Online Appendix:
Tests to ascertain quality of data of GOB

In this Online Appendix, we provide a detailed description of the tests to ascertain the quality of GOBs' data.

A.1 Tests to investigate the quality of variables from the income statement

First, we examine the quality of income statement variables such as LLP and declared income.

A.1.1 Earnings Surprise

The stock market reaction to an earnings surprise is a good proxy for the quality of reported earnings (Healy and Wahlen (1999), Dechow et al. (2010), Ecker et al. (2006), Teoh and Wong (1993), Barron et al. (1999)). Imhoff Jr and Lobo (1992)) show that market reactions to an earnings surprise is higher for firms whose earnings are less noisy. Here, the underlying thesis is that whenever there is a wedge between analyst forecasts and actual earnings, the stock market's reactions depend on market participants' perception of the quality of firm's reported data. If market participants perceive that the reported data indeed reflect the true economic situation, then the market is likely to move in the direction of the surprise. In our setting, for instance, the Bank of India's reported earnings for the quarter ending March 2014 was INR 5.52 against the consensus estimate of INR 4.13. In response, on the day the results were announced, the stock price increased by 9.63% against the overall market, which remained flat. If, on the other hand, market participants perceive the reported

earnings to be noisy, then the reaction to earnings surprise is likely to be muted.

We collect data related to analysts' earnings estimates, actual earnings, and market reaction to the announcement from Bloomberg. The data are available only for 2006-16 for 14 banks. We estimate the following regression:

$$\text{MARKET\_REACTION}_{it} = \beta_0 + \beta_i + \beta_t + \beta_1 \times SURPRISE_{it} + \varepsilon_{it} \qquad \text{(A-1)}$$

The data are organized at the (bank, quarter) level. The $\text{MARKET\_REACTION}_{it}$ is the return on the stock of bank i on the day of the announcement t. $SURPRISE_{it}$ is the ratio between actual earnings per share and estimated earnings per share. If the reporting quality is good, then in line with Imhoff Jr and Lobo (1992), we expect a significant positive association between the earnings surprise and market reaction. If not, the association is likely to be weak.

Table A.3 reports the results. A 1% increase in earnings surprise is associated with a 2.8% to 3.7% increase in stock prices. This result indicates that the market does consider the reported earnings of GOBs as credible and reacts in the direction of reported earnings when there is a wedge between expected and reported earnings.

[Insert table A.3 here]

A.1.2   Dispersion of Analyst Recommendations

The literature assessing the quality of reported earnings uses dispersion in analyst estimates as a key metric for the quality of reported earnings (Barron and Stuerke (1998), Avramov et al. (2009), Zhang (2006)). The lower the dispersion, the lower is the proportion of noise in earnings (Imhoff Jr and Lobo (1992)). In banks and financial institutions in particular, such dispersion proxies the degree of opacity (Morgan (2002)). Thus, we examine

the dispersion of analyst forecasts for GOBs in India. If the reported numbers of GOBs are transparent and of high quality, then we expect a low dispersion.

To classify a particular level of earnings dispersion as either high or low, we need a benchmark; we use the level of dispersion for private sector banks in India. Because private sector banks in India are similar to banks in the U.S. and the U.K., the level of dispersion in private sector banks serves as a good benchmark. The data cover the period from December 2008 to September 2016. Figure A.1 provides a comparison between GOBs and private sector banks; the bold line represents the dispersion for GOBs while the dotted line represents the same for private sector banks. As the figure shows, the dispersion levels are quite similar for both categories of banks.

[Insert figure A.1 here]

A.1.3   Transitional Quarter versus Other Quarters

While the general quality of reported data is indeed important, systematic differences in reporting standards between the transitional quarter and other quarters are even more important to investigate in our context. We thus compare the dispersion in analyst estimates for GOBs during the transitional quarter and other quarters. We plot this comparison in Figure A.2; the number of quarters before or after the transitional quarter is plotted in the horizontal axis. Quarter 0 corresponds to the transitional quarter and quarter i $(-i)$ corresponds to i quarters after (before) the transitional quarter. It is clear from the figure that the standard deviation of analyst estimates remains flat before, during, and after the transitional quarter. Although the figure shows a downward trend, this difference is not significant, either statistically or economically.

[Insert figure A.2 here]

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A.2 Tests to investigate the quality of lending data

To check the sanctity of lending data, we check the response of bank lending to monetary policy shocks. The literature on monetary policy transmission shows that, either due to a change in the cost of capital or due to credit market frictions (Friedman and Schwartz (1963), Bernanke and Blinder (1992), Bernanke, Gertler and Gilchrist (1999)), monetary policy rates and bank lending move in opposite directions. If the data from public sector banks are of good quality, then we expect that the relationship between bank lending and a monetary policy shock to be similar for both GOBs and private sector banks. As we mention above, private sector banks serve as a good benchmark for comparison.

We test the above proposition by regressing the loan amount lent at the (bank, quarter) level on the level of repo rate. Note that the repo rate is the rate at which the RBI lends short term funds to banks; an increase in the repo rate corresponds to monetary policy tightening and vice-versa. To incorporate lagged effects of monetary policy shocks on bank lending, we also include two lags of the repo rate.

Table A.5 reports the results. The data cover the period from September 2003 to June 2010. We end our sample for these tests in June 2010 because the RBI shifted from a prime lending rate regime to a Base rate system. Because this change represents a clear regime shift, pooling the periods after this change with the periods before the change would introduce needless heterogeneity. Nevertheless, we check and find that the results remain unchanged if we include the full sample period up to 2014. In column 1, we include only GOBs. We find that a 1% increase (decrease) in the repo rate is associated with a 9.4% decrease (increase) in the loan amount. In column 2, we consider only private sector banks. Here, we find that a 1% increase (decrease) in the repo rate leads to a 9.8% decrease (increase) in the loan amount. Thus, the responses to monetary policy shocks remain similar for GOBs and private sector banks. Note that the CEO of a GOB does not gain anything by adjusting

bank lending to match a private sector bank's response to a monetary policy shock. This result suggests that the lending numbers reported by GOBs are similar to those reported by their private sector counter-parts.

[Insert table A.5 here]

A.2.1 Difference between the transitional quarter and other quarters in response to monetary policy shocks

As we state previously, factors that change between the transitional quarter and other quarters have a higher chance of vitiating our results. Therefore, as a further robustness check, we examine the difference between the transitional quarter and other quarters in GOBs' responsiveness to monetary policy shocks. Specifically, we regress the loan amount at the (bank, quarter) level on the interaction between the new CEO quarter and the repo rate. We report the results in column 3 of Table A.5. Note that the coefficient on the policy rate variable is a negative and significant 9.2%. This is very close to what we find in columns 1 and 2. More importantly, the interaction between the New CEO dummy and policy rate variable is statistically indistinguishable from zero. This suggests that responsiveness to monetary policy does not differ between the transitional quarter and other quarters. This also suggests that the quality of lending data is unlikely to significantly vary between the transitional quarter and other quarters.

A.3 Effect of higher foreign institutional ownership on the quality of GOBs' data

As we note before, all GOBs are partially privatized. In fact, private ownership in these banks ranges from 5% to 45%. Private shareholders include individuals, domestic

institutions, and foreign institutions. For example, in the largest GOB—the State Bank of India—the government ownership is limited to 61.22%.[14] Foreign investors own nearly 10% of the shares. Domestic institutions such as banks, insurance companies, and mutual funds own nearly 20%.

Extant research shows that higher participation of foreign institutional investors leads to better corporate governance (Aggarwal et al. (2011)), which should lead to higher quality financial reporting as well (Bédard, Chtourou and Courteau (2004), Marrakchi Chtourou, Bedard and Courteau (2001), Xie, Davidson and DaDalt (2003)). Based on this premise, we divide our sample of banks into those with higher and lower levels of foreign institutional ownership. We use the median ownership as the cut off. If our results stem from low quality data, then the effects should be more muted for banks with high foreign institutional ownership. If, on the other hand, GOBs' reported data are of good quality, then our findings are likely to hold equally well in the sub-sample of banks with high foreign institutional ownership as well.

We test this hypothesis by replicating Tables 3 and 6 pertaining to LLP and loan amounts, respectively, on a sub-sample of banks with high foreign institutional ownership. Note that LLP represents an income statement component while the loan amount is a measure of real activity. We report the results in Panels A and B of Tables A.4, which show that LLP increases significantly during the transitional quarter and the amount of loans falls significantly during the transitional year. Note that the relevant coefficients are either equal to or higher than the coefficients obtained using the entire sample. Thus, our results remain unchanged, even when we limit the sample to banks that are likely to have higher levels of governance. We can therefore conclude that our results are unlikely to stem from poor quality GOB data.

[Insert table A.4 here]

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[14]Source http://www.moneycontrol.com/company-facts/statebankindia/shareholding-pattern/SBI

Table A.1: List Of PSU Bank's CEO And Their Time Of Joining

BANK	CEO	MONTH, YEAR OF JOINING
Allahabad Bank	Omkar Nath Singh	Dec-03
	A.C. Mahajan	Aug-06
	K.R. Kamath	Aug-08
	J.P.Dua	Dec-09
	S.A. Panse	Jan-12
Andhra Bank	B Vasanthan	May-00
	TS Narayan Sami	Apr-04
	Rama Krishnan	Oct-05
	RS Reddi	Aug-08
	Rama Chandran	Sep-10
	BA Prabhakar	Jan-12
Bank Of Baroda	P S Shenoy	May-00
	A K Khandelwal (Dr.)	Mar-05
	M D Mallya	May-08
	SS Mundra	Jan-13
Bank Of India	M Venugopalan	Aug-03
	M Balachandran	Jun-05
	T S Narayanasami	Jun-07
	Alok Kumar Misra	Aug-09
	Smt V.R.Iyer	Nov-12
Bank Of Maharashtra	M D Mallya	Mar-06
	Allen C A Pereira	Jun-08
	A S Bhattacharya	Oct-10
	Narendra Singh	Feb-12
Canara Bank	V P Shetty	Nov-04
	M B N Rao	Jun-05
	A C Manajan	Aug-08
	RK Dubey	Jan-13
Central Bank Of India	S Sridhar	Mar-09
	M V Tanksale	Jun-11
Corporation Bank	K Cherian Varghese	Nov-00
	V K Chopra	Dec-05
	B Sambamurthy	Apr-06
	J M Garg	Nov-08
	Ramnath Pradeep	Sep-10
	Ajai Kumar	Oct-11
Dena Bank	M V Nair	Mar-05
	P L Gairola	May-06
	D L Rawal	Jan-09
	Nupur Mitra (Smt.)	Nov-11
	Shri Ashwani Kumar	Jan-13
I D B I Bank Ltd.	P P Vora	Sep-01
	M Damodaran	Jun-04
	V P Shetty	Mar-05
	Yogesh Agarwal	Jul-07
	R M Malla	Jul-10
	MS Raghavan	Jul-13

Bank	CEO	Month, Year of Joining
Indian Bank	M S Sundara Rajan	Jun-07
	T M Bhasin	Apr-10
Indian Overseas Bank	S C Gupta	Jul-01
	T S Narayanasami	Jun-05
	S A Bhat	Jun-07
	M Narendra	Nov-10
Oriental Bank Of Commerce	B D Narang	Jul-00
	K N Prithviraj	May-05
	Alok K Misra	Jun-07
	T Y Prabhu	Aug-09
	Nagendra Peda	Sep-10
	S L Bansal	Mar-12
Punjab & Sind Bank	N S Gujral	Feb-01
	G S Vedi	Aug-09
	D P Singh	Nov-11
Punjab National Bank	SS Kohli	Apr-00
	SC Gupta	Apr-05
	Kamalesh Chandra Chakrabarty (Dr.)	Jun-07
	KR Kammath	Oct-09
State Bank Of India	Janki Ballabh	Nov-00
	A K Purwar	Nov-02
	O P Bhatt	Jun-06
	Pratip Chowdhary	Apr-11
Syndicate Bank	Michael Bastian	Aug-02
	N Kantha Kumar	Jan-05
	C P Swarnkar	Apr-06
	George Joseph	Aug-08
	Basant Seth	Aug-09
	M G Sanghvi	Mar-12
	Sudheer Kumar Jain	Jul-13
Uco Bank	V Sridhar	Dec-04
	S K Goel	Jul-07
	Arun Kaul	Sep-10
Union Bank Of India	K Cherian Varghese	Dec-04
	M V Nair	Apr-06
	D Sarkar	Apr-12
	S C Gupta	Nov-08
	Bhaskar Sen	Mar-10
	Archana Bhargav	Apr-13
Vijaya Bank	M S Kapur	Aug-02
	Prakash Mallya	Apr-06
	Albert Tauro	Aug-08
	H S Upendra Kamath	Apr-11

Table A.2: Effect Of CEO Turnover On the Relationship Between LLP And Future NPA

Table A.2 presents OLS regression estimates for the effect of appointment of a new bank CEO on the relationship between LLP, income and future NPA. The purpose is to test the impact of CEO turnover on earnings smoothing and genuine recognition of future expected loss, in the spirit of Bushman and Williams (2012). The dependent variable is the ratio of LLP to Income. New CEO is a dummy variable that takes the value of one for the transition quarter and zero otherwise. The standard errors are clustered at bank level and adjusted t-statistics are reported in parentheses below the coefficient estimates. ***, **, * represents statistical significance at the 1%, 5% and 10% levels.

	(1)	(2)	(3)	(4)	(5)
DEPENDENT VARIABLE		LLP(i,t)/INCOME(i,t)			
NPA(i,t+1)/INCOME(i,t+1) X NEW_CEO(i,t)			0.005** [2.420]	0.005** [2.398]	0.005** [2.397]
PROFIT-BEFORE-PROVISIONS(i,t)/ INCOME(i,t) × NEW_CEO(i,t)				0.017 [0.163]	0.013 [0.129]
NEW_CEO(i,t)			0.010** [2.054]	0.006 [0.261]	0.007 [0.303]
PROFIT-BEFORE-PROVISIONS(i,t) INCOME (i,t)		0.616*** [10.892]	0.622*** [11.099]	0.621*** [11.415]	0.622*** [11.363]
NPA(i,t)/LOAN(i,t-1)	-0.000 [-1.067]	-0.000 [-1.168]	-0.000 [-0.781]	-0.000 [-0.777]	-0.000 [-0.686]
NPA(i,t+1)/LOAN(t)	-0.001 [-1.427]	-0.001 [-0.959]	-0.005** [-2.504]	-0.005** [-2.498]	-0.005** [-2.490]
CAPITAL ADEQUACY RATIO					-0.001 [-0.601]
GDP GROWTH RATE					-0.030 [-1.138]
GOI SECURITIES YIELD					-0.051 [-0.900]
Bank Fixed Effect	Yes	Yes	Yes	Yes	Yes
(Year, Quarter) Fixed Effect	Yes	Yes	Yes	Yes	No
Observations	670	670	670	670	670
Number of Banks	21	21	21	21	21
Adjusted R-squared	0.395	0.604	0.614	0.614	0.614

Table A.3: RELATIONSHIP BETWEEN EARNINGS SURPRISE AND MARKET REACTION

Table A.3 presents the results for association between stock market reaction and earnings surprise. The data is organized at bank-quarter level. Here the dependent variable Stock Ret represents the result announcement day return on the bank stock under consideration as reported by Bloomberg. In cases where the result was announced after market hours, the next trading day return is considered. The main explanatory variable-surprise-represents the ratio between actual earnings per share and estimated earnings per share. We include bank level fixed effects in columns 2 and 3 and year fixed effects in column 3. Standard errors are clustered at bank level and adjusted for heteroscedasticity. ***, **,*, represent statistical significance at 1%, 5% and 10% levels.

	(1)	(2)	(3)
DEPENDENT VARIABLE	STOCK RETURN %		
SURPRISE %	0.028***	0.028***	0.037***
	[3.407]	[3.202]	[3.289]
Observations	128	128	128
Bank fixed effects	No	Yes	Yes
(Year, Quarter) Fixed Effect	No	No	Yes
Adjusted R-squared	0.0843	0.132	0.466

Table A.4: Impact Of CEO Turnover On LLP-To-Income- Banks With High Foreign Institutional Ownership

Table A.4 presents OLS regression estimates for the effect of appointment of a new bank CEO on the bank's loan loss provisions (LLP) (Panel A) and on lending (Panel B). The sample is restricted to banks with above median foreign institutional ownership. In Panel A, the dependent variable, LLP-To-Income ratio, is calculated by normalizing loan loss provisions by interest income. The key explanatory variable equals the dummy New CEO, which equals 1 for the transition quarter and 0 otherwise. In columns 1 and 2, we use our preferred definition of transition quarter. Here a quarter is considered as the transition quarter only if the new CEO takes charge before the last day of the quarter. In columns 3 and 4, the first quarter for which the new CEO announces results is considered as the transition quarter. In Panel B, the dependent variable is the total advances (in billions of Rupees) lent. The data pertaining to bank-borrower pair spans from 2001 to 2014. The independent variable—New CEO—takes the value of one for CEO transition quarter and 3 successive quarters following the turnover quarter and zero otherwise. The standard errors are clustered at bank level and adjusted t-statistics are reported in parentheses below the coefficient estimates. ***, **, * represents statistical significance at the 1%, 5% and 10% levels.

	(1)	(2)	(2)	(2)
Dependent Variable	LLP(i,t)/Income(i,t)			
NEW_CEO	0.014**	0.017*	0.015**	0.018*
	[2.130]	[1.812]	[2.112]	[1.875]
Capital Adequacy Ratio		-0.005*		-0.005*
		[-1.850]		[-1.737]
GDP Growth Rate		0.002		0.002
		[1.230]		[1.242]
GOI Securities Yield		-0.020***		-0.020***
		[-5.372]		[-5.359]
Bank fixed effects	Yes	Yes	Yes	Yes
(Year, Quarter) Fixed Effect	Yes	Yes	Yes	Yes
Observations	501	386	501	386
Number of Banks	10	10	10	10
Adjusted R-squared	0.510	0.131	0.510	0.131

	Panel B	
	(1)	(2)
VARIABLES	ADVANCES (IN BILLION RUPEES)	
NEW_CEO	-58.63*	-135.80*
	[-1.652]	[-1.700]
		-97.56
CAPITAL ADEQUACY RATIO		[-1.285]
		-174.83***
GDP GROWTH RATE		[-3.046]
		489.38***
GOI SECURITIES YIELD		[2.734]
Bank fixed effects	Yes	Yes
(Year, Quarter) Fixed Effect	Yes	Yes
Observations	391	377
Number of Banks	10	10
Adjusted R-squared	0.729	0.729

Table A.5: RESPONSE OF BANK LENDING TO MONETARY POLICY SHOCKS

Table A.5 reports OLS estimates for reaction of bank lending to monetary policy shocks. The data is organized at bank quarter level and covers a period between September 2003 and June 2010. The dependent variable is the natural logarithm of advances. The explanatory variable of interest in columns 1 and 2 is the short term government security repurchase (repo) rate set by the Central Bank. We also include two lags of the Repo rate. In column 1, we present the results for government owned banks whereas in column 2, we present the results for private banks. In column 3, we compare between transition and other quarter between government owned banks. New CEO is a dummy variable that takes the value of 1 for transition quarter and zero otherwise. The main explanatory variable of interest in column 3 is the interaction between New CEO dummy and the repo rate. We include bank fixed effects in all three columns. The standard errors are clustered at bank level and adjusted t-statistics are reported in parentheses below the coefficient estimates. ***, **, * represents statistical significance at the 1%, 5% and 10% levels.

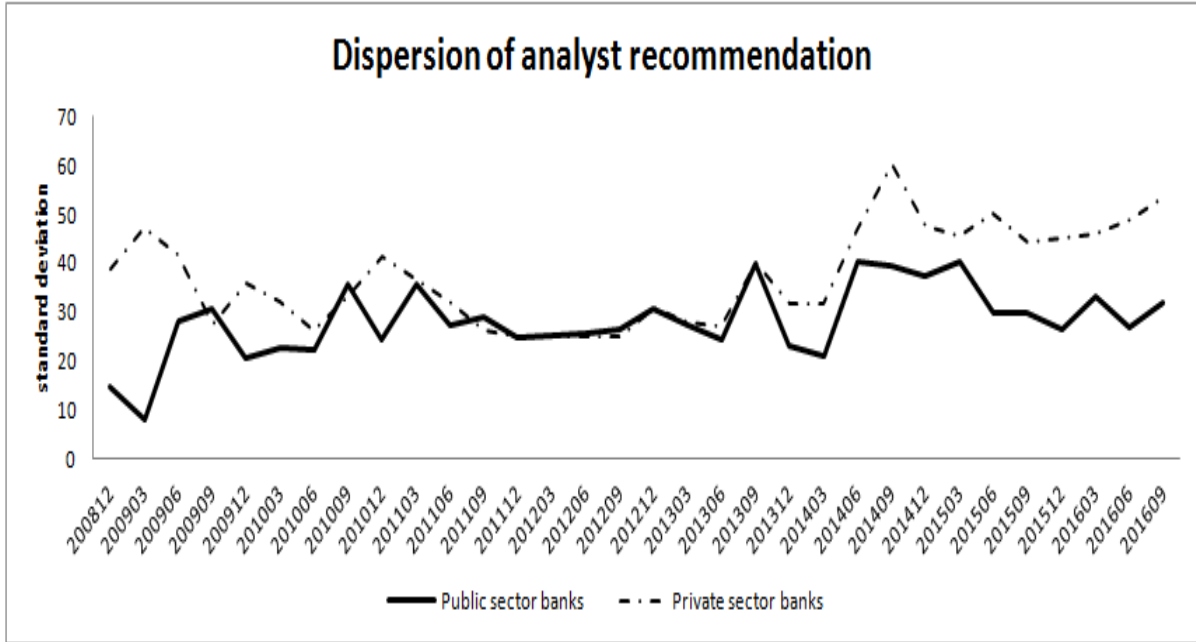|	Advances		
DEPENDENT VARIABLE	PUBLIC BANKS	PRIVATE BANKS	PUBLIC BANKS
POLICY RATE	-0.094**	-0.098***	-0.092***
	(0.040)	(0.035)	(0.014)
NEW_CEO			-0.243
			(0.385)
NEW_CEO × POLICY RATE			0.040
			(0.054)
LAG OF POLICY RATE	0.018	0.026	0.008
	(0.062)	(0.055)	(0.011)
LAG 2 OF POLICY RATE	0.044	-0.012	0.043***
	(0.041)	(0.038)	(0.013)
Observations	640	287	519
Bank fixed effects	Yes	Yes	Yes
(Year, Quarter) Fixed Effect	Yes	Yes	Yes
Adj R-squared	0.605	0.881	0.612

Figure A.1: Dispersion Of Analyst Estimates

In figure A.1, we compare the dispersion in analyst estimates for government owned banks with the same for private sector banks. The data spans a period between December 2008 and September 2016. The bold line represents the dispersion for government owned banks and the dotted line represents the same for private banks. The horizontal axis represents time and the vertical axis represents the dispersion in analyst estimates.
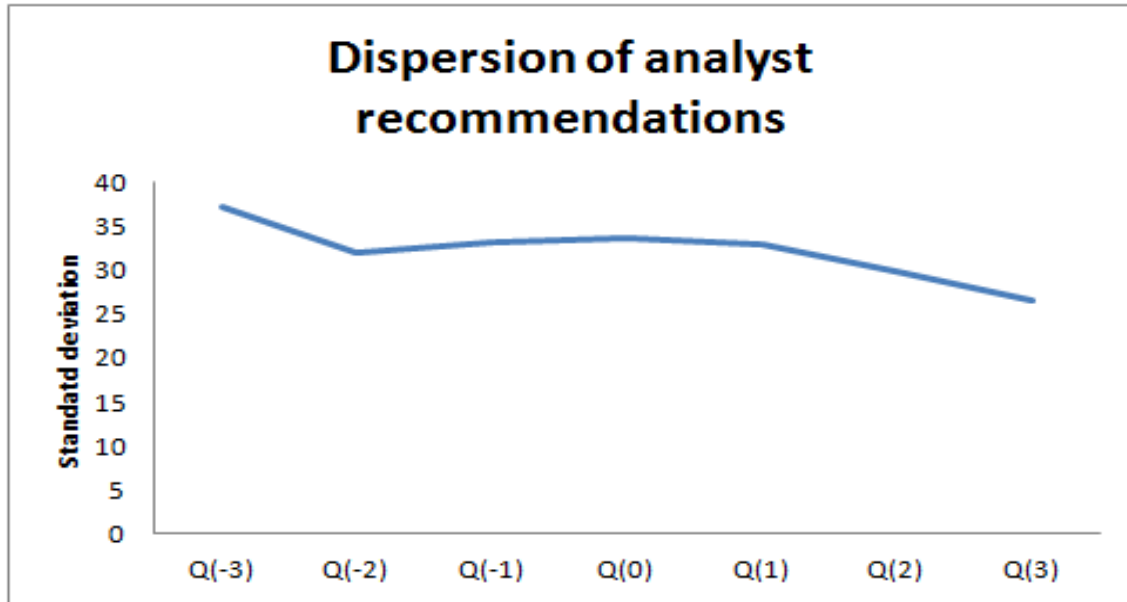
Figure A.2: Dispersion Of Analyst Estimates-Transition Quarter V/s Other Quarters

In figure A.2, we compare the dispersion in analyst estimates for government owned banks with the same for private sector banks. In this figure, we compare the dispersion in analyst estimates within government owned banks between transition and other quarters. The data spans a period between December 2008 and September 2016. The horizontal axis represents distance from transition quarter and the vertical axis represents the dispersion in analyst estimates.