VALUATION OF SENIOR PREFERRED STOCKS
UNDER THE KEEPWELL AGREEMENTS

Valuation result

Senior Preferred Stocks	Fannie Mae	Freddie Mac	Total
At September 8, 2008	840,112,113	823,936,040	1,664,048,153
At September 30, 2008	741,271,034	726,998,112	1,468,269,145

The basis for the valuation is explained below.

Valuation Predicate

We have estimated the value of the Treasury's senior preferred shareholdings in Fannie Mae and Freddie Mac as of September 8, 2008, and September 30, 2008.

The senior preferred stock is valued standalone: its value is not directly affected by other discrete assets or liabilities that are part of the Keepwell Agreement, namely, the common stock warrants and the funding Commitment.

Nature of the Senior Preferred Stock

No preferred stock exists that is comparable to the senior preferred stock of the Keepwell Agreement ("Keepwell Shares") from which to draw direct valuation indications. The following are the unique features of the Keepwell Preferred shares:

- their terms, including the dividend, were not derived from a customary preferred stock offering process or from the pricing of reference securities
- they are part of the Keepwell Agreement that is designed to ensure the continued availability of affordable mortgage financing for United States residential properties
- they are for shares in two entities with a government charter that includes elements potentially contrary to an overarching strategy of profit maximization
- they are attached to common stock warrants, which, if exercised, would be for a number of shares sufficient to provide control
- they are attached to a funding commitment, which can be used to defer obligations for dividend payments and periodic commitment fees, i.e., unpaid dividends and unpaid periodic commitment fees increase liquidation preference per share
- they represent equity in entities subject to a conservatorship
- they are not transferable
- they are senior preferred shares
- they are perpetual cumulative preferred shares
- they contain restrictive covenants, including annual limitations on mortgage-related assets

- they provide for optional paydowns of liquidation preference that are limited to liquidation preference accretion resulting from dividends and periodic commitment fees that were not paid in cash, and this option is only available after the Commitment is terminated
- they require the GSEs to issue capital stock as the only means to pay down any and all liquidation preferences that resulted from drawdowns on the Commitment

The stated value and the dividend of the Keepwell Shares apparently were not determined either by negotiation or by the customary interplay of preferred stock market participants. The stated value is one percent of $100 billion, which is similar to a one percent commitment fee on a line of credit. Domestic Finance set the 10 percent cash dividend (12 percent payment-in-kind) the outstanding preferred shares of Fannie Mae and Freddie Mac were trading at substantially higher yields than 10 percent.

Immediately prior to the announcement of Treasury's financing plan, Moody's ratings of Fannie Mae and Freddie Mac were Aaa for senior long-term debt, Prime-1 for short-term debt, Aa2 for subordinated debt, and Baa3 for preferred stock.[1] On September 7, 2008, the day the Treasury financing plan was announced, Moody's reaffirmed all of its debt ratings and downgraded the preferred stocks of Fannie Mae and Freddie Mac ten notches from Baa3 to Ca.

In essence, prior to the announcement, the GSEs had the following liquidation preference (priority descending) and credit rating of capital tranches:

Senior long-term debt	Aaa
Subordinated long-term debt	Aa2
Preferred stock	Baa3
Common stock	NR

After the announcement, the GSEs had the following liquidation preference (priority descending) and credit rating of capital tranches:

Senior long-term debt	Aaa
Subordinated long-term debt	Aa2
Senior preferred stock	NR
Preferred stock	Ca
Common stock	NR

The Keepwell Shares have effectively replaced preferred stock in the third capital tranche. Following the announcement of the Keepwell Agreement, the approximately $22 billion of outstanding preferred stock of Fannie Mae and the approximately $14 billion of Freddie Mac outstanding preferred stock became subordinated to the potential liquidation preference of $100 billion of Keepwell Shares in each GSE. The subordination of the existing preferred stock to the newly created senior preferred and the elimination of dividends paid to existing preferred shareholders caused rating agencies to downgrade the rating of the preferred issues and the trading market to devalue these securities.

[1] Preferred stock was previously downgraded from A1 to Baa3 on August 22, 2008.

For both Fannie Mae and Freddie Mac, in terms of risk and required returns, the Keepwell Shares fall somewhere between the GSEs' subordinated debt and preferred shares prior to the Keepwell Agreement.

Par Value Assumption

Numerous factors provide contrary evidence to an assumption that the Keepwell Shares should be carried at par value:

- the dividend (and implied dividend yield at par value) apparently were not determined by negotiation or from reference pricing of a comparable security at the time of issue of the Keepwell Shares and have no support from reference pricing at September 30, 2008
- the determination of periodic commitment fees may not provide a true-up to fair value at par, especially given that the periodic commitment fees may be waived
- the GSEs do not operate with the same risk profile; therefore, we would not expect them to issue Keepwell Shares at par (or at the same discounted amount) with the same coupon
- the requirement for a payment-in-kind at 20 percent more than the cash dividend obligation is not consistent with the profile of other entities that would be charged a 10 percent dividend yield at the time of issuance of the senior preferred and at September 30, 2008

It is unusual for a preferred share issued by a major financial institution with a reasonably good credit rating to be given the alternative to make in-kind dividend payments. The higher payment-in-kind feature typically is included in agreements for higher risk entities, such as start-up companies or those with credit ratings that are below investment grade.

Recent Trading History of the GSEs' Preferred Stock Issues

Both Fannie Mae's and Freddie Mac's preferred stock issues were rated by Moody's at Aa3 until July 15, 2008. Moody's Aa3 is a rating for issues of high quality entities that are well within investment grade levels. On July 15, 2008, these preferred issues were downgraded one notch to A-1.

On August 22, 2008, they were further downgraded five notches to Baa3, which is the lowest investment grade rating.

On September 7, 2008, the day of the announcement of the Keepwell Agreement, the preferred stock issues of both Fannie Mae and Freddie Mac were downgraded ten notches to Moody's Ca, which is the lowest junk bond rating before an actual or anticipated payment default.

In short, the rating agencies and the preferred stock market apparently took the view that the senior preferred position reduced the recovery potential for preferred equity. Accordingly, Fannie Mae and Freddie Mac preferred issues that were trading at 10.3 to 15.6 percent dividend yields[2] prior to the announcement of the Keepwell Agreement subsequently traded at values representing recovery rates[3] of 1.4 percent to 13.7 percent of par value.

[2] A dividend yield is the dollar dividend divided by the trading price.
[3] A recovery rate is the trading price divided by the par value.

Recent Trading History of the GSEs' Subordinated Bond Issues

Fannie Mae's and Freddie Mac's ratings for its subordinated debt issues retained their Moody's Aa2 rating after the announcement of the Keepwell Agreement, indicating that the rating agencies and the bond market perceived that the Keepwell Agreement provided protection for the subordinated debt through the underlying equity, including the Keepwell Shares, and through the funding commitment and its mechanism to avoid any excess of total liabilities over total assets on a book basis.

Goldman Sachs Preferred Shares Sold to Berkshire Hathaway

While there is no directly comparable transaction that exists in the market, Berkshire Hathaway's September 23 purchase of $5 billion worth of preferred shares of Goldman Sachs may inform our valuation of the Keepwell Shares.

As part of the transaction, Berkshire Hathaway received in-the-money preferred shares without extending any additional funding commitment. The five-year warrant grant was for 43,478,260 shares. As shown in Exhibit 1, we valued these warrants at $2,331,312,409 ($53.62 per warrant share). In performing our valuation analysis, we took into account dilution for both the Berkshire Hathaway warrant shares and for the sale of 46,747,968 shares (including the greenshoe) that was priced on September 24, 2008 and closed on September 29, 2008. The 260-day historical volatility for Goldman Sachs was 54.22 percent and the implied volatility in its call options was 88.65 percent. We used 40 percent volatility in our analysis, which substantially lowered our estimated value of the warrants.

Berkshire Hathaway invested $5 billion in the warrants and simultaneously received back warrants worth $2,331,312,409 for a net investment of $2,668,687,591. The preferred shares had a fixed dividend rate of 10 percent, or an annual dividend of $500,000,000. Hence, the dividend yield on the preferred shares was 18.749.[4]

In addition, Goldman Sachs's basic financial condition was stronger than that of the GSEs as set out in the last reported financial statements of these enterprises:

	Fannie Mae	**Freddie Mac**	**Goldman Sachs**
Last report as of:	6/30/08	6/30/08	8/29/08
Total assets (in millions)	885,918	879,043	1,081,773
Equity (in millions)	41,226	12,938	45,599
Long term debt (in millions)	799,502	835,812	176,367
Debt to equity	19.4	64.6	3.9
Price (at 9/5/08) to book	0.18	0.25	1.41

The Goldman Sachs transaction implies that the fair value of the GSEs' Keepwell Shares may be less than par.

[4] $500,000,000 divided by $2,668,687,591 = 18.749%.

Liquidity and Lack of Marketability

No ready market for the Keepwell Shares exists, and these shares are not transferable. Customarily, such conditions would call for a discount in estimated value; however, we have treated this lack of marketability as an offset to any value that may inure to the Keepwell Shares based on the unusual nature of Treasury as the holder of the Shares, as well as to the unique attributes of the preferred share agreement (see the "Nature of the Senior Preferred Stock" section of this report).

Valuation

In the context of liquidation preference and risk, the Keepwell Shares place somewhere between the GSEs' subordinated debt and the regular preferred shares.

In Exhibits 2 and 3, we compare the mean yield for the subordinated debt of Fannie Mae and Freddie Mac, respectively, to the mean dividend yield on preferred stock of Fannie Mae and Freddie Mac, respectively for the five-day period (September 1, 2008 through September 5, 2008) immediately before the announcement of the Keepwell Agreement.

In comparing the yield between the GSEs' subordinated debt and regular preferred, we must recognize the tax advantage of the stock dividend exclusion of the preferred shares. For C corporations, preferred stockholders enjoy the exclusion from taxation of 70 percent of the stock dividend, which is the reason why C corporations are the dominant buyers of preferred stock. So it is that the pre-tax interest on a bond must be increased before it can be meaningfully compared to the pre-tax dividend on a stock. Given the maximum 35 percent corporate rate, the pre-tax yield of the GSEs' subordinated debt must be multiplied by a tax factor of 1.3679 in order to be comparable to the dividend yield of the GSEs' preferred shares.[5]

In the absence of any technical authority or pattern of facts that would provide the precise interpolation of the applicable yield for the Keepwell Shares between the yields of the GSEs' subordinated debt and the dividend yields of the GSEs' regular preferred stock, we have assigned equal weight to the yield of the subordinated debt and the regular preferred shares.

The dividend yield for Fannie Mae's Keepwell Preferred shares is 11.9032%, which results in a value for these shares at September 8, 2008 of $840,112,113.[6]

The dividend yield for Freddie Mac's Keepwell Preferred shares is 12.1369%, which results in a value for these shares at September 8, 2008 of $823,936,040.[7]

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[5] The after-tax return of a common or preferred stock dividend is 0.895 (1 – [(1 – 0.7) * 0.35] = 0.895). The multiplier required to make a pre-tax bond yield comparable to the dividend yield of a stock is 1.3769 (1.3769 – (1.3769 * 0.35) = 0.895).

[6] $100,000,000 divided by 0.1190317321.

[7] $100,000,000 divided by 0.1213686441.

As discussed previously, the dividend yield of the regular preferred shares of the GSEs steeply increased after the announcement of the Keepwell Agreement. i.e., the regular preferred shares' market value declined, and, because of the Treasury support for debtholders that is intrinsic to the Keepwell Agreement, the yields of the subordinated debt declined, i.e., their market value increased. After the announcement of the Keepwell Agreement, the relative status of the convertible bonds and preferred shares of the GSEs shifted such that a similar analysis to that of September 8, 2008 cannot be performed for subsequent valuation dates.

In Exhibit 4, we evaluated the change in dividend yield for nine preferred share issues of five relatively high credit quality financial institutions from September 8, 2008 to September 30, 2008. The mean dividend yield increased by 13.334 percent from September 8, 2008 to September 30, 2008. We increased the September 8 dividend yields for each GSE's Keepwell Preferred shares by 13.334% to derive the dividend yields applicable as of September 30, 2008. The dividend yields for September 30, 2008 are 13.4903 percent[8] for Fannie Mae and 13.7552 percent[9] for Freddie Mac.

At September 30, 2008, after applying these dividend yields to the $100,000,000 dividend, the values of the Keepwell Preferred shares are $741,271,034 for Fannie Mae and $726,998,112 for Freddie Mac.

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[8] 11.90317321 percent times 1.1334 = 13.48934233.
[9] 12.1369 percent times 1.1334

Exhibit 1
Valuation of Goldman Sachs Warrants

Diluted share price			
Outstanding shares	395,441,815	125.05	49,449,998,966
Stock issue	46,747,968	123.00	5,750,000,064
Warrant shares	43,478,260	115.00	4,999,999,900
Total	485,668,043	123.95	60,199,998,930

Inputs & derivative equations	
Stock (S)	123.95298
Strike (K)	115.00000
Time (t)	5.00000
Rate (r)	0.03727
Volatility (v)	0.40000
Normdist (N)	
Exponential term (exp)	
d1 = (ln(S/K) + (r+v^2/2)t)/(v*t^0.5)	0.73938
d2 = d1 - v*t^0.5	-0.15505

CALL OPTION
c = S*N(d1) - K*exp(-rt)*N(d2)

Stock	123.95298
Delta (N(d1))	0.77016
Delta equivalent value	95.46379
Strike	115.00000
PV factor	0.82998
Probability (N(d2))	0.43839
Present value of purchase price	41.84361
Value per warrant share	53.62019
Number of warrant shares	43,478,260
Warrant value	2,331,312,409

Exhibit 2
Fannie Mae
Subordinated Debt Yields on Tax Equivalent-Basis to Preferred Stock Yields

Subordinated debt			Yield					
Cusip	Face	Coupon	9/1/08	9/2/08	9/3/08	9/4/08	9/5/08	Mean
31359MPT8	1000	5.1250	7.2610	7.1860	7.0320	6.9480	6.9980	7.0850
31359MRK1	1000	4.6250	7.0990	7.0840	7.0320	6.9650	7.0260	7.0412
31359MNU3	1000	5.2500	7.5510	7.4560	7.4420	7.3580	7.4080	7.4430
31359MGT4	1000	6.2500	8.4050	8.3100	8.1560	8.1070	8.1430	8.2242
Average yield								7.4484
Conversion factor for tax-equivalent to preferred dividend								1.3769
Yield on tax-equivalent basis of stock dividend								10.2558

Perferred stock		Dividend			Price					Dividend
Cusip	Par	Rate	8/29/08	9/2/08	9/3/08	9/4/08	9/5/08	Mean	Dividend	Yield
313586836	50	4.7500	18.2000	17.3750	17.9800	16.7500	17.6600	17.5930	2.3750	13.4997
313586778	25	6.7500	12.9700	13.0700	12.6000	12.1400	11.8500	12.5260	1.6875	13.4720
313586752	25	8.2500	14.8350	14.8530	15.1320	15.3070	15.2570	15.0768	2.0625	13.6800
Average yield										13.5505

Weighted 50% subordinated debt / 50% preferred	11.9032

Exhibit 3
Freddie Mac
Subordinated Debt Yields on Tax Equivalent-Basis to Preferred Stock Yields

Subordinated debt			Yield					
Cusip	Face	Coupon	9/1/08	9/2/08	9/3/08	9/4/08	9/5/08	Mean
3134A4EW0	1000	5.8750	8.2350	8.1400	8.1960	8.1470	8.1430	8.1722
3134A4ZY3	1000	5.7500	7.4650	7.3250	7.3760	7.2230	7.2920	7.3362
3134A4ZZ0	1000	5.0000	7.4720	7.4100	7.4340	7.3000	7.4100	7.4052
Average yield								7.6379
Conversion factor for tax-equivalent to preferred dividend								1.3769
Yield on tax-equivalent basis of stock dividend								10.5168

Preferred stock		Dividend	Price							Dividend
Cusip	Par	Rate	8/29/08	9/2/08	9/3/08	9/4/08	9/5/08	Mean	Dividend	Yield
313400863	50	5.0000	16.4000	16.5000	16.6500	16.2700	16.0500	16.3740	2.5000	15.2681
313400681	25	5.9000	10.1500	10.3500	10.7900	10.2000	10.5000	10.3980	1.4750	14.1854
313400640	25	6.5500	10.6160	11.0000	11.2000	10.8990	10.9000	10.9230	1.6375	14.9913
313400657	24	6.0200	12.1500	14.0000	14.0000	14.0600	14.0500	13.6520	1.4448	10.5831
Average yield										13.7570

Weighted 50% subordinated debt / 50% preferred	12.1369

Exhibit 4
Dividend Yields for Preferred Issues of High Quality Financial Institutions
September 8, 2008 and September 30, 2008

				September 8, 2008			September 30, 2008		
Issuer	Dividend Rate	Par	Dividend Payment	Price	Dividend Yield	Bond Equiv. Price	Price	Dividend Yield	Bond Equiv. Price
Wells Fargo	5.850%	25	1.4625	21.248	6.883%	84.992%	18.150	8.058%	72.600%
Wells Fargo	6.250%	25	1.5625	22.600	6.914%	90.400%	19.970	7.824%	79.880%
Bank of America	5.500%	25	1.3750	22.600	6.084%	90.400%	19.300	7.124%	77.200%
Bank of America	5.875%	25	1.4688	22.700	6.470%	90.800%	18.867	7.785%	75.468%
Citigroup	6.500%	50	3.2500	43.000	7.558%	86.000%	41.000	7.927%	82.000%
Citigroup	6.950%	25	1.7375	20.500	8.476%	82.000%	16.598	10.468%	66.392%
JPMorgan Chase	6.150%	50	3.0750	41.150	7.473%	82.300%	39.440	7.797%	78.880%
JPMorgan Chase	6.250%	25	1.5625	22.060	7.083%	88.240%	19.590	7.976%	78.360%
Goldman Sachs	6.200%	25	1.5500	21.720	7.136%	86.880%	20.230	7.662%	80.920%
Mean					*7.120%*			*8.069%*	
Increase in mean								13.334%	

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