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Orderly SIFI Resolution Under the Bankruptcy Code – Framing the Problem

Jim Millstein

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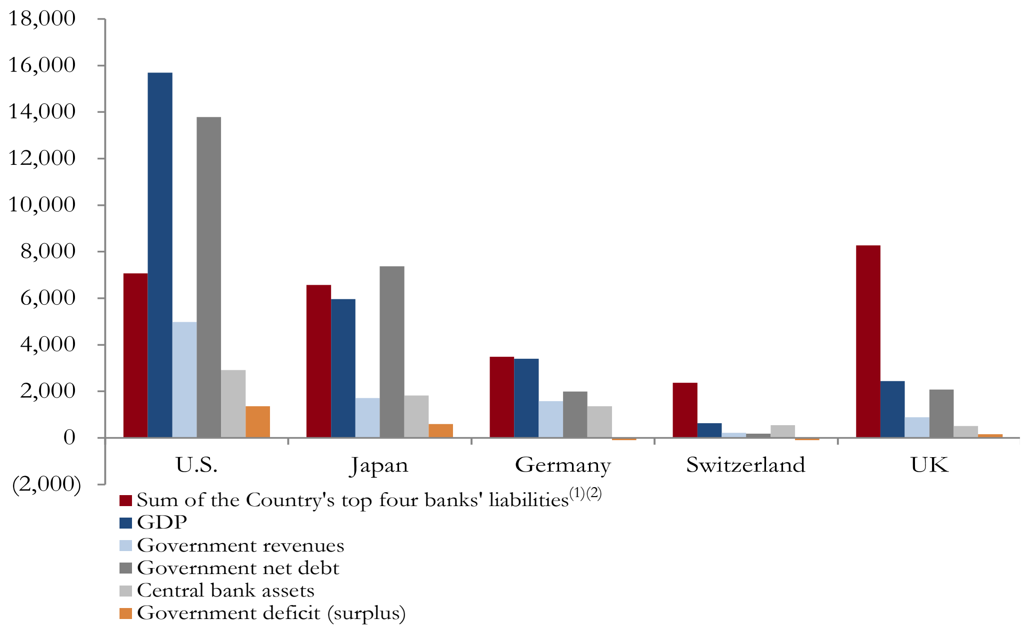
Framing the Global SIFI Problem

- **The failure of any single major financial institution continues to have the potential to generate substantial contagion throughout the global financial system.**
- **The recent financial crisis highlighted that the wholesale, short-term funding markets are the major channel of contagion: outright default and/or the inability to rollover short-term funding led to asset sales at liquidation prices that threatened the stability of market funding for other levered, mark-to-market participants.**
- **Nevertheless, the fiscal constraints of host countries, the already dramatic expansion of their central bank balance sheets, and the political backlash against "bank bailouts" have made problematic the potential future use of the type of open bank assistance employed in the recent financial crisis.**

Four Largest Banks by Country Relative to Key Country Metrics

(in $ billions)



Estimated Bank Recapitalization as a % of GDP

Country	*Decline in aggregate asset value of top four banks* →	1.0%	2.0%	3.0%	4.0%	5.0%
	U.S.	0.5%	1.0%	1.5%	2.0%	2.5%
	Japan	1.2%	2.3%	3.5%	4.6%	5.8%
	Germany	1.1%	2.1%	3.2%	4.2%	5.3%
	Switzerland	3.9%	7.8%	11.8%	15.7%	19.6%
	UK	3.6%	7.2%	10.8%	14.4%	18.0%

- Results from an IESEG School of Management working paper on the recapitalization needs of European banks imply capital shortages in the range of 0-6% of total assets.
- Applying a proxy of a 3% decline in aggregate asset value of the top four banks, required recapitalization could reach 1.5% of GDP in the U.S., representing $236 billion.
  - Such a decline would require a recapitalization representing 3.5% of GDP in Japan ($207 billion), 3.2% of GDP in Germany ($108 billion), 11.8% of GDP in Switzerland ($74 billion), and 10.8% of GDP in the U.K. ($262 billion).

Sources: Bloomberg, the Federal Reserve, the Bank of England, the Swiss National Bank, the ECB, the Bank of Japan, the World Bank, the IMF, OECD, and the IESEG School of Management.

(1) The set of banks for each geography are: U.S. – JP Morgan, Citigroup, Bank of America, and Wells Fargo; Japan – Mitsubishi UFJ, Mizuho, Sumitomo, and Resona; Germany – Deutsche Bank, Commerzbank, Aareal, and Ikb Deut Industriebank; Switzerland – Credit Suisse, UBS, Julius Baer, and Bank J. Safra Sarasin; UK – Barclays, Lloyds, RBS, and HSBC.

(2) Liabilities across geographies reflect different accounting standards and therefore may not be comparable on an apples-to-apples basis.

The Parameters of "Effective" SIFI Resolution

- **In the current fiscal, monetary and political environment, an effective SIFI resolution regime must satisfy two fundamental constraints: first, it must be designed to mitigate "runs" and "fire sales" in the wholesale funding markets; and second, it must be designed to protect the state against losses on any "lender/dealer of last resort" funding it may be required to provide to satisfy the first constraint.**

- **In order to achieve these two objectives, a fundamental re-engineering of the liability structure of each SIFI needs to be implemented so that:**

  — All short-term debt is incurred at the subsidiary level;

  — There is sufficient downstream intercompany funding (the proceeds of equity and long term debt financing at the parent company ("HoldCo") level) to allow the HoldCo to recapitalize its subsidiaries in a "severe" stress environment so as to meet all relevant regulatory capital and rating agency requirements, and thereby to protect the state against loss on any emergency funding needed to refinance maturing short-term debt and to protect HoldCo creditors and equityholders against seizure of any subsidiary by any local regulator; and

  — The occurrence of a "credit event" or "default" at the HoldCo will not effect the stability of funding at any subsidiary.

- **In practice, this means: (1) there must be intercompany claims of the HoldCo against its subsidiaries of a size sufficient to recapitalize all of its subsidiaries in a severe stress test scenario; and (2) any default, acceleration, or termination of any HoldCo liability must not trigger cross-default, acceleration, or termination of subsidiary liability.**

SIFI Example – Current Structure

(in $ millions)

- **Currently, short-term liabilities and long-term debt can be found at both the HoldCo and operating subsidiary level and there are substantial inter-corporate guarantees by the HoldCo of its subsidiaries' liabilities, most signficantly, in respect of derivatives liabilities.**

HoldCo	
Equity in subsidiaries	184,615
Advances to subsidiaries	107,074
Book value of common equity	186,487
Deposits	0
Short-term liabilities[(1)]	910
Long-term debt	176,553

Bank Subsidiaries[(2)]	
Book value of common equity	147,514
Deposits	930,560
Short-term liabilities[(1)(3)]	31,343
Long-term debt	51,234
HoldCo claims[(7)]	85,556

Non-Bank Subsidiaries[(4)]	
Book value of common equity[(5)]	37,101
Deposits	0
Short-term liabilities[(1)(6)]	231,010
Long-term debt	11,676
HoldCo claims[(7)]	21,518

Source: Citigroup Filings as of YE 2012.

(1) Short-term liabilities include repos (which have been reduced by "allowable netting" of $49.4 billion), commercial paper, broker borrowings, and other short-term borrowings from banks and other market participants.

(2) Includes all bank subsidiaries. Information is not fully reported and represents estimates based on the Company 10k and corresponding Call Report.

(3) Includes only repos and commercial paper; other short-term liabilities are not broken out by bank/non-bank, and are assumed to fall in the non-bank subsidiary.

(4) Includes all non-bank subsidiaries. Information is not fully reported and represents estimates based on the Company 10k.

(5) Figure is estimated based on bank subsidiary estimate for book value of common and HoldCo reported equity in subsidiaries.

(6) Includes repos, commercial paper, and other short-term liabilities, calculated as a plug based on consolidated figures, HoldCo reported figures, and estimated Bank Subsidiary figures.

(7) HoldCo claims of Bank and Non-Bank subsidiaries total $107,074 million and. Since this amount is only reported at the consolidated level, has been allocated to the Bank Subsidiaries and Non-Bank Subsidiaries pro-rata, based on book value of common equity.

SIFI Example – Re-Engineered Structure

(in $ millions)

- **In a re-engineered structure, all long-term debt would sit at the HoldCo and all short-term liabilities would sit at operating subsidiaries, and the HoldCo would use the proceeds of Holdco funding as intercompany advances ("HoldCo Claims") to meet a portion of its subsidiaries' liquidity and capital needs.**
- **In a recapitalization, HoldCo claims could then be converted to new subsidiary book equity, thereby creating an equity cushion at the operating subsidiary level to support potential emergency funding.**

Re-Engineered Structure Pre-Recapitalization

HoldCo	
Equity in subsidiaries	184,615
Advances to subsidiaries	169,074
Book value of common equity	186,487
Deposits	0
Short-term liabilities[1]	0
Long-term debt	239,463

Advances to subsidiaries and equity in subsidiaries

Subsidiaries[2]	
Book value of common equity[3]	184,615
Deposits	930,560
Short-term liabilities[1]	263,263
Long-term debt	0
HoldCo claims	169,064

Re-Engineered Structure Post-Recapitalization

HoldCo	
Equity in subsidiaries	353,689
Advances to subsidiaries	0
Book value of common equity	186,487
Deposits	0
Short-term liabilities[1]	0
Long-term debt	239,463

Advances to subsidiaries have been converted to equity

Subsidiaries[2]	
Book value of common equity[4]	353,679
Deposits	930,560
Short-term liabilities[1]	263,263
Long-term debt	0
HoldCo claims	0

Source: Citigroup Filings as of YE 2012.

(1) Short-term liabilities include repos (which have been reduced by "allowable netting" of $49.4 billion), commercial paper, broker borrowings, and other short-term borrowings from banks and other market participants.
(2) Includes all bank and non-bank subsidiaries for simplicity.
(3) Represents total HoldCo reported equity in subsidiaries.
(4) Represents book value of common equity post-conversion of HoldCo claims to equity. Assumes a 1-1 conversion, for simplicity.

Given the Size of SIFI Balance Sheets and the Substantial Cross-Holdings by Institutional Money Managers, the Impairment of any SIFI Long-Term Debt and Equity Could Lead to Fire Sales of other SIFI's Long Term Debt and Equity Securities

(in $ millions)

- **While the combination of leverage ratio[1] and long-term debt requirements may improve the distressed SIFI's ability to absorb losses and recapitalize its subsidiaries, contagion may still spread if Holdco equity losses and losses on long-term debt end up concentrated in several large institutional money managers**
- **Today, 23 institutions account for over 35% of the equity and 12% of the long-term debt of the top four U.S. banks, with a total exposure of ~$350 billion, and the top five in that set have a total exposure of over $185 billion**

	Bank of America		Citigroup		JP Morgan		Wells Fargo		Total Exposure		
Holders	**% Equity**	**$ Debt**	**% Equity**	**$ Debt**	**% Equity**	**$ Debt**	**% Equity**	**$ Debt**	**$ Equity**	**$ Debt**	**Equity and Debt**
Blackrock	5.2%	1,508	6.1%	1,314	6.4%	1,513	5.4%	1,061	43,597	5,396	48,993
Vanguard	4.5%	3,578	4.4%	2,808	4.8%	3,598	4.5%	2,441	34,443	12,426	46,869
State Street	4.4%	153	4.3%	132	4.6%	165	4.0%	120	32,663	570	33,233
Goldman Sachs	0.8%	105	0.7%	-	0.7%	26,765	0.3%	496	4,762	27,367	32,129
FMR	2.1%	1,066	3.6%	865	2.7%	1,247	3.5%	616	21,998	3,793	25,791
Capital Group	1.3%	741	2.7%	709	2.2%	827	3.0%	675	16,771	2,952	19,722
Berkshire Hathaway	-	16	-	-	-	-	8.7%	-	12,943	16	12,959
Wellington Mgmt	0.6%	-	1.6%	-	2.6%	-	2.3%	-	12,735	0	12,735
T. Rowe Price	1.1%	7	0.7%	2	3.2%	5	0.9%	0	11,388	15	11,403
JP Morgan	1.6%	415	1.6%	541	0.3%	-	2.0%	513	9,857	1,469	11,326
Northern Trust	1.4%	75	1.3%	48	1.7%	92	1.4%	39	11,011	254	11,265
Pimco	-	4,153	0.0%	1,718	0.3%	3,293	0.1%	947	746	10,111	10,857
Bank of NY Mellon	1.4%	-	1.6%	-	1.5%	-	1.3%	-	10,834	0	10,834
Stone Harbor	-	-	-	10,153	-	371	-	-	0	10,524	10,524
Invesco	0.5%	168	1.5%	139	1.1%	207	0.5%	17	6,909	531	7,440
GIC Private Limited	-	-	3.7%	-	-	-	-	-	7,071	0	7,071
Dodge & Cox	1.2%	638	-	345	0.3%	156	1.4%	-	5,249	1,138	6,388
Prudential	0.2%	1,293	0.3%	957	0.3%	1,311	0.3%	822	1,870	4,383	6,253
Wells Fargo	0.9%	114	0.2%	80	1.2%	99	0.3%	-	5,130	293	5,422
Sun Life	0.1%	32	0.1%	24	1.4%	251	0.9%	90	4,523	397	4,920
Citigroup	1.4%	2	0.1%	2	0.6%	2	0.4%	4	4,855	10	4,864
Bank of America	0.3%	-	0.6%	-	0.9%	-	0.5%	-	4,292	0	4,292
Morgan Stanley	0.3%	72	0.1%	52	0.7%	549	0.3%	671	2,919	1,344	4,263
Sum of top holders[2]	63,151	14,135	67,283	19,888	74,029	40,451	62,104	8,513	266,568	82,987	349,554
Total[2]	216,791	192,400	191,633	173,600	197,781	196,400	148,433	114,400	754,638	676,800	1,431,438
% of total	29.1%	7.3%	35.1%	11.5%	37.4%	20.6%	41.8%	7.4%	35.3%	12.3%	24.4%

Source: Bloomberg as of 10/8/2013.

(1) U.S. regulators have proposed that G-SIBs maintain a 5% supplementary leverage ratio at the HoldCo and a 6% supplementary leverage ratio at bank subsidiaries.
(2) Reflects book value of common equity.