BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DIVISION OF BANKING SUPERVISION AND REGULATION

Date: January 24, 2005

To: Board of Governors

From: Staff[1]

Subject: Stress Scenarios on Bank Exposures to Government Sponsored Enterprise (GSE) Debt

Introduction

This memorandum discusses key risks and supervisory issues in the banking industry related to the possible curtailment or elimination of the implicit government guarantee given to Fannie Mae and Freddie Mac as GSEs. To understand the possible ramifications of this action, three scenarios are discussed to essentially determine the banking industry's ability to absorb a shock in earnings and capital arising from the industry's holdings of GSE securities, defined to include both guaranteed mortgage backed securities (MBS) and direct obligations. Key assumptions for the scenarios are as follows:

Scenario One: Security Price Declines and Industry Losses

- This scenario assumes that the values of GSE securities drop to a level commensurate with their corporate ratings falling from a high investment grade rating of AAA to a low investment grade rating of BBB. As a result, prices of GSE MBS are assumed to decline by one percent, due to their collateralized nature, and direct obligations are assumed to decline by 20 percent because they are unsecured.
- These highly conservative assumptions incorporate the view that in addition to the elimination of the government guarantee, there is a significant deterioration in the financial condition of Fannie and Freddie.
- Under this scenario, the effects on industry earnings and capital are assessed.

Scenario Two: Imposing Higher GSE Risk Capital Weights Coupled with Industry Losses

- This second scenario assumes the banking industry is subjected to the price declines of Scenario One, coupled with a change in the risk-based capital treatment for Fannie and Freddie securities to reflect the loss of their GSE status.
- Note that these risk weight changes are within the discretion of federal bank regulators.
- Under this scenario, the effect on capital ratios is assessed.

[1] Messrs. Spillenkothen, Hoffman, Cole, Martinson, Wright, Embersit, Bertsch, Siddique, and Garza and Ms. Gibbs (Division of Banking Supervision and Regulation) and Mr. Van Der Weide (Legal Division).

Scenario Three: Imposing Concentration Limits and Mandated Sales

- Currently, the debt of Fannie Mae and Freddie Mac is exempt from statutory concentration limits generally applicable to bank holdings of corporate debt obligations. This scenario assumes that Congress acts to amend the National Bank Act to impose limits on banks' Fannie and Freddie holdings to be consistent with existing statutory limits on corporate debt. Therefore, GSE holdings become subject to the current statutory concentration limits on corporate bonds (i.e., 10 percent and 25 percent of capital for direct obligations and MBS, respectively).
- Under this scenario, the amount of GSE holdings that would need to be divested in order to meet the statutory limits is assessed.

This memorandum draws on data from the Call Reports filed by commercial banks as of September 30, 2004 (i.e., does not address exposures at BHCs and thrifts). It also assumes that the aggregate GSE debt reported[2] in the Call Reports serves as a close proxy for commercial bank exposures to Fannie and Freddie securities. This analysis does not address the possible effect of bank counterparty exposures with the GSEs through OTC derivatives.[3] Based on data from selected LCBOs, Fannie and Freddie derivative credit exposure currently does not appear to be significant.

Based on the scenario analysis discussed above, a broad view is also presented of key supervisory issues and responses. Lastly, this memorandum provides a summary of specific statutory and regulatory advantages for Fannie and Freddie that relate to the banking industry.

Executive Summary

- Total bank GSE security holdings in commercial banks exceed $900 billion; about 27 percent of the holdings are direct obligations and 73 percent are MBS.
- Approximately 65 percent of the total industry holdings are in large banks with assets greater than $10 billion (these banks hold 75 percent of the total industry assets). About 40 percent of the total industry GSE holdings are concentrated in ten of these large banks.

[2] The Call Report collects information on bank investments in debt issued by GSEs, but does not separate debt issued by Fannie and Freddie from debt issued by other GSEs including the FHLBs and Farmer Mac. In addition, banks report line items for investments in 1) pass through MBS issued by Fannie and Freddie; 2) other MBS issued or guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mac; and 3) other MBS collateralized by MBS issued or guaranteed by Fannie Mae, Freddie Mac and Ginnie Mae. MBS issued or guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae and held in trading accounts are also reported by banks with significant trading activities.

[3] It should be noted that at present, GSE credit counterparty exposure in OTC derivatives is not significant among large banks. In addition, it should also be noted in the memo "A Hypothetical GSE Stress Scenario and Possible Federal Reserve Actions to Address an Associated Liquidity Crisis" by Messrs Clouse, English, Gibson, Nelson, and Passmore, under existing master agreements, a fall in debt ratings below AAA would require the GSEs to post collateral to cover their exposures with major derivative dealers. These collateral requirements and subsequent management of GSE exposures would tend to mitigate the impact of a GSE downgrade in the context of counterparty credit exposures; however, such collateral calls could give rise to liquidity implications. Given the general profile of GSE derivative transactions with major dealers, (e.g., primarily pay fixed interest rates and receive floating under interest rate swap agreements) bank exposures to the GSEs would be expected to rise under a significant decline in rates - a scenario that might mitigate the estimated impact on the price of banks' holdings of GSE securities.

- Under the pricing change assumptions in Scenario One, small banks would incur the greatest loss in income and the most stress in their capital ratios. For example, in Scenario One, losses as a percentage of earnings for banks with assets less than $150 million exceed annual earnings by about 1.5 times, while in large banks with assets greater than $10 billion, losses totaled 22 percent of annual earnings. Assuming no increase in risk-weights associated with GSE holdings, Scenario One produces only moderate declines in aggregate industry risk-based capital ratios with only two large banks becoming undercapitalized, according to the Prompt Corrective Action framework.

- Using the conservative loss assumptions in Scenario One, coupled with changes in risk weights for GSE holdings in Scenario Two, overall the banking industry remains well capitalized, but a notable number of banks become undercapitalized. In particular, under Scenario Two, 659 institutions are undercapitalized representing a total of $432 billion assets or roughly five percent of total industry assets (35 of these institutions would become critically undercapitalized, representing $21 billion in assets or less than one percent of total industry assets). Although the number of undercapitalized institutions are mostly small banks (i.e., approximately 60 percent of undercapitalized banks are small institutions with assets less than $150 million), more than 50 percent of the assets that would become undercapitalized are concentrated in 6 large banks, including State Street (State Street has a very high concentration of GSE Debt - 437 percent of Tier 1 Capital in comparison to the Top Ten GSE Holder weighted average of 161 percent of Tier 1 Capital).

    - Under less extreme assumptions, where the price changes of MBS and direct obligations are 0.25 percent and 5 percent, respectively, coupled with the risk weight changes of Scenario Two, only 78 banks are undercapitalized representing a total of about $38 billion in assets (approximately one-half percent of total industry assets). 45 of these are small banks with assets less than $150 million. Only one large bank, with assets of $13 billion (Westernbank of Puerto Rico) becomes undercapitalized.

- In Scenario Two, 28 large banks move from well capitalized to adequately capitalized, including BofA, Suntrust, PNC, and Fifth Third of Ohio. Under the Bank Holding Company Act, a bank holding company with a subsidiary bank that fails to remain well capitalized can lose its financial holding company status. If the subsidiary bank does not return to well capitalized within a reasonable period of time, the bank holding company may be required by the Board to divest the bank or cease engaging in activities only permissible for financial holding companies (such as full-scope securities underwriting and dealing, merchant banking, and insurance underwriting).

- Currently, banks face no statutory limits on the amount of GSE debt they may hold. If Congress were to mandate that Fannie and Freddie debt be treated like other corporate bonds, banks would need to divest close to $400 billion of their holdings in order to comply with statutory requirements.

- Supervisory action to address any operational and liquidity issues at banks arising from a change in the status of the GSEs and the financial condition of Fannie and Freddie could potentially require changes in existing statutory and regulatory rules associated with GSE securities. More specifically, Scenario One includes developments over which bank regulators might have limited control. That is, if legislation or market perceptions act to eliminate the implicit sovereign backup, price declines in Fannie and Freddie securities would have negative implications on banks' income and capital as described in this memorandum. Scenarios Two and Three assume special capital treatment and concentration limits would be changed at the same time that Fannie and Freddie lose their GSE status. However, the impact of these scenarios could be mitigated by phase-in periods or other statutory or regulatory actions.

Key Facts at a Glance

- Banks are important investors in GSE securities, with total GSE holdings exceeding $900 billion. Large banks (>$10 billion in assets) tend to hold a higher proportion of MBS while small banks less than $150 million tend to hold a higher proportion of GSE direct obligations (see table 1). For example, 83 percent of GSE holdings for large banks are in MBS, while 70 percent of GSE holdings for small banks with asset size less than $150 million are in direct obligations.

Table1: Composition of GSE Holdings ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	$ MBS	MBS GSE within Group	$ Direct	Direct GSE within Group	$ Total GSE	% of Total Industry GSE
>$10 bil.	498,929	83%	105,745	17%	604,675	65%
$1 bil. to $9.9 bil.	103,671	66%	53,439	34%	157,111	17%
$500 mil. to $999.9 mil.	19,902	51%	19,201	49%	39,103	4%
$150 mil. to $499.9 mil.	34,642	45%	43,009	55%	77,651	8%
<$150 mil.	16,231	30%	37,706	70%	53,937	6%
Total	*673,376*		*259,101*		*932,476*	

- Total GSE debt volume is highly concentrated in 10 large banks (see table 2). For example, approximately 65 percent of the total GSE debt held by commercial banks is held by large banks and the top 10 GSE holders have approximately 36 percent of the total GSE debt. As can be seen from Table 2, most of these institutions primarily hold MBS, with the exception of Citibank and State Street.

Table 2: Banks with Largest Holdings of GSE ($ mil.)
Top 10 GSE Holders

Bank Name	$ MBS	$ Direct	$ Total GSE	% of Industry GSE
Bank Of Amer	127,816	75	127,891	14%
Wachovia Bk	47,570	0	47,570	5%
U S Bk	32,405	1,418	33,823	4%
Jpmorgan Chase Bk	31,236	694	31,930	3%
Wells Fargo Bk	19,520	125	19,645	2%
Fifth Third Bk OH	16,062	3,565	19,627	2%
State Street	7,814	11,438	19,252	2%
Fleet Na Bk	14,797	32	14,828	2%
Suntrust Bk	11,348	1,624	12,972	1%
Citibank	2,136	10,641	12,777	1%
Top 10 GSE Holders	*310,704*	*29,612*	*340,316*	
Top 10 as % of All Banks	*46%*	*11%*		*36%*
All Banks	673,376	259,101	932,476	

- Banks have a relatively high concentration of GSE assets relative to capital. Holdings of GSE-related securities on an aggregate basis exceed 150 percent of their Tier 1 Capital and 11 percent of their total assets (see table 3).

Table 3: Composition of GSE Holdings
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	Total Banks	GSE / Total Assets (%)	GSE / Tier 1 Capital (%)	# Banks w. GSE / Tier 1 Ratio > 100%	% of Total Banks w. Ratio > 100%
>$10 bil.	85	9.9%	146.7%	56	1.1%
$1 bil. to $9.9 bil.	358	16.4%	183.2%	255	5.2%
$500 mil. to $999.9 mil.	391	14.8%	164.1%	268	5.4%
$150 mil. to $499.9 mil.	1,991	14.6%	158.7%	1,291	26.2%
<$150 mil.	4,814	16.6%	154.5%	3,060	62.1%
Total	*7,639*	*11.4%*	*154.0%*	*4,930*	

- Most of the Top 10 GSE holders have large GSE concentrations relative to capital. Fifth Third of Ohio and State Street have the most significant concentrations - 394 percent and 437 percent percent of Tier 1 Capital, respectively (see table 4). Typically, top credit exposures of private industry corporates at LCBOs such as Citibank and JPMC are generally around 9 percent of Tier 1 Capital.

Table 4: Banks with Largest Holdings of GSE ($ mil.)
Top 10 GSE Holders

Bank Name	GSE to Assets (%)	GSE to Capital (%)
Bank Of Amer	17.3%	279.5%
Wachovia Bk	12.5%	215.6%
U S Bk	17.6%	294.6%
Jpmorgan Chase Bk	4.8%	89.1%
Wells Fargo Bk	5.4%	83.4%
Fifth Third Bk OH	32.4%	394.4%
State Street	20.0%	436.7%
Fleet Na Bk	7.1%	102.5%
Suntrust Bk	10.3%	144.7%
Citibank	2.0%	32.7%
Top 10 GSE Holders	*9.8%*	*161.6%*

Effects of Eliminating Implicit Guarantee

Scenario One -- Reduction in Security Values: The elimination of the implicit guarantees for Fannie Mae and Freddie Mac would likely cause a negative market reaction: a decrease in security values and, in turn, a reduction in bank earnings and risk based capital ratios. Scenario One assumes that the values of the GSE securities drop to a level commensurate with their ratings falling from AAA to BBB, resulting in MBS and direct obligation prices declining by one percent and 20 percent, respectively. As stated earlier, this assumption is extreme compared to general market views, but not entirely implausible (market has been wrong before). It incorporates the assumption that in addition to the elimination of the government guarantee, there is a significant deterioration in the financial condition of Fannie and Freddie. This scenario also allows us to assess the ability of the banking industry to absorb a significant shock in GSE security prices. An assumption was also made that MBS prices would not decrease as much as direct obligations, since MBS held by banks are ultimately collateralized by the underlying residential mortgages. Further, it was assumed that there is a permanent impairment in GSE-related investment securities, thereby affecting bank regulatory earnings and capital. It was also assumed that the value of MBS assets in the trading account would decline by one percent in this scenario.

> ***Results***: A one percent decline in MBS prices and a 20 percent decline in direct obligations would reduce the value of banks' security holdings by approximately $38 billion (on an after tax basis). As a percent of the last four quarters of net income, these losses amount to roughly 37 percent of aggregate industry earnings.
>
> Large banks would experience a loss of about $17 billion, or 22 percent of their income. In contrast, banks with assets less than one billion would incur losses greater than 100 percent of 12-month earnings (see table 5). Small banks (less than $150 million in total assets) would have the highest losses relative to income at approximately 148 percent of 12-month earnings.

Table 5: Loss as Percent of Net Income ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	$ Estimated Losses (after tax)	[illegible] Net Income*	Losses as % of Net Income
>$10 bil.	16,990	75,880	22.4%
$1 bil. to $9.9 bil.	7,621	13,525	56.3%
$500 mil. to $999.9 mil.	2,625	3,406	77.1%
$150 mil. to $499.9 mil.	5,816	6,101	95.3%
<$150 mil.	5,007	3,374	148.4%
Total	*38,060*	*102,286*	*37.2%*

** Last four quarters net income through 3Q 2004.*

Despite these heavy losses, the industry continues to remain well capitalized[4] on an aggregate basis where the capital ratios drop marginally (see table 6).

Table 6: Capital Ratios After Losses from Price Declines
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	Leverage Ratio After Loss	Percentage Point Change	Tier1 Ratio After Loss	Percentage Point Change	Total Risk-Based Cap. Ratio After Loss	Percentage Point Change
>$10 bil.	6.8%	-0.3%	8.7%	-0.4%	11.6%	-0.4%
$1 bil. to $9.9 bil.	8.4%	-0.8%	11.3%	-1.1%	13.1%	-1.1%
$500 mil. to $999.9 mil.	8.2%	-1.0%	11.0%	-1.3%	12.3%	-1.3%
$150 mil. to $499.9 mil.	8.3%	-1.1%	11.4%	-1.5%	12.6%	-1.5%
<$150 mil.	9.3%	-1.6%	13.6%	-2.2%	14.7%	-2.2%
Total	*7.2%*	*-0.5%*	*9.4%*	*-0.6%*	*12.0%*	*-0.6%*

- Of the top 10 GSE debt holders, losses in State Street would exceed more than 1.5 times its earnings (see table 7).

[4] Well capitalized under the prompt corrective action framework means a total risk-based capital ratio of 10 percent or greater, Tier 1 RBC ratio of 6 percent or greater, and leverage ratio of 5 percent or greater. Adequately capitalized under the prompt corrective action framework means a total risk-based capital ratio of 8 percent or greater, Tier 1 RBC ratio of 4 percent or greater, and leverage ratio of 4 percent or greater.

Table 7: Loss as Percent of Net Income ($ mil.)
Top 10 GSE Holders

Bank Name	[illegible] losses (after tax)	[illegible] Income	[illegible] Net Income
Bank Of Amer	841	10,204	8.2%
Wachovia Bk	309	4,500	6.9%
U S Bk	395	3,815	10.4%
Jpmorgan Chase Bk	293	2,611	11.2%
Wells Fargo Bk	143	5,019	2.9%
Fifth Third Bk OH	568	1,256	45.2%
State Street	1,538	999	153.9%
Fleet NA Bk	100	2,136	4.7%
Suntrust Bk	285	1,478	19.3%
Citibank	1,397	8,934	15.6%
Top 10 GSE Holders	5,869	40,953	14.3%
All Banks	38,060	102,286	37.2%

** Last four quarters net income through 3Q 2004.*

- As a result of the losses under Scenario One, about 280 banks, totaling $189 billion in assets, would end up being considered undercapitalized;[5] and thereby would be subject to mandatory supervisory actions.[6] Of these banks, 185 or 65 percent have assets less than $150 million, totaling assets of approximately $12.5 billion or less than one percent of total industry assets (see table 8). Of the nearly 280 undercapitalized banks, 35 would be considered critically undercapitalized, representing about $22 billion in assets. These critically undercapitalized banks are predominantly small, with less than $150 million in assets. Westernbank of Puerto Rico is the only large bank which would be critically undercapitalized.

[5] Undercapitalized for the prompt corrective framework means total risk-based capital ratio under 8 percent, Tier 1 RBC ratio under 4 percent, or leverage ratio generally under 4 percent. For this analysis, due to lack of specific data, critically undercapitalized institutions are considered ones with total risk-based capital ratio under 2 percent, Tier 1 RBC ratio under 2 percent, or leverage ratio generally under 2 percent.

[6] Undercapitalized institutions are subject to the following mandatory supervisory actions: (1) all provisions applicable to adequately capitalized, (2) increased monitoring by supervisor, (3) requirement to submit an acceptable capital restoration plan within 45 days of becoming undercapitalized and to implement that plan, (4) a restriction on the growth of total assets, (5) prior agency approval of any acquisitions, branching, and new lines of business, and (6) discretionary supervisory action as appropriate including dividend restrictions.

Table 8: Banks Undercapitalized After Price Declines ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Undercapitalized After Price Decline*	$ Total Assets of Undercapitalized Banks	% of Total Assets for Undercapitalized Banks
>$10 bil.	2	109,696	58.0%
$1 bil. to $9.9 bil.	12	36,870	19.5%
$500 mil. to $999.9 mil.	16	11,885	6.3%
$150 mil. to $499.9 mil.	69	17,965	9.5%
<$150 mil.	185	12,587	6.7%
Total	*284*	*189,002*	100%

** Four small banks are undercapitalized before scenarios.*

35 of the 284 banks are also critically undercapitalized, including a large bank, the Westernbank of Puerto Rico, with 13 billion in assets.

- Among the very large institutions, only State Street would become undercapitalized, as its leverage ratio would fall below 5 percent to 3.5 percent. State Street assets are about $96 billion, which represents 50 percent of the total assets of all the banks that would be considered undercapitalized under this scenario.

- In this scenario, 1,107 banks would move from being considered well capitalized to adequately capitalized with assets totaling $780 billion or about 10 percent of total industry assets. Of these, 14 are large banks, representing $331 billion in total assets, or about 42 percent of the total assets of banks which become adequately capitalized banks. A list of these 14 banks is shown in Table 8-B. As noted above, under the Bank Holding Company Act, a bank holding company with a subsidiary bank that fails to remain well capitalized can lose its financial holding company status. If the subsidiary bank does not return to well capitalized status within a reasonable period of time, the bank holding company may be required by the Board to divest the bank or cease engaging in activities only permissible for financial holding companies (such as full-scope securities underwriting and dealing, merchant banking, and insurance underwriting).

Table 8-A: Banks Falling to Adequately Capitalized After Price Declines ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Falling to Adequately Capitalized After Price Decline	$ Total Assets of Banks Falling to Adequately Capitalized	% of Total Assets for Banks Falling to Adequately Capitalized
>$10 bil.	14	331,520	42.5%
$1 bil. to $9.9 bil.	86	243,628	31.2%
$500 mil. to $999.9 mil.	82	57,390	7.4%
$150 mil. to $499.9 mil.	371	106,907	13.7%
<$150 mil.	554	41,320	5.3%
Total	1,107	780,765	100%

Table 8-B: Large Banks Falling to Adequately Capitalized After Price Declines ($mil.)
Bank Groups by $ Total Assets of Bank

		Capital Ratios After Price Decline		
[illegible]	Assets	[illegible]	[illegible]	[illegible]
Branch Bkg&TC *	73,700	5.4%	7.3%	8.9%
Union Bk Of CA	46,470	7.0%	8.5%	9.8%
Northern Trust *	33,053	4.9%	7.0%	10.0%
Citizens Bk Of MA *	30,412	5.1%	6.9%	9.6%
Banco Popular De PR *	23,224	4.3%	7.0%	8.3%
Branch B&TC Of VA *	21,390	5.5%	8.9%	9.8%
Harris T&SB *	20,514	6.5%	7.1%	9.4%
Firstbank PR *	15,069	5.0%	7.7%	9.2%
Commerce Bk	12,747	6.7%	8.4%	9.6%
First-Citizens B&TC *	11,547	6.4%	8.6%	9.8%
Doral Bk *	11,135	4.3%	14.3%	15.0%
Citizens Bk RI *	11,064	6.1%	8.8%	9.8%
Bancorpsouth Bk *	10,605	5.3%	8.1%	9.4%
Valley NB	10,591	6.8%	8.8%	9.7%
Total 14 Banks	*331,520*			

** Parent is a Financial Holding Company.*

- If the assumptions in Scenario One were significantly modified to reflect price changes of 0.25 percent for MBS and 5 percent for direct obligations, analogous to ratings migrating from AAA to A, total losses to commercial banks would be $9.5 billion on an after-tax basis. Nine banks would become undercapitalized totaling $2.1 billion in assets. Only 158 institutions would fall from well capitalized to adequately capitalized and the only large bank would be Citizens Bank MA, a U.S. banking subsidiary of Royal Bank of Scotland, and FBO (See Attachment 2 for detailed tables).

Scenario Two -- Change in Risk Weights: Without an implicit guarantee, a strong argument would exist to increase the risk weights associated with Fannie Mae and Freddie Mac securities, which would result in a reduction of banks' risk-based capital (RBC) ratios. In computing risk weighted assets (RWA), GSE securities currently receive a 20 percent risk weight. If treated like private industry corporations, the risk weights on Fannie Mae and Freddie Mac direct obligations could increase to 100 percent and the risk weights on their MBS could increase to 50 percent. As a result, RWA would increase and risk-based capital ratios would decline. The increase in risk weights coupled with Scenario One price declines (i.e., one percent decline in MBS and 20 percent decline in direct obligations) would result in a significant decrease in RBC ratios for some institutions.

Results: The industry remains well capitalized under Scenario Two on an aggregate basis (see table 9). On an aggregate level, total RWA increases by $365 billion, representing a 6.1 percent increase. As a result, the Tier 1 leverage ratio would drop by 0.5 percent to 7.2 percent. The Tier 1 risk-based capital ratio would drop by 1.2 percent to 8.9 percent, and the total RBC ratio would decrease by 1.3 percent to 11.3 percent.

Table 9: Effect of Change in Risk Weights and Scenario 1 Prices (in $mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	[illegible] Change in RWA $[illegible]	[illegible] Change in RWA
>$10 bil.	215,859	4.7%
$1 bil. to $9.9 bil.	64,992	9.4%
$500 mil. to $999.9 mil.	18,199	9.4%
$150 mil. to 499.9 mil.	37,814	10.0%
<$150 mil.	28,953	13.1%
Total	365,817	6.1%

	Capital Ratio Changes					
$ Assets of Bank	Leverage Ratio	Percentage Point Change	Tier 1 Ratio	Percentage Point Change	Total Risk Based Cap. Ratio	Percentage Point Change
>$10 bil.	6.8%	-0.3%	8.3%	-0.8%	11.1%	-0.9%
$1 bil. to $9.9 bil.	8.4%	-0.8%	10.4%	-2.1%	11.9%	-2.2%
$500 mil. to $999.9 mil.	8.2%	-1.0%	10.0%	-2.3%	11.3%	-2.4%
$150 mil. to 499.9 mil.	8.3%	-1.1%	10.4%	-2.5%	11.4%	-2.6%
<$150 mil.	9.3%	-1.6%	12.0%	-3.8%	13.0%	-3.9%
Total	7.2%	-0.5%	8.9%	-1.2%	11.3%	-1.3%

- As a result of the Scenario One losses and change in risk weighting under Scenario Two, 659 banks, totaling $432 billion in assets, or roughly five percent of industry assets, would end up being considered undercapitalized (see Table 10). Roughly six percent, or approximately $27 billion in assets, are banks with assets less than $150 million each. Compared to Scenario One, there are no additional banks which would become critically undercapitalized in Scenario Two.

Table 10: Banks Undercapitalized After Risk Weight and Scenario 1 Prices
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Undercapitalized After Risk Weights *	$ Total Assets of Undercapitalized Banks	% of Total Assets for Undercapitalized Banks
>$10 bil.	6	232,294	53.8%
$1 bil. to $9.9 bil.	36	100,226	23.2%
$500 mil. to $999.9 mil.	37	27,058	6.3%
$150 mil. to 499.9 mil.	171	45,578	10.5%
<$150 mil.	409	27,010	6.2%
Total	659	432,167	

** Four small banks are undercapitalized before scenarios.*

- In this scenario, 6 large banks represent about 54 percent, or $232 billion, of the total bank assets which are undercapitalized. Westernbank of Puerto Rico is the only large bank which would be critically undercapitalized. (see Table 10 and 10-A).

Table 10-A: Large Banks Which are Undercapitalized After Risk Weight and Scenario 1 Prices ($ mil.)
Bank Groups by $ Total Assets of Bank

Bank Name	$ Total Assets of Bank	Capital Ratios After Risk Weight Leverage Ratio	Tier 1 Risk-Based Capital Ratio	Total Risk-Based Capital Ratio
State Street	96,224	3.5%	6.0%	6.8%
BB&T	73,700	5.4%	6.5%	7.9%
Banco Popular	23,224	4.3%	5.3%	6.3%
First Bank PR	15,069	5.0%	6.1%	7.2%
Westernbank Puerto Rico *	13,472	1.4%	1.8%	2.5%
Bancorp South	10,605	5.3%	6.6%	7.6%
Six Banks Above	*232,294*			
Total All Banks	837,324			

Note: All six institutions are financial holding companies.

* *Westernbank Puerto Rico is critically undercapitalized.*

Banco Popular, Firstbank PR, and Westernbank Puerto Rico together represent 57 percent of total assets of commercial banks in Puerto Rico.

- Under Scenario Two, 1,906 banks would move from being considered well capitalized to adequately capitalized, with assets of over $2 trillion, representing roughly a quarter of total industry assets (see table 10-B below). Several large well-known banks would fall into this category, including Bank of America, SunTrust, PNC and Fifth Third of Ohio. Table 10-C provides a list of the large banks that would fall to adequately capitalized.

Table 10-B: Banks Falling to Adequately Capitalized After Risk Weight Change and Scenario 1 Prices
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Falling to Adequately Capitalized After Risk Weight Change	$ Total Assets of Banks Falling to Adequately Capitalized	% of Total Assets for Banks Falling to Adequately Capitalized
>$10 bil.	28	1,616,679	68.3%
$1 bil. to $9.9 bil.	144	413,074	17.5%
$500 mil. to $999.9 mil.	129	88,982	3.8%
$150 mil. to 499.9 mil.	619	172,588	7.3%
<$150 mil.	986	74,831	3.2%
Total	1,906	2,366,154	

Table 10-C: Largest Banks Falling to Adequately Capitalized After Risk Weight Change and Scenario Prices ($ mil.)
Bank Groups by $ Total Assets of Bank

		Capital Ratios After Risk Weight Change		
List banks	$ Total Assets of Bank	Leverage Ratio	Tier 1 Risk Based Capital	Total Risk Based Capital
Bank Of Amer NA *	740,695	6.21%	7.77%	9.81%
Suntrust Bk *	126,289	7.05%	7.35%	9.91%
Pnc Bk NA *	71,753	6.49%	7.19%	9.69%
Fifth Third Bk OH *	60,562	7.31%	7.93%	9.33%
Southtrust Bk *	53,663	6.68%	7.25%	9.93%
Manufacturers & Traders Tc	52,336	6.26%	6.48%	9.96%
Regions Bk *	46,994	6.95%	7.76%	9.29%
Union Bk Of Ca NA	46,470	6.97%	7.52%	8.69%
Fifth Third Bk MI *	38,983	9.09%	8.62%	9.96%
M&I Marshall & Ilsley Bk *	33,087	6.04%	6.67%	9.93%
Northern Trust *	33,053	4.90%	6.27%	8.93%
Huntington Nb *	31,224	5.57%	5.84%	9.90%
Citizens Bk Of MA *	30,412	5.13%	6.33%	8.81%
Banknorth NA *	28,964	5.89%	7.13%	9.09%
National Bk Of Commerce *	23,937	6.91%	8.22%	9.15%
Banco Popular De PR *	23,224	4.27%	5.34%	6.31%
Branch B&Tc Of VA *	21,390	5.50%	7.52%	8.29%
Hibernia NB *	21,298	7.33%	8.61%	9.78%
Harris T&Sb *	20,514	6.45%	6.31%	8.29%
Firstbank PR *	15,069	4.95%	6.10%	7.25%
Sky Bk *	14,447	6.84%	8.14%	9.96%
Associated Bk NA	13,506	6.39%	7.89%	9.81%
Commerce Bk NA	12,747	6.66%	7.67%	8.79%
Bank Of Ok NA *	11,725	6.90%	7.99%	9.52%
First-Citizens B&Tc *	11,547	6.35%	7.87%	9.02%
Doral Bk *	11,135	4.33%	10.44%	10.97%
Citizens Bk RI *	11,064	6.08%	8.11%	9.01%
Valley NB	10,591	6.75%	8.23%	9.00%
Total 28 Banks	*1,616,679*			

** Parent is a Financial Holding Company.*

Scenario Three -- Imposing Credit Concentration Limits on GSE Debt: Currently, banks face no statutory limits on the amount of GSE debt they may hold. If Congress were to amend the National Bank Act to treat Fannie and Freddie like any other corporate obligor, however, banks generally would not be permitted to hold debt securities directly issued by Fannie in an amount that exceeded 10 percent of their capital (and would have a similar 10 percent limit with Freddie Mac). Moreover, if the external rating of GSE-guaranteed MBS fell below AA, under existing statutes, banks generally would not be permitted to hold mortgage-backed securities guaranteed by Fannie in an amount that exceeded 25 percent of the bank's capital (and would have a similar 25 percent limit for MBS[7] guaranteed by Freddie Mac). The table below simulates the effects of such a reclassification.

[7] Under OCC's regulations for limitations on investment securities, this assumes that direct obligations will be treated as a Type III (per obligor a 10 percent of capital limit) and MBSs as a Type V (per issuer a 25 percent of capital limit). Reference 12 CFR part 1. These limits generally have been adopted by states for state chartered banks.

Results: If we impose the above ownership limits for each of the agencies, the total Fannie Mae and Freddie Mac holdings are limited to 20 percent of capital for direct obligations and 50 percent of capital for MBS for each bank. As a result, banks would have to divest 42 percent or $389 billion of their GSE holdings. Seventy-eight percent, or roughly $300 billion, of the reduction would come from the sale of MBS holdings driven primarily by sell-offs from the large banks (see table 11).

Table 11: Imposing Credit Concentration Limits on GSE Debt*
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	$ Amount of GSE Sold	% of Total GSE Sold	% Sold Which is Direct	% Sold Which is MBS
>$10 bil.	229,625	59.0%	0.0%	100.0%
$1 bil. to $9.9 bil.	82,339	21.1%	30.0%	70.0%
$500 mil. to $999.9 mil.	18,405	4.7%	57.6%	42.4%
$150 mil. to 499.9 mil.	35,400	9.1%	70.3%	29.7%
<$150 mil.	23,687	6.1%	100.0%	0.0%
Total	389,455		21.5%	78.5%

* *The limits used are based on capital after the losses projected in Scenario One.*

Key Supervisory Issues

Issue: As discussed above, erosion or elimination of the implicit government guarantee for Fannie Mae and Freddie Mac could have significant negative financial and operational ramifications for some commercial banks, particularly smaller banks with mortgage warehouse facilities, including:

- ***Liquidity*** – Large sell-off of securities resulting from statutory concentration limits would negatively impact the GSE debt markets, exacerbating price declines on the securities. As a result, banks may not be able to obtain sufficient sale proceeds to fund existing mortgage commitments, some of which may already be legally binding, creating liquidity pressures on banks.

- ***Profitability*** – Long term disruptions in the GSE debt markets could reduce profits at banks where mortgage originations are a principal business line.

- ***Stressed Capital Ratios*** – Poor liquidity in the GSE debt markets would saturate bank mortgage warehouse facilities for longer periods as new mortgages come onto the books. This, coupled with significant haircuts on GSE securities, would further stress bank capital ratios.

Possible Supervision Action:

- The financial and operational effects described above may be less severe if the statutory concentration limits and capital risk weight adjustments are phased in over time. A phase in period of 5 to 7 years, matching the average life of Fannie Mae and Freddie Mac securities, could be advantageous and plausible.

- Temporary capital relief could be given to those banks that have stressed capital ratios directly resulting from Fannie Mae and Freddie Mac securities and weakened GSE capital markets.

- Given that the current statutory concentration limits exclude Fannie and Freddie securities, Congress could forebear from changing this statutory exclusion. However, if the rating of Fannie or Freddie securities were to drop to a BBB investment grade, banks' own internal limits may result in a significant decline in their holdings of Fannie and Freddie below the statutory concentration limits.

- It should be noted that even if the 10 percent per corporate obligor limit discussed above were to apply to a bank's holdings of debt securities directly issued by a GSE, a bank may be able to invest in a GSE's direct debt securities in an amount up to 25 percent of the banks capital because the OCC has in certain circumstances allowed a bank to treat an investment in securities issued by an obligor as a loan to the obligor. Under this OCC interpretation, a bank could hold 25 percent of its capital in the form of direct GSE debt securities, but would be required to treat an amount of this investment equal to 10 percent of its capital as a securities investment in the GSE and an amount of this investment equal to 15 percent of its capital as an unsecured loan to the GSE (separately permissible under the National Bank Act lending limits).

Issue: Under scenario two, a number of large complex bank holding companies such as BofA could lose their financial holding company status since they would have a subsidiary bank move from well capitalized to adequately capitalized. This would have major operational implications for such bank holding companies.

Possible Supervisory Action:
Regulators could work closely with institutions in developing a workable action plan with a reasonable schedule to return the subsidiary bank to well capitalized status. In the meantime, affected institutions would continue to operate as FHCs.

Issue: In the past, sponsors of money market funds have made up principal losses ("Break the Buck") to their investors. The "Break the Buck" amount could represent a significant burden for selected banks that sponsor large money market funds. For example, BofA sponsors several money market funds in which approximately $8 billion are invested in Fannie and Freddie direct obligations. Assuming a 20 percent price decline for direct GSE obligations, as in Scenario Two, BofA could potentially top up $1.6 billion to their fund investors. Losses to banks may also be exacerbated by an existing SEC rule (2a-7) governing mutual funds which require an orderly disposition of securities if the short term securities are downgraded below A2/P2.

Possible Supervisory Action:

- Under the SEC rule 2a-7, a mutual fund's board of directors is not required to dispose of securities that have been downgraded below A2/P2 if an orderly disposition cannot be achieved. Regulators could be supportive of this view allowing for a 6 month to 1 year period of time for the securities to be sold, which would also allow for any potential market correction.

Issue: Foreign Banking Organizations own a sizable amount of GSE securities including approximately $15 billion in GSE MBS. A significant shock to GSE securities could cause foreign bank investors to reduce exposures to the U.S. market, exacerbating GSE prices further as well as causing a potential outflow of funds.

Possible Supervisory Action:
The Federal Reserve would need to be prepared to take a leadership role in explaining to FBOs, other central banks and foreign bank supervisors the ramifications of the change in Fannie and Freddie GSE status.

Regulatory and Statutory Issues

Fannie Mae and Freddie Mac have a number of statutory and regulatory advantages over an ordinary U.S. corporation. A major advantage is the exempt status given Fannie and Freddie under U.S. securities laws. As a result, securities issued by Fannie and Freddie are exempt by law from SEC registration, and Fannie and Freddie are exempt by law from the public reporting requirements of the Securities Exchange Act of 1934.[8] As Federal instrumentalities, Fannie and Freddie also enjoy a special exemption from state and local income taxes. Furthermore, by Federal law, Fannie and Freddie each have an undrawn line of credit with the U.S. Treasury Department of $2.25 billion. In addition, securities issued or guaranteed by Fannie or Freddie also are considered eligible securities collateral for purposes of the Federal Reserve's discount window lending and are considered securities eligible for purchase by the Federal Reserve System in its conduct of open market operations.

In addition, a bank's investments in Fannie- and Freddie-related securities (including directly issued bonds, preferred stock, and common stock, and mortgage-backed securities guaranteed by Fannie or Freddie) are afforded special bank regulatory treatment. For example, as noted above, although Federal law generally prohibits a national bank and state member bank from investing in the debt securities of any single corporate obligor in an amount that exceeds 10 percent of the bank's capital, debt securities issued by Fannie and Freddie are exempt by statute from this limit. As a result, Federal law does not limit the amount of securities issued by Fannie or Freddie that a national bank or state member bank may hold. Moreover, under the Federal banking agencies' capital adequacy rules, (i) debt securities issued by Fannie and Freddie receive a 20 percent risk weight in comparison to a 100 percent risk weight for a claim on an ordinary corporate obligor; and (ii) mortgage-backed securities guaranteed by Fannie and Freddie receive a 20 percent risk weight in comparison to a 50 percent risk weight for privately issued residential mortgage-backed securities. Attachment 1 summarizes the current principal advantages of Fannie and Freddie under existing statutes and regulations.

Attachments

[8] Fannie Mae and Freddie Mac voluntarily agreed to register their common stock with the SEC effective March 31, 2003, and, as a result, both companies are now subject to the periodic reporting requirements of the Securities Exchange Act of 1934. Importantly, however, the issuance of debt securities by Fannie Mae and Freddie Mac is not subject to SEC registration.

Attachment 1
Summary of the Principal Regulatory Advantages of Fannie Mae and Freddie Mac
(January 21, 2005)

Regulatory Arena	**Fannie Mae**	**Freddie Mac**
Securities laws (Securities Act of 1933 and Securities Exchange Act of 1934)	Federal law provides that all securities issued or guaranteed by Fannie are "exempt securities" for purposes of the U.S. securities laws. 12 USC 1723c. As such, Fannie is not required by law to register its securities with the SEC under the Securities Act of 1933 and is not required by law to comply with the reporting requirements of the Securities Exchange Act of 1934. Fannie Mae and Freddie Mac voluntarily agreed to register their common stock with the SEC effective March 31, 2003, and, as a result, both companies are now subject to the periodic reporting requirements of the Securities Exchange Act of 1934. Importantly, however, the issuance of debt securities by Fannie Mae and Freddie Mac is not subject to SEC registration.	Same as Fannie. 12 USC 1455(g).
State and local income taxation	Under Federal law, Fannie is exempt from state and local income taxes. 12 USC 1723a(c)(2).	Same as Fannie. 12 USC 1452(e).
Credit support from U.S. Treasury Department	Under Federal law, Fannie has access to a $2.25 billion line of credit from Treasury. 12 USC 1719(c). The credit line currently is undrawn.	Same as Fannie. 12 USC 1455(c).
Federal Reserve discount window lending and open market operations (§§ 13 and 14(b) of the Federal Reserve Act and the Board's Regulation A)	Under sections 13 and 14(b) of the Federal Reserve Act, a Federal Reserve Bank may advance funds to a depository institution secured by, or may purchase and sell in connection with open-market operations, "any obligation that is a direct obligation of, or fully guaranteed as to principal and interest by, any agency of the United States." 12 USC 347 and 355. The Board has included debt securities issued or guaranteed by Fannie on the Regulation A list of securities eligible to	Same as Fannie, except the Board put Freddie-related (securities on the Regulatioı list in 1971 at the time of Freddie's creation.

Regulatory Arena	Fannie Mae	Freddie Mac
	serve as discount window collateral and to be purchased in connection with open-market operations since 1968. 12 CFR 201.108.	
Fiscal agency services from the Federal Reserve	Under Federal law, Fannie is entitled to (and currently does) obtain fiscal agency services from the Federal Reserve System. 12 USC 1723a(g).	Same as Fannie. 12 USC 1452(d).
National bank authority to invest in GSE-issued debt securities and preferred stock (National Bank Act and OCC's investment securities regulation (12 CFR part 1)	Under Federal law, a national bank generally may not purchase or underwrite debt securities issued by any single corporate obligor in an amount that exceeds 10 percent of the bank's capital stock and surplus. "Obligations, participations, or other instruments of or issued by" Fannie, however, are exempt by statute from this general restriction. 12 USC 24(7th). OCC staff has confirmed that Fannie-issued debt securities and preferred stock are Type I securities under the OCC's investment securities regulation and, therefore, a national bank may purchase and underwrite such instruments without limit.	Under Federal law, "mort obligations, or other secur which are or ever have be by" Freddie are also gener exempt from the quantitat limits contained in 12 US 24(7th). OCC staff has confirmed that Freddie-iss debt securities and prefer stock are Type I securities the OCC's investment sec regulation and, therefore, national bank may purcha underwrite such instrumer without limit.
National bank authority to invest in GSE-guaranteed mortgage-backed securities (National Bank Act and OCC's investment securities regulation (12 CFR part 1)	Federal law specifically exempts from the national bank investment securities limitations of 12 USC 24(7th) certain classes of mortgage-backed securities. Mortgage-backed securities guaranteed by Fannie, like other residential mortgage-backed securities rated AAA or AA by a credit rating agency, would qualify for this exemption. Such securities would be Type IV securities under the OCC's investment securities regulation; as such, a national bank may purchase and underwrite such securities without limit.	Same as Fannie.
National bank authority to purchase GSE common stock	12 USC 1718(d) authorizes national banks (and state banks) to buy and sell Fannie common stock without limit. 12 USC 1828(s), however, prevents any insured depository institution from becoming an affiliate of Fannie (and thus from owning more than 25 percent of the voting stock of Fannie).	Federal law does not auth national bank to invest in common stock of Freddie. staff has indicated to Boar that the OCC does not hav

Regulatory Arena	Fannie Mae	Freddie Mac
		formal position on this issue, would probably not permit a national bank to invest in Freddie common stock.
Federal thrift authority to invest in GSE-related debt and equity securities (Home Owners' Loan Act and OTS regulations)	Under Federal law, a Federal thrift may have no more than 10 percent of its total assets in the form of loans to corporate obligors (but may have an extra 10 percent in the form of small business loans). A Federal thrift's investments in "the stock of the FNMA" or in "obligations, participations, securities, or other instruments issued by, or fully guaranteed as to principal and interest by," Fannie do not count toward this limit. 12 USC 1464(c)(1)(D) and (F). In addition, loans by a Federal thrift to regulated financial institutions and broker-dealers that are fully secured by securities issued or guaranteed by Fannie are also not subject to this limit.	A Federal thrift generally ma invest, without limitation as a percentage of assets, in "mortgages, obligations, or o securities which are or have b sold by" Freddie. 12 USC 1464(c)(1)(E).
Capital adequacy rules for banks and bank holding companies (Board's Regulations H and Y)	Federal law does not dictate in any way how much regulatory capital a banking organization must hold with respect to a security issued or guaranteed by Fannie. Under the capital adequacy guidelines of the Federal banking agencies, debt securities issued or guaranteed by Fannie must be risk weighted at 20 percent (whereas "claims on or guaranteed by a U.S. government agency" receive a 0 percent risk weight, claims on an ordinary corporate obligor receive a 100 percent risk weight, and privately issued residential mortgage-backed securities receive a 50 percent risk weight). Investments in Fannie equity securities generally would be risk weighted at 100 percent.	Same as Fannie.
Margin lending (Board's Regulations T, U, and X)	Federal law provides that securities issued or guaranteed by Fannie are not subject to the Federal Reserve's margin rules.	Same as Fannie.
Transactions between banks and their affiliates (Board's Regulation W)	Section 23A of the Federal Reserve Act places restrictions on loans by a bank to an affiliate. The statute provides an exemption for loans by a bank to an affiliate that are secured by "obligations of, or fully guaranteed as to principal and interest by, the United States or its agencies." 12 USC 371c(d)(4). The Board's Regulation W makes explicit that a	Same as Fannie.

Regulatory Arena	Fannie Mae	Freddie Mac
	loan by a bank that is fully secured by debt securities that are issued or guaranteed by Fannie would qualify for this exemption. 12 CFR 223.42(c).	
Reserve requirements for depository institutions (Board's Regulation D)	Federal law generally requires depository institutions to meet reserve requirements established by the Board on certain deposits and other liabilities. The Board's Regulation D exempts from the definition of deposit (and thus from the reserve requirements) any repurchase agreement on "obligations of, or obligations that are fully guaranteed as to principal and interest by, the U.S. government or any agency thereof". 12 CFR 204.2(a)(1)(vii)(B). Board staff has opined that repurchase agreements on debt securities issued or guaranteed by Fannie are exempt from the definition of deposit in Regulation D. FRRS 2-305.5.	Same as Fannie.
Authority of bank holding companies to underwrite and deal in GSE-related securities (Board's Regulation Y)	Under the Board's Regulation Y, a BHC that is not a FHC may receive approval from the Board to underwrite and deal in securities issued or guaranteed by Fannie without regulatory limit. A BHC that is not a FHC may underwrite and deal in other corporate securities only if the BHC complies with the section 20 restrictions. 12 CFR 225.28(b)(8).	Same as Fannie.
Real estate appraisal requirements (Board's Regulations H and Y)	FIRREA requires Fannie and Freddie to use state licensed/certified appraisers. The regulations of the Federal banking agencies state that no real estate appraisals are required for transactions that qualify for sale to a "U.S. government agency or U.S. government-sponsored agency" (including Fannie) or for transactions that are "wholly or partially insured or guaranteed by a U.S. government agency or U.S. government-sponsored agency" (including Fannie). Further, the regulations of the Federal banking agencies specifically exempt transactions "in which the appraisal conforms to Fannie and Freddie appraisal standards."	Same as Fannie.

Attachment 2

Output from Assumptions: MBS Price Change of 0.25 percent and Direct Obligation Price Change of 5 percent

Loss as Percent of Net Income ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	$ Estimated Losses (after tax)	Actual Last Four Qtr. Net Income*	Losses as % Net Income
>$10 bil.	4,247	75,880	5.6%
$1 bil. to $9.9 bil.	1,905	13,525	14.1%
$500 mil. to $999.9 mil.	656	3,406	19.3%
$150 mil. to $499.9 mil.	1,454	6,101	23.8%
<$150 mil.	1,252	3,374	37.1%
Total	*9,515*	*102,286*	*9.3%*

* *Last four quarters net income through 3Q 2004.*

Loss as Percent of Net Income ($ mil.)
Top 10 GSE Holders

Bank Name	$ Estimated Losses (after tax)	Actual Last Four Qtr. Net Income *	Losses as % Net Income
Bank Of Amer	210	10,204	2.1%
Wachovia Bk	77	4,500	1.7%
U S Bk	99	3,815	2.6%
Jpmorgan Chase Bk	73	2,611	2.8%
Wells Fargo Bk	36	5,019	0.7%
Fifth Third Bk OH	142	1,256	11.3%
State Street	384	999	38.5%
Fleet NA Bk	25	2,136	1.2%
Suntrust Bk	71	1,478	4.8%
Citibank	349	8,934	3.9%
Top 10 GSE Holders	1,467	40,953	3.6%
All Banks	9,515	102,286	9.3%

* *Last four quarters net income through 3Q 2004.*

Capital Ratios After Losses from Price Declines
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	Leverage Ratio After Loss	Percentage Point Change	Tier 1 Ratio After Loss	Percentage Point Change	Total Risk-Based Cap. Ratio After Loss	Percentage Point Change
>$10 bil.	7.0%	-0.1%	9.0%	-0.1%	11.9%	-0.1%
$1 bil. to $9.9 bil.	9.0%	-0.2%	12.1%	-0.3%	13.9%	-0.3%
$500 mil. to $999.9 mil.	9.0%	-0.3%	12.0%	-0.3%	13.3%	-0.3%
$150 mil. to $499.9 mil.	9.1%	-0.3%	12.5%	-0.4%	13.7%	-0.4%
<$150 mil.	10.5%	-0.4%	15.2%	-0.5%	16.3%	-0.5%
Total	*7.6%*	*-0.1%*	*9.9%*	*-0.2%*	*12.4%*	*-0.2%*

Banks Undercapitalized After Price Declines ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Undercapitalized After Price Decline*	$ Total Assets of Undercapitalized Banks	% of Total Assets for Undercapitalized Banks
>$10 bil.	0	0	0.0%
$1 bil. to $9.9 bil.	1	1,251	57.0%
$500 mil. to $999.9 mil.	0	0	0.0%
$150 mil. to $499.9 mil.	2	405	18.5%
<$150 mil.	6	536	24.5%
Total	*9*	*2,192*	

* *Four small banks are undercapitalized before scenarios.*

Banks Falling to Adequately Capitalized After Price Declines ($ mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Falling to Adequately Capitalized After Price Decline	$ Total Assets of Banks Falling to Adequately Capitalized	% of Total Assets for Banks Falling to Adequately Capitalized
>$10 bil.	1	30,412	28.7%
$1 bil. to $9.9 bil.	17	42,687	40.3%
$500 mil. to $999.9 mil.	14	9,274	8.7%
$150 mil. to $499.9 mil.	69	18,738	17.7%
<$150 mil.	57	4,944	4.7%
Total	158	106,055	

Output from Assumptions: MBS Price Change of 0.25 percent and 5 percent Direct Obligation Price Change of 5 percent
AND
Risk Weight Change to 50 percent for MBS and 100 percent for Direct Obligations

Effect of Change in Risk Weights and Scenario 1 Prices (in $mil.)
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	Total Change in RWA-GSE	% Change in RWA
>$10 bil.	229,671	5.0%
$1 bil. to $9.9 bil.	71,638	10.4%
$500 mil. to $999.9 mil.	20,548	10.6%
$150 mil. to 499.9 mil.	43,053	11.3%
<$150 mil.	33,514	15.1%
Total	398,424	6.6%

	Capital Ratio Changes					
$ Assets of Bank	Leverage Ratio	Percentage Point Change	Tier 1 Ratio	Percentage Point Change	Total Risk Based Cap. Ratio	Percentage Point Change
>$10 bil.	7.0%	-0.1%	8.5%	-0.5%	11.3%	-0.7%
$1 bil. to $9.9 bil.	9.0%	-0.2%	11.0%	-1.4%	12.6%	-1.6%
$500 mil. to $999.9 mil.	9.0%	-0.3%	10.8%	-1.5%	12.0%	-1.6%
$150 mil. to 499.9 mil.	9.1%	-0.3%	11.2%	-1.6%	12.3%	-1.8%
<$150 mil.	10.5%	-0.4%	13.2%	-2.5%	14.2%	-2.7%
Total	7.6%	-0.1%	9.3%	-0.8%	11.7%	-0.9%

Banks Undercapitalized After Risk Weight and Scenario 1 Prices
Bank Groups by $ Total Assets of Bank

$ Assets of Bank	# Banks Undercapitalized After Risk Weights *	$ Total Assets of Undercapitalized Banks	% of Total Assets for Undercapitalized Banks
>$10 bil.	1	13,472	34.9%
$1 bil. to $9.9 bil.	6	11,848	30.7%
$500 mil. to $999.9 mil.	7	4,856	12.6%
$150 mil. to 499.9 mil.	19	5,066	13.1%
<$150 mil.	45	3,390	8.8%
Total	78	38,633	

* *Four small banks are undercapitalized before scenarios.*