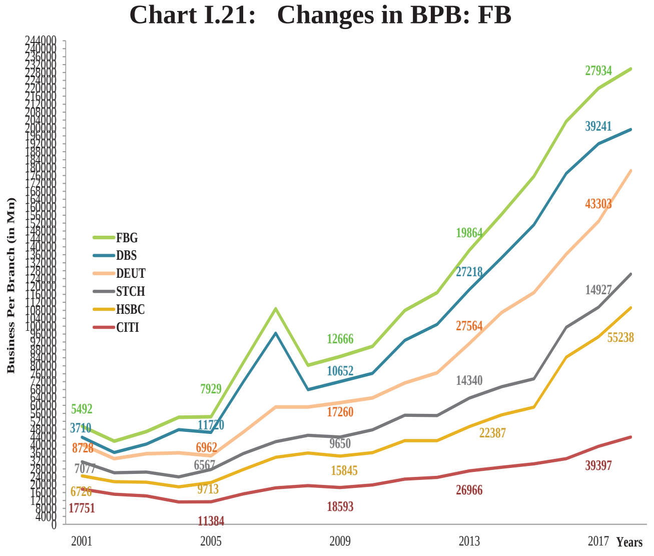


Chart I.24: Changes in PPE: FB

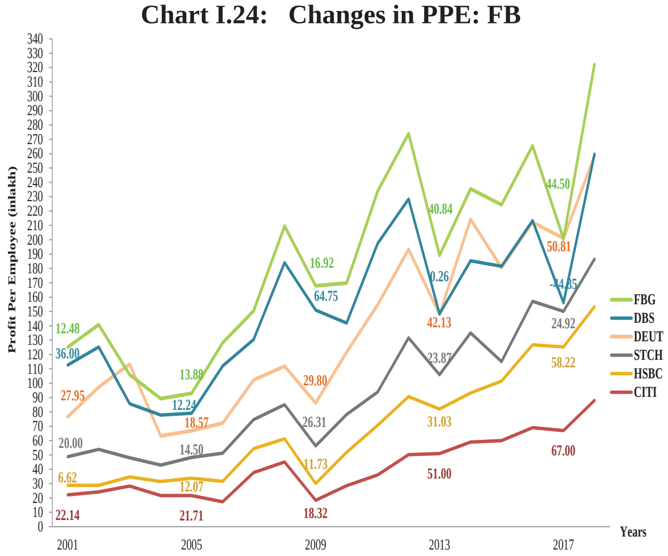


Chart I.25: Changes in GNPA: PSB

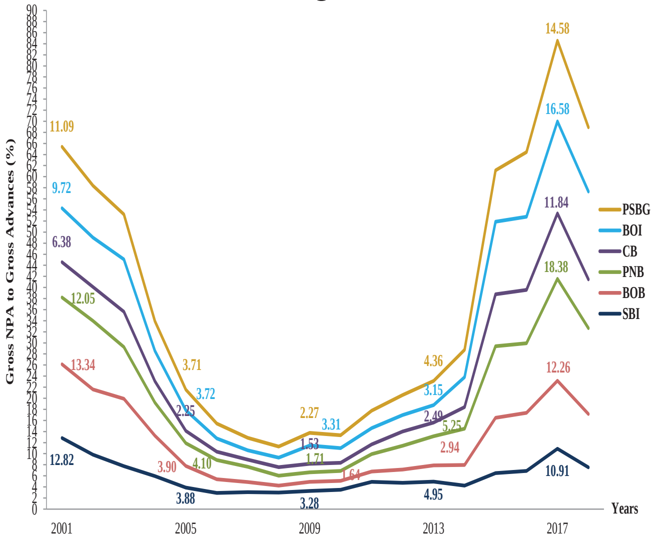


Chart I.28: Changes in CDR: PSB

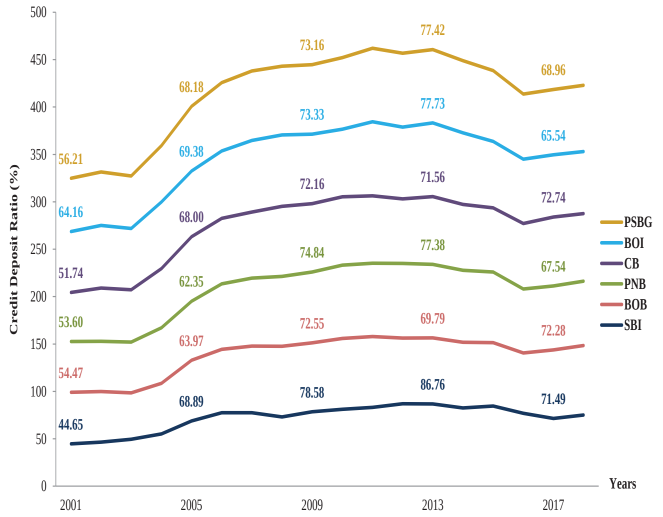


Chart I.26: Changes in GNPA: PvtSB

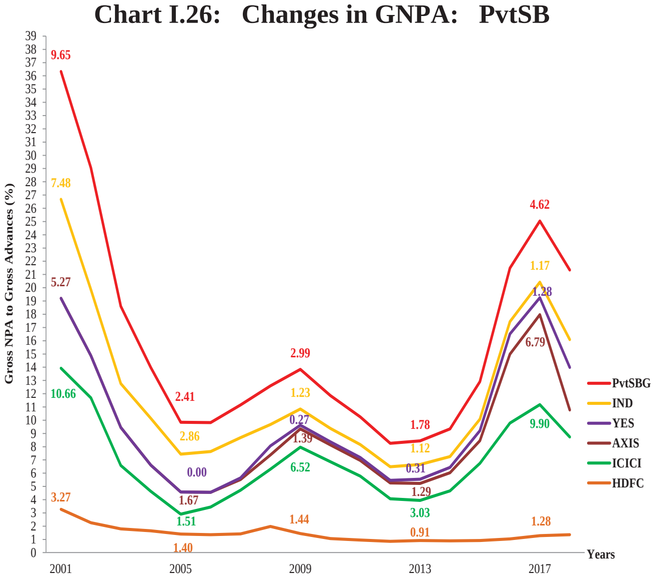


Chart I.29: Changes in CDR: PvtSB

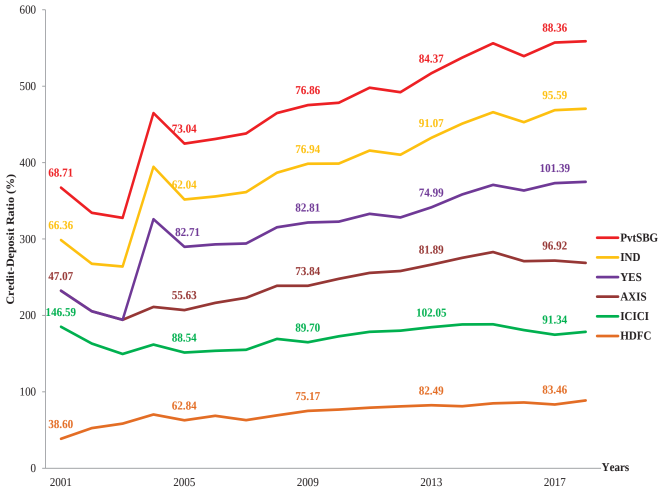


Chart I.27: Changes in GNPA: FB

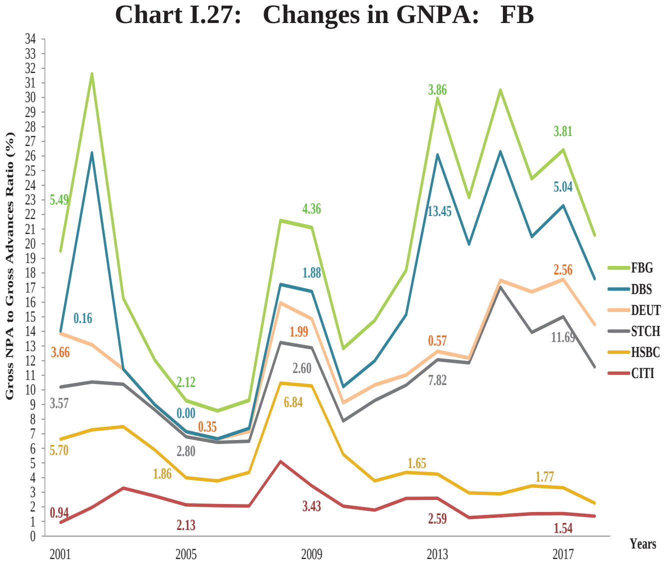


Chart I.30: Changes in CDR: FB

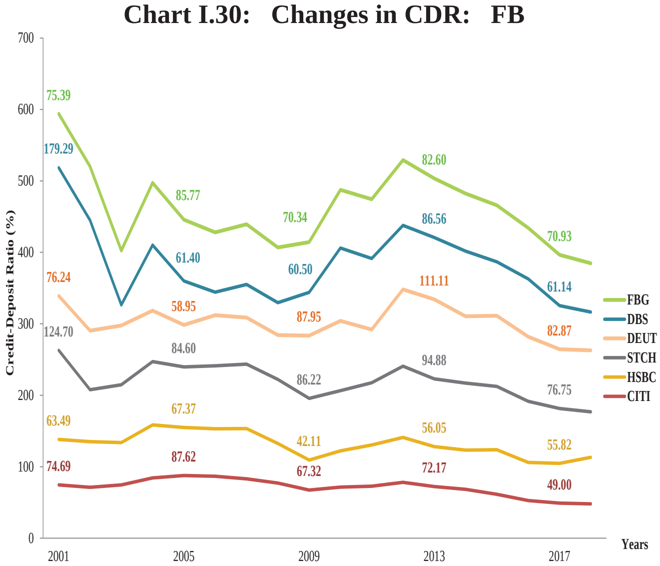


Chart I.31: Changes in CR: PSB

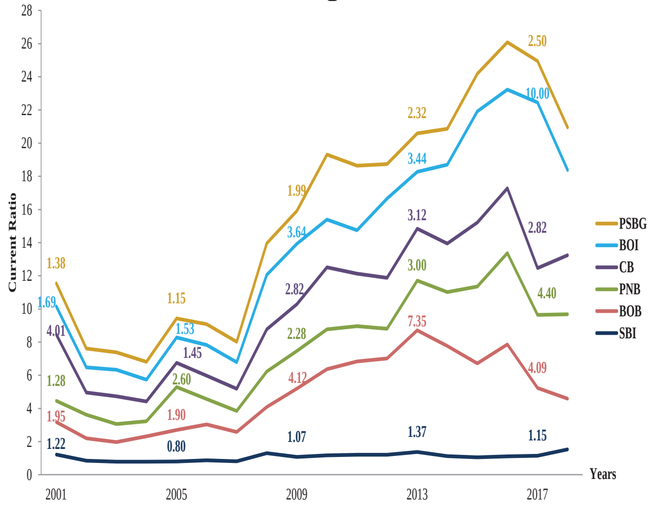


Chart I.34: Changes in LAR: PSB

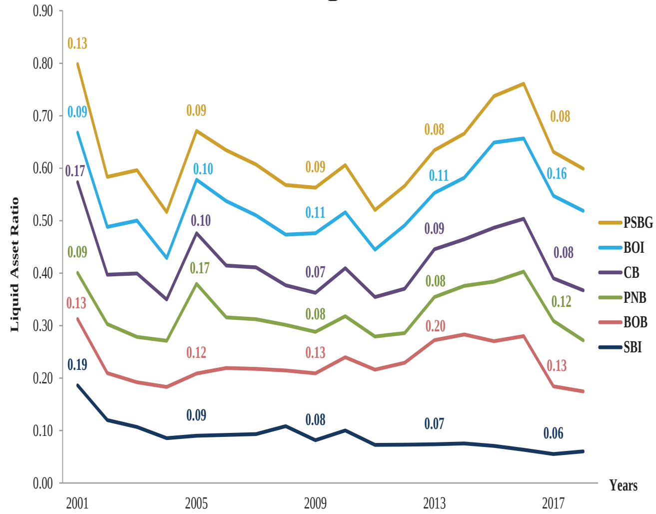


Chart I.32: Changes in CR: PvtSB

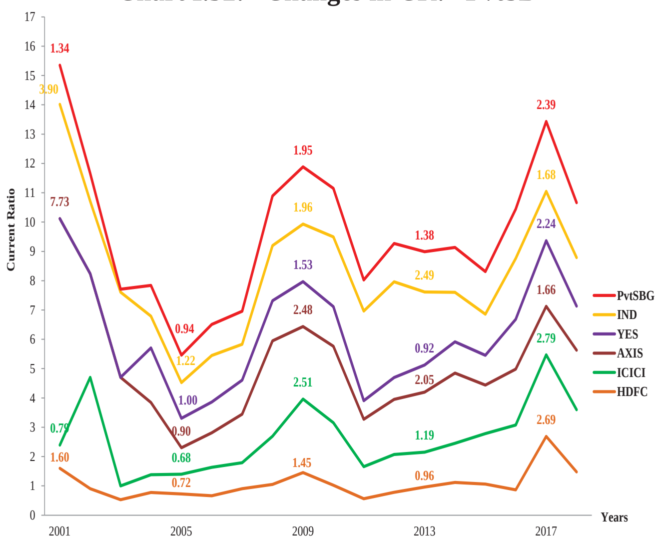


Chart I.35: Changes in LAR: PvtSB

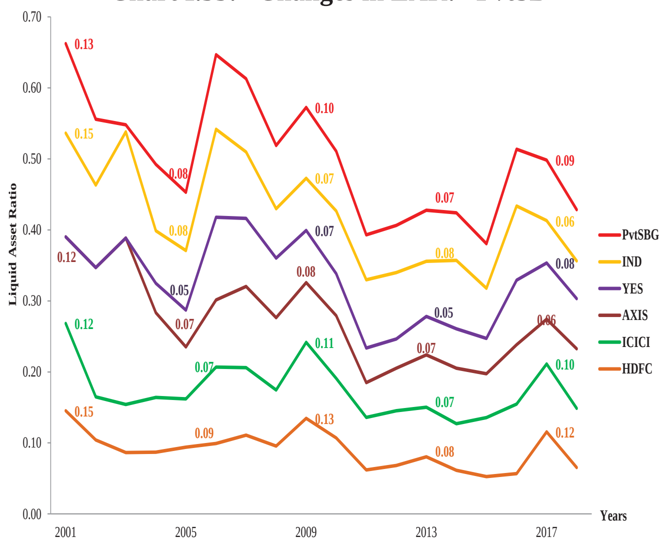


Chart I.33: Changes in CR: FB

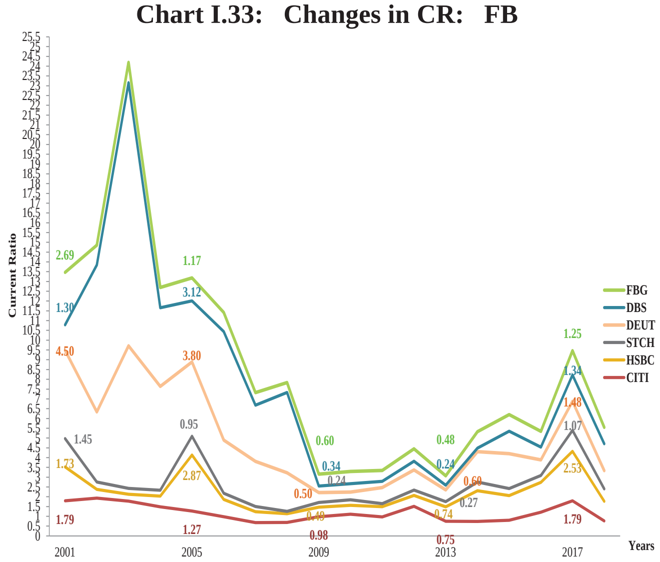


Chart I.36: Changes in LAR: FB

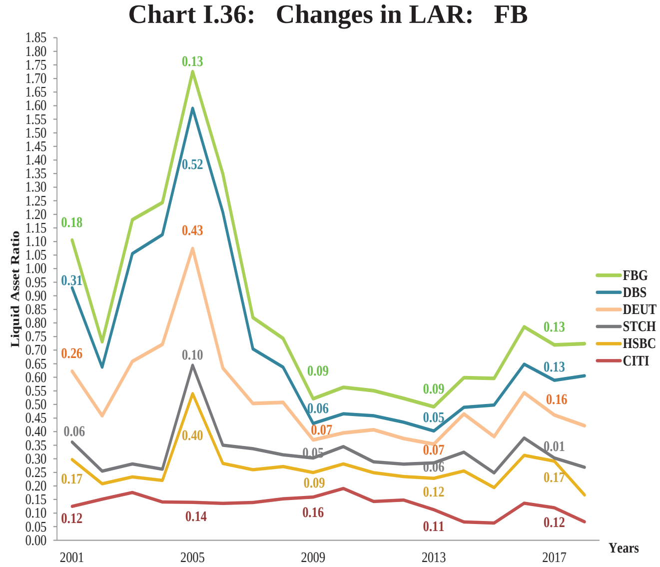


Chart I.37: Changes in DER: PSB

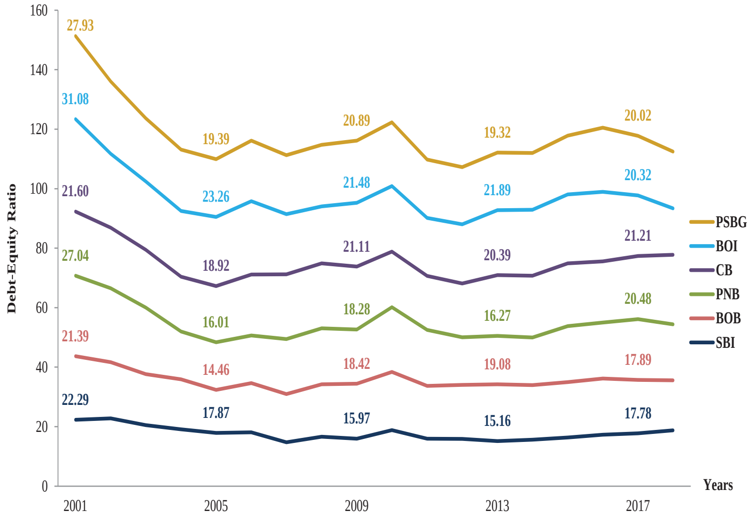


Chart I.38: Changes in DER: PvtSB

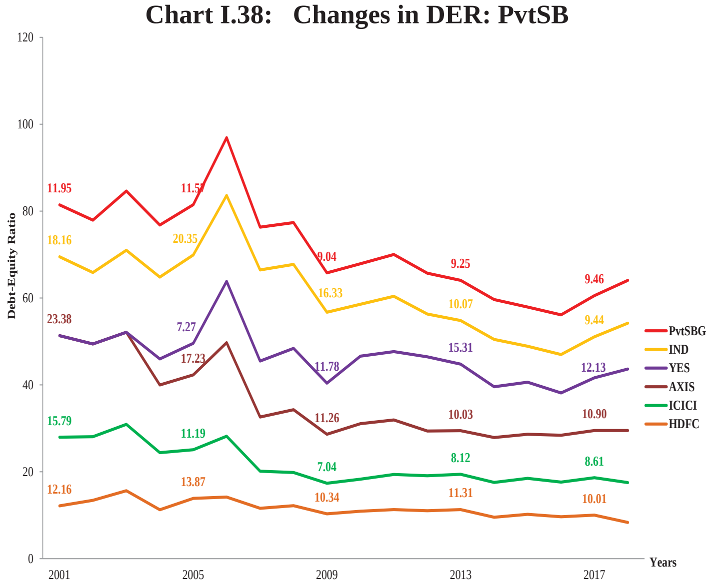
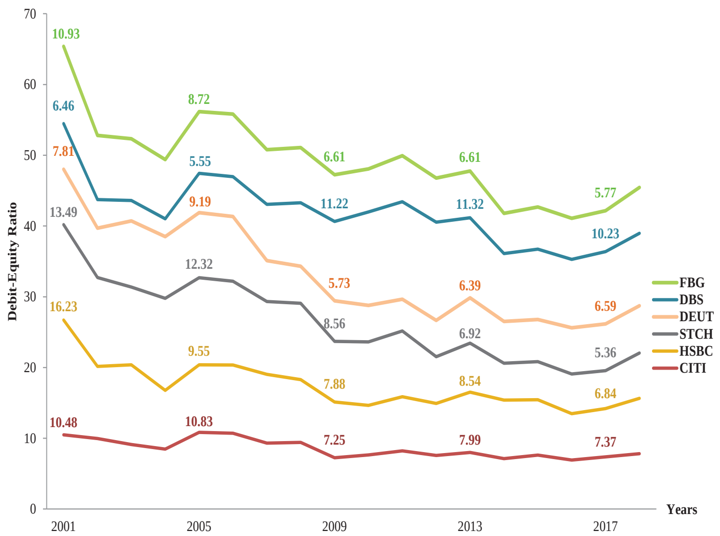


Chart I.39: Changes in DER: FB



APPENDIX II

CORRELATION MATRIX

Table: II.1 Correlation Matrix: Public Sector Banks

Variables	ROA	ROE	NIM	CRAR	Log (TA)	CIR	GNPA	BPE	LAR	ROA_{-1}	ROE_{-1}	NIM_{-1}	ΔBR	GDP	INF
ROA	1														
ROE	0.92	1													
NIM	0.56	0.56	1												
CRAR	0.41	0.35	0.19	1											
Log (TA)	-0.46	-0.50	-0.39	0.01	1										
CIR	0.05	0.07	0.59	0.02	-0.24	1									
GNPA	-0.68	-0.65	-0.16	-0.29	0.07	0.19	1								
BPE	-0.59	-0.65	-0.70	-0.15	0.70	-0.58	0.16	1							
LAR	-0.22	-0.23	-0.38	-0.04	-0.06	-0.12	0.23	0.23	1						
ROA_{-1}	0.73	0.70	0.46	0.33	-0.40	0.02	-0.65	-0.51	-0.24	1					
ROE_{-1}	0.75	0.73	0.49	0.26	-0.45	0.04	-0.63	-0.59	-0.26	0.71	1				
NIM_{-1}	0.57	0.54	0.89	0.21	-0.36	0.52	-0.32	-0.69	-0.39	0.56	0.55	1			
ΔBR	-0.24	-0.24	-0.09	0.03	0.45	-0.08	-0.07	0.18	-0.21	0.04	0.02	-0.05	1		
GDP	-0.15	-0.21	-0.09	-0.06	0.14	0.24	-0.04	0.12	0.09	-0.04	-0.09	0.01	0.01	1	
INF	0.36	0.29	-0.07	0.21	0.26	-0.50	-0.65	0.26	-0.12	0.39	0.31	-0.03	0.14	-0.03	1

Note: Correlation matrix is for five selected public sector banks

Table: II.2 Correlation Matrix: Private Sector Banks

Variables	ROA	ROE	NIM	CRAR	Log (TA)	CIR	GNPA	BPE	LAR	ROA_{-1}	ROE_{-1}	NIM_{-1}	ΔBR	GDP	INF
ROA	1														
ROE	0.63	1													
NIM	0.59	0.24	1												
CRAR	0.23	-0.25	0.28	1											
Log (TA)	0.29	-0.19	0.44	0.43	1										
CIR	-0.21	-0.32	0.17	0.10	-0.19	1									
GNPA	-0.48	-0.42	-0.43	-0.07	0.18	-0.24	1								
BPE	-0.001	0.03	-0.08	0.24	0.22	-0.35	-0.08	1							
LAR	-0.17	0.18	-0.16	-0.41	-0.30	-0.15	0.24	-0.31	1						
ROA_{-1}	0.57	0.26	0.49	0.22	0.40	0.07	-0.30	0.14	-0.26	1					
ROE_{-1}	0.35	0.62	0.21	-0.23	-0.13	-0.02	-0.40	0.11	0.09	0.59	1				
NIM_{-1}	0.38	0.05	0.91	0.25	0.45	0.55	-0.31	-0.09	-0.12	0.62	0.26	1			
ΔBR	0.27	-0.30	0.42	0.42	0.61	0.02	0.00	-0.12	-0.24	0.24	-0.11	0.42	1		
GDP	0.12	-0.03	0.15	0.06	0.08	0.25	-0.17	0.02	-0.05	0.18	0.09	0.10	0.05	1	
INF	0.30	0.12	0.18	0.43	0.16	-0.13	-0.31	-0.08	-0.21	0.09	-0.01	0.09	0.38	-0.1	1

Note: Correlation matrix is for five selected private sector banks

Table: II.3 Correlation Matrix: Foreign Banks

Variables	ROA	ROE	NIM	CRAR	Log (TA)	CIR	GNPA	BPE	LAR	ROA_{-1}	ROE_{-1}	NIM_{-1}	ΔBR	GDP	INF
ROA	1														
ROE	0.86	1													
NIM	0.56	0.45	1												
CRAR	-0.51	-0.51	-0.24	1											
Log (TA)	0.15	0.09	0.21	-0.42	1										
CIR	-0.02	-0.15	0.12	-0.05	0.06	1									
GNPA	-0.25	-0.26	-0.08	-0.18	0.15	-0.21	1								
BPE	-0.27	-0.39	-0.20	0.07	0.37	-0.16	0.03	1							
LAR	-0.18	-0.17	-0.28	0.50	-0.59	0.14	-0.39	-0.21	1						
ROA_{-1}	0.61	0.62	0.53	-0.35	0.16	-0.16	-0.16	-0.20	-0.19	1					
ROE_{-1}	0.55	0.71	0.41	-0.43	0.10	-0.15	-0.12	-0.35	-0.21	0.86	1				
NIM_{-1}	0.54	0.43	0.83	-0.14	0.27	-0.001	-0.07	-0.14	-0.31	0.56	0.42	1			
ΔBR	0.30	0.29	0.36	-0.15	0.03	0.11	0.03	-0.21	-0.13	0.08	0.26	0.08	1		
GDP	-0.20	-0.25	-0.07	0.14	0.13	0.21	-0.13	0.11	0.14	-0.08	-0.14	-0.08	-0.14	1	
INF	0.02	-0.06	0.15	-0.07	0.30	-0.04	0.01	0.02	-0.34	0.11	0.04	0.22	-0.04	-0.03	1

Note: Correlation matrix is for five selected foreign banks

Table: II.4 Correlation Matrix: Scheduled Commercial Banks

Variables	NIM	CRAR	Log (TA)	CIR	GNPA	BPE	LAR	NIM_{-1}	Br	ATM	GDP	INF
NIM	1											
CRAR	0.06	1										
Log (TA)	-0.13	-0.27	1									
CIR	0.36	0.12	-0.32	1								
GNPA	-0.26	-0.24	0.28	-0.18	1							
BPE	0.07	0.18	-0.02	0.04	-0.05	1						
LAR	-0.08	0.38	-0.42	0.15	-0.10	0.03	1					
NIM_{-1}	0.90	0.12	-0.14	0.45	-0.25	0.12	-0.08	1				
BR	-0.24	-0.17	0.68	-0.21	0.34	-0.20	-0.16	-0.24	1			
ATM	-0.42	-0.26	0.69	-0.42	0.56	-0.08	-0.08	-0.42	0.67	1		
GDP	-0.001	0.08	0.09	0.20	-0.09	0.07	0.08	0.001	0.03	0.005	1	
INF	0.09	0.07	0.19	-0.15	-0.32	0.05	-0.22	0.10	0.01	-0.10	-0.04	1

Note: Scheduled commercial banks is aggregate of 15 banks in the study selected from each of the three bank groups - public sector, private sector, and foreign bank groups

APPENDIX III

ABBREVIATIONS

AELMPs	-	Advanced Electronic Ledger Posting Machines
ANOVA	-	Analysis of Variance
ATMs	-	Automated Teller Machines
AXIS	-	Axis Bank Limited
BCBS	-	Basel Committee on Banking Supervision
BIS	-	Bank for International Settlements
BOB	-	Bank of Baroda
BOI	-	Bank of India
BPE	-	Business Per Employee
BR	-	Number of Bank Branches
CAGR	-	Compound Annual Growth Rate
CAMEL	-	Capital adequacy, Asset quality, Management, Earnings, and Liquidity
CAMELS	-	Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity
CB	-	Canara Bank
CEE	-	Central and Eastern European countries
CIR	-	Cost to Income Ratio
CITI	-	Citibank N.A.
CPI	-	Consumer Price Index
CRAR	-	Capital to Risk (Weighted) Asset Ratio
CRR	-	Cash Reserve Ratio
CS	-	Cross Section Dependence
DBS	-	Development Bank of Singapore Limited
DEA	-	Data Envelopment Analysis
DEUT	-	Deutsche Bank AG
ECS	-	Electronic Clearing Services
EFT	-	Electronic Fund Transfer
FBG	-	Foreign Bank Group
FBs	-	Foreign Banks
FEM	-	Fixed Effect Model
GDP	-	Gross Domestic Product / Economic Growth Rate

GLS	-	Generalized Least Squares
GMM	-	Generalized Method of Moments
GNPA	-	Gross Non-Performing Asset Ratio
HDFC	-	Housing Development Finance Corporation Bank Limited
HSBC	-	Hongkong and Shanghai Banking Corporation Limited
HSD	-	Honest Significant Difference
ICICI	-	Industrial Credit and Investment Corporation of India Bank Limited
IMPS	-	Immediate Payment Service
IND	-	IndusInd Bank Limited
INF	-	Rate of Inflation
LAR	-	Liquid Asset Ratio
LSDV	-	Least Square Dummy Variables
LSPR	-	Least Square Panel Regression
MICR	-	Magnetic Ink Character Recognition
MIS	-	Management Information System
NACH	-	National Automated Clearing House
NBFCs	-	Non-Banking Financial Companies
NCS	-	No Cross-Section dependence
NEFT	-	National Electronic Fund Transfer
NIM	-	Net Interest Margin
NNPA	-	Net Non-Performing Asset Ratio
NPA	-	Non-Performing Assets
NPCI	-	National Payment Corporation of India
OLS	-	Ordinary Least Squares
OCBs	-	Overseas Corporate Bodies
PNB	-	Punjab National Bank
POS	-	Point of Sale
PROF	-	Profitability
$PROF_{-1}$	-	Previous Year Profitability
PSA	-	Priority Sector Advances
PSBG	-	Public Sector Bank Group
PSBs	-	Public Sector Banks
PvtSBG	-	Private Sector Bank Group
PvtSBs	-	Private Sector Banks
PwC	-	Price waterhouse Coopers

RBI	-	Reserve Bank of India
REM	-	Random Effect Model
RIBs	-	Resurgent India Bonds
ROA	-	Return on Assets
ROE	-	Return on Equity
RRBs	-	Regional Rural Banks
RTGS	-	Real Time Gross Settlement
SBI	-	State Bank of India
SCBs	-	Scheduled Commercial Banks
SDGs	-	Sustainable Development Goals
SLR	-	Statutory Liquidity Ratio
STCH	-	Standard Chartered Bank
SWIFT	-	Society for Worldwide Interbank Financial Telecommunication
TA	-	Total Assets
UPI	-	Unified Payments Interface
VIF	-	Variance Inflation Factor
WPI	-	Wholesale Price Index
YES	-	Yes Bank Limited